Investigating the Impact of Raising the Students’ Linguistic Awareness on Their Reading Comprehension at the Tertiary Level

(A Case Study of the Fourth Year Students at Faculty of Arts, Shendi University, Sudan, 2019)

A thesis submitted in fulfilment of the requirements for PhD degree in Applied Linguistics, English language Teaching (ELT)

BY

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Dedication

This work is gratefully dedicated to:

The soul of my mother, father and brother whose departure has left an ever bleeding wound in the heart. May Allah forgive them and grant them Aljanah.

My wife, who spares neither effort nor time to make her family happy. May Allah bless her with everlasting health and reward her for her invaluable sacrifices.

My children, (Fatima, Rawoh, Rubba and Eyad) may Allah bless them with everlasting health and keep them out of harm.

My sisters (Mahasin, Amna and Kiniana). May Allah reward them for their unconditional love, sacrifices and care.

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# Table of Contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Dedication</strong></td>
<td>I</td>
</tr>
<tr>
<td></td>
<td><strong>Acknowledgments</strong></td>
<td>II</td>
</tr>
<tr>
<td></td>
<td><strong>Table of Contents</strong></td>
<td>IV</td>
</tr>
<tr>
<td></td>
<td><strong>List of Tables</strong></td>
<td>VII</td>
</tr>
<tr>
<td></td>
<td><strong>List of Figures</strong></td>
<td>VIII</td>
</tr>
<tr>
<td></td>
<td><strong>Abstract</strong></td>
<td>IX</td>
</tr>
<tr>
<td></td>
<td><strong>Abstract (Arabic version)</strong></td>
<td>X</td>
</tr>
<tr>
<td>1</td>
<td><strong>Chapter One: Introduction</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1 Background of the Study</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1.2 Statement of the Problem</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>1.3 Objectives of the Study</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1.4 Significance of the Study</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1.5 Questions of the Study</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1.6 Hypotheses of the Study</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1.7 Methodology of the Research</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1.8 Delimitation of the Study</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1.9 Definition of Terms</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td><strong>Chapter Two: Literature Review</strong></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2.0 Overview</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>2.1 Introduction</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>2.2 The Definition of Reading</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2.3 Reading Comprehension and Reading Process</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>2.3.1 Definition of Fluent Reading Comprehension</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>2.3.2 Elements of Fluent Reading Comprehension Skill</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2.4 Reading Comprehension Models</td>
<td>26</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------</td>
<td>------</td>
</tr>
<tr>
<td>5.2</td>
<td>Findings</td>
<td>89</td>
</tr>
<tr>
<td>5.3</td>
<td>Recommendations</td>
<td>90</td>
</tr>
<tr>
<td>5.4</td>
<td>References</td>
<td>92</td>
</tr>
<tr>
<td>5.5</td>
<td>Appendices</td>
<td>102</td>
</tr>
<tr>
<td>5.5.1</td>
<td>Tests</td>
<td>105</td>
</tr>
<tr>
<td>5.5.2</td>
<td>Teaching Materials</td>
<td>114</td>
</tr>
</tbody>
</table>
## List of Tables

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4.1)</td>
<td>The Statistical Description of the Control Group (pretest)</td>
<td>69</td>
</tr>
<tr>
<td>(4.2)</td>
<td>The Statistical Description of the Control Group (post-test)</td>
<td>70</td>
</tr>
<tr>
<td>(4.3)</td>
<td>The Statistical Description of the Experimental Group (pretest)</td>
<td>71</td>
</tr>
<tr>
<td>(4.4)</td>
<td>The Statistical Description of the Experimental Group (pretest)</td>
<td>72</td>
</tr>
<tr>
<td>(4.5)</td>
<td>The P-value for the Control Group and the Experimental Group</td>
<td>74</td>
</tr>
<tr>
<td>(4.6)</td>
<td>Coefficient of Variation (CV) for the Control Group</td>
<td>75</td>
</tr>
<tr>
<td>(4.7)</td>
<td>Coefficient of Variation (CV) for the Experimental Group</td>
<td>75</td>
</tr>
<tr>
<td>(4.8)</td>
<td>Summary of Indicators</td>
<td>76</td>
</tr>
</tbody>
</table>
# List of Figures

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Comparing the Pretest and the Post-test for the Control Group</td>
<td>71</td>
</tr>
<tr>
<td>4.2</td>
<td>Comparing the Pretest and the post-test for the Experimental Group</td>
<td>73</td>
</tr>
</tbody>
</table>
Abstract

This study aimed at investigating the impact of linguistic knowledge on enhancing the learners’ reading comprehension in English as a foreign language (EFL) at a tertiary level. The final students at Faculty of Arts, Shendi University who are majoring in English language represented the study target population. Forty students (21 females and 19 males) participated as a sample. Then they were divided into an Experimental Group and a Control Group. The former received treatment sessions to raise their linguistic awareness using syntactic parsing and semantic role labelling, while the latter did not. However, the reading strategies skill was controlled for both groups. A pretest was conducted to determine the current reading comprehension proficiency level of the selected sample as well as to verify that they were linguistically homogeneous before the treatment process. After that, a treatment which was intended to raise the participants’ linguistic awareness in the Experimental Group was implemented. Then a post-test was administered to see the impact of the treatment. Finally, the obtained data were analysed via (SPSS) program version 16. The results demonstrated a positive impact of linguistic knowledge on enhancing the students’ reading comprehension. Moreover, they showed a significant improvement in the reading comprehension performance of the participants in the Experimental Group after their linguistic awareness was raised. Based on the results obtained, the study has found that raising the linguistic awareness of EFL learners enhances their reading comprehension performance. Therefore, the study has recommended that teachers should integrate and teach syntactic parsing and semantic role labelling simultaneously with other reading strategies as they enhance the EFL learners’ reading comprehension by facilitating syntactic complexity and semantic ambiguity, respectively.
خلاصة الدراسة

تهدف هذه الدراسة إلى التحقق من تأثير معرفة الطلاب اللغوية على تعزيز القراءة الاستيعابية باللغة الإنجليزية كلغة أجنبية (EFL) في مستوى التعليم العالي. كان طلاب اللغة الإنجليزية كتخصص رئيسي بالفصل الدراسي الأخير بكلية الآداب في جامعة شندي هم الفئة المستهدفة في هذه الدراسة. تم اختيار أربعين طالباً (21 طالبة و19 طالب) كعينة. ومن ثم تم تقسيمهم إلى مجموعتين تجربيتين ومجموعتين مراقبتين. خضعت المجموعة الأولى لجلسات تدريبية لتعزيز وعيهم اللغوي من خلال استخدام التحليل اللغوي ووصف الدور الدلالي، بينما المجموعة الثانية لم تتلقى هذه المعالمة.

ومع ذلك، تم التحكم في مهارات استراتيجيات القراءة لكلتا المجموعتين. تم إجراء اختبار تمييزي لاختبار مستوى كفاءة القراءة الاستيعابية للعينة التي تم اختيارها بالإضافة إلى التحقق من أنها متجانسة لغويا قبل إجراء عملية المعالجة. بعد ذلك تم تنفيذ معالجة هدفت إلى زيادة الوعي والإدراك اللغوي لدى المجموعة التجريبية. ومن ثم تم إجراء اختبار لاحق لمعرفة تأثير المعالجة. وآخرًا، تم تحليل البيانات التي تم الحصول عليها عبر الحزمة السادسة عشرة من برنامج الحزمة الإحصائية للعلوم الاجتماعية (SPSS). وأظهرت النتائج تأثيرًا إيجابيًا للمعرفة اللغوية على تعزيز القراءة الاستيعابية لدى الطلاب. علاوة على ذلك، فإن التجربة أظهرت تحسنًا كبيرًا في أداء القراءة الاستيعابية للمشاركين في المجموعة التجريبية بعد رفع مستوى وعيهم اللغوي. بناءً على النتائج التي تم التوصل إليها، وجدت الدراسة أن رفع مستوى الوعي اللغوي لمتعلم اللغة الإنجليزية كلغة أجنبية يعزز أداء القراءة الاستيعابية لديهم. لذا فقد أوصت الدراسة على ضرورة أن يدعم المعلمون تدريس التحليل اللغوي ووصف الدور الدلالي بالتزامن مع استراتيجيات القراءة الأخرى لأن ذلك يعزز المقدرة والاستيعابية لدى متعلم اللغة الإنجليزية كلغة أجنبية من خلال تبسيط التعقيد النحوي والغموض الدلالي على التوالي.
CHAPTER ONE
INTRODUCTION
Chapter One
Introduction

1.1 Background of the Study

The well-established belief in the importance of reading skill as a key factor in enhancing language acquisition and learning English as a foreign language (EFL) has constituted the germ of this study. However, the researcher’s relatively long experience, more than 19 years, of teaching in higher education within and outside Sudan in general and teaching reading skill to EFL learners in particular, have sparked the inspiration for this study. It has been observed that EFL students at the tertiary education constantly encounter various, unpredictable and unexplained reading comprehension difficulties. These difficulties likely occur, when the purpose of reading is to practice and develop high order reading skill where the students are required to go deeper into the reading text and manipulate its interrelated components to accomplish the task assigned.

Throughout his career of teaching reading in the EFL context, what accounts for the students’ poor reading comprehension competence at the university level has been at the centre of the researcher attention. Moreover, investigating the contributory factors that influence, hinder, accelerate or develop the students’ comprehension ability constitutes the core of the researcher’s area of interest in teaching and learning processes.

It is now well recognised by several studies in EFL reading that readers depend on various sets of competencies while they are trying to process and comprehend a reading text (Gascoigne, 2005). In the same vein, August and Shanahan (2017) note that there is a lack of research on adequate empirical data which provides us with a well-developed description of nature and type of these competencies, especially, when the participants are adults rather than children who study English in the EFL context in the study.
More likely, readers mainly use word association to process sentences within a text. Nevertheless, when this association is ambiguous, and the structure of the sentence is complex, the readers must develop a good syntactic knowledge to figure out how a word or a constituent function into the structure of the sentence to fully decipher the meaning of that particular sentence (Azizifar, 2001).

Based on the researcher’s observation and his experience in handling such types of reading comprehension problems which some university students sometimes face, the researcher deems poor grammatical knowledge and lack of semantic relations awareness as the main contributing elements in hindering their efforts to decode the various meanings and textual connotations. This argument is supported by Derakhsan, Sani, Ghalaee and Lzedi (2015) when they state that awareness of particular aspects of language development, for example, syntax, constitute the potential factors of reading comprehension difficulties and is considered to influence the variations in the students’ reading comprehension performance. This theoretical assumption has led the researcher to reconsider the role of linguistic awareness, namely syntactic and semantic awareness, in reading comprehension. Moreover, the scarcity of considering these two aspects in teaching reading comprehension and its negative effect on the students reading comprehension have stirred the researcher's curiosity.

Furthermore, this insufficient investigation in this area has raised a couple of questions for which the researcher has decided to pursue this study to get (an) answer(s). These questions have always been echoing in the researcher's mind since then. First, how could EFL learners at tertiary level whose linguistic knowledge is poor grasp and understand a highly sophisticated academic text with such little or impaired knowledge and awareness of namely the syntactic structure as well as the semantic relations within each sentence? Second, if the linguistic awareness of these students is raised, could that improve their performance in reading comprehension?
Finally, how could the findings of investigating this problem put forth suggestions and recommendations that could contribute to the development of teaching reading as well as designing reading syllabi?

Using these questions as a springboard; it could be argued that, more often than not, the syntactic complexity and semantic ambiguity play a facilitative role in the students’ reading comprehension performance in the EFL context. This observation is consistent with Nation, Snowling and Margaret (2000) who have stated that poor comprehenders have language processing problems including grammatical as well as semantic weakness. They further claim that reading comprehension difficulties are more or less attributed to general weakness with language processing. Using the findings of their study as a point of departure, they also continue to support and elaborate their argument by highlighting the point that weak comprehenders’ poor syntactic awareness forms a symptom of more general language processing problems including both semantic and grammatical weakness. Therefore, in addition to vocabulary, prior knowledge and reading strategies, fluent and excellent reading comprehension performance requires a certain linguistic threshold where the students have to reach with both their syntactic and semantic knowledge. Achieving the necessary linguistic threshold could be highly helpful for them to process and parse fully and correctly the sentences of the reading text. In agreement with this presumption, Cox (1976) found in her study that even those readers who were 100% familiar with the vocabulary in the reading texts still made reading comprehension errors and failed to accomplish their reading task. This result also supports the idea that impaired linguistic knowledge plays a negative role in poor reading comprehension performance.

Furthermore, it could be argued that linguistic awareness equips readers with the necessary skills to excel in the highly sophisticated reading comprehension tasks and provides them with the essential ability to completely comprehend what is between the lines and behind the words. In
addition to that, no matter how rich the students' vocabulary and how deep their knowledge of reading strategies are or how enough their prior knowledge is, there is still a slim chance for them to grasp the overall idea which the author has conveyed in the sentences with such weak grammatical and semantic competences. As a result, their reading comprehension performance will be affected negatively. In line with this claim, Cain (2007) states that the readers' linguistic awareness controls the parsing practice as well as constraints a considerable amount of the reading comprehension process.

Therefore, without proper linguistic awareness, not only EFL readers might struggle to untangle the complexity and the ambiguity of sentences within a reading text, but also they may find it difficult to process a high-level reading comprehension tasks. So, this study is an attempt to investigate whether or not raising linguistic awareness of university students has a significant impact on their reading comprehension performance.

1.2 Statement of the Problem

Taking into account the Sudanese Higher Education context, it has been observed that EFL students at the university level struggle to achieve a complete and deep understanding of academic texts. Particularly, when they work in high-anxiety situations where they are required to complete a task pertaining to a course assignment. Inevitably, these high-anxiety situations entail carrying out a sort of microprocessing to the reading texts rather than macroprocessing. According to the researcher’s observation, presumably, it is not only a consequence of the students’ poor vocabulary, prior knowledge or their unawareness of reading strategies to achieve the required reading comprehension performance, but more often than not, it is a result of their failure to parse the linguistic components of the sentences in reading text. Thus, their reading comprehension could be delayed or completely obstructed. In other words, if they encounter specified complexity or
ambiguity in the grammatical structures during a reading task, the whole reading comprehension process will be negatively affected. The negative effect might be due to, for example, the misunderstanding of the structure of a sentence or the act of a verb, subject or object in a sentence and how these linguistic elements relate to each other. When such kind of misunderstanding occurs, it may result in a total inverse meaning which the writer tries to convey as well as the collapse of the communication might be an inevitable result of this.

1.3 Objectives of the Study

The main objective of this study is to investigate the impact of raising linguistic awareness of university students in their reading comprehension performance. In other words, it is an attempt to explore to what extent linguistic knowledge accounts for a high-level reading comprehension achievement of the students at the tertiary level. In addition, based on its findings, this study intends to provide the English language teachers, methodologists and syllabus designers with suggestions and recommendations which might enhance the students’ reading comprehension performance at the university level.

1.4 Significance of the Study

The conclusions of few published studies and research papers have stated the positive correlation between providing the readers with appropriate linguistic knowledge and perfect reading comprehension. On the other hand, others have demonstrated that the impact is not significant. However, to the best level of the researcher's knowledge, no research of this nature has been conducted in Sudan. Especially when it comes to the role of raising the linguistic awareness via teaching, implicitly or explicitly, the complex syntactic structures as well as explaining the ambiguous semantic relations when they occur in a context in developing and enhancing EFL reading
comprehension at the university level. The significance of this study resides in the fact that it is an attempt to make up for the dearth of research in this area in Sudan. In addition to that, it will endeavour to shed some light on those unaddressed aspects in this area. The findings of this study are expected to provide useful pedagogical implications to teachers, curriculum designers, methodologists, in particular, as well as learners of English as a foreign language in general.

1.5 Questions of the Study

This study endeavours to explore the following questions:

1. What is the impact (if any) of linguistic knowledge on EFL reading comprehension?
2. To what extent does raising the linguistic awareness of EFL students improve their reading comprehension performance?

1.6 Hypotheses of the Study

The hypotheses of this study are expressed in the following statements:

1. Linguistic knowledge has a positive impact on EFL reading comprehension.
2. When the students’ linguistic awareness is raised, their performance in reading comprehension improves.

1.7 Methodology of the Study

This study is experimental in nature and investigative in orientation because it seeks to see how a special treatment influences the outcomes. Therefore, it adopts the quantitative approach. The fourth-year students who study the English language and literature as a major subject at the Faculty of Arts, Shendi University will constitute the target population of the study. Based on their consent, the selected subjects will be divided into two groups.
Group A will be considered as the Experimental Group, while group B will be dealt with as the Control Group. The researcher will teach the participants in the experimental group syntactic parsing and semantic role labelling to raise their linguistic awareness of meaning-form relationship as well as reading strategies. On the other hand, the control group will only be taught reading strategies. Before the instruction classes, a pretest will be conducted to determine the current reading proficiency level of the participants. After administering the instruction classes for the two groups, the same test will be administered again as a post-test to see the impact of the treatment. The researcher will record and keep the obtained results of both tests (pretest and post-test) for later statistical treatment and comparison using SPSS program to see whether there is a significant difference in reading performance of the Experimental Group before and after the treatment phase as well as between the two groups before and after the teaching session. Any amount of change that occurs in the students’ reading comprehension performance will be attributed to the process of raising linguistic awareness. If it goes as expected, the impact of linguistic knowledge, positive or negative, will be easily detected.

1.8 Delimitation of the Study

The students of the Faculty of Arts, University of Shendi, the Department English Language and Literature constitute the target population of this study. The study will be limited to the females and males fourth-year students who study the English language and literature as their major.

1.9 Definition of key terms

Linguistic Awareness

It refers to reflection on and manipulation of language code. Reflection means that individuals can extract themselves from the normal use of language and focus their attention on the functions and forms of the language
being manipulated. Individuals are said to exhibit linguistic awareness, for example, in decoding ambiguous sentences and in making explicit judgments of well-formedness on spoken or written utterances (Masnyl, 1997, pp. 105-106).
CHAPTER TWO
LITERATURE REVIEW
Chapter Two

Literature Review

1.0 Overview

In this chapter, the researcher reviews the theoretical background of this study. Various definitions by different linguists and researchers for the term reading comprehension are discussed. A large body of definitions was examined to see which one is relevant to the scope of the study. Further, the reading process and comprehension will be reviewed, in which the processes involved in reading and fluent comprehension will be handled. Then reading comprehension models will be discussed with a concentration on the models which are consistent with the approach of this study. Next, the researcher will explore the complexities of reading in English as a foreign or a second language (L2). After that, the researcher will give a brief account of the two techniques (syntactic parsing and semantic role labelling). Finally, the published research paper in the same area will be discussed and reviewed.

2.1 Introduction

Generally speaking, taking into consideration the vast improvement in technology and the enormous amount of information and knowledge communicated via the internet, the importance of reading is much clearer in today’s life than any time else in history. In order to make the best use of this information and understand that knowledge, people nowadays need to be proficient readers (Susan Sattar & Hadi Saleh 2014). In the same context, Grabe and Stoller (2011) state that as the 21st century has already started and we are now living in the age of increasingly technology growth, people are required to develop even a stronger reading ability to meet the evolving demand on it.
In an academic context, it is widely acknowledged that reading is one of the most essential skills for the learners, who study English as a foreign language (EFL) or English as a second language (ESL) to master. Moreover, the ability to appropriately comprehend, interpret and evaluate what one reads is fundamental to academic success. It also constitutes the acme in any EFL and ESL educational assessment system. Compared to other skills taught in English language Departments, more often than not, developing the reading skill forms the core of their syllabi. These syllabi intend to provide the students with the possible opportunities to promote their learning of the English language. Furthermore, to broaden their knowledge about the target culture as well as the world in general. In this context, Bernhardt (2010, p. 1) states that:

*Unquestionably, reading affords the second-language learner the luxury of time that is inconceivable with online spoken discourse, and it provides an arena for linguistic explorations that cannot be approached through aural channels. With time, learners accompanied by grammars and dictionaries can, in theory, “decode” a passage; in speaking or in listening, there is no time available to use ancillaries. Given the time factor, reading is often used in instructional settings as practice material. In fact, texts are often used to illustrate particular grammatical features that learners are meant to acquire. Or texts are written “around” particular semantic fields to ease the learners’ vocabulary burden.*

This argument is bolstered by Bernhardt (2010) who reports that European and American history underlines that reading was at one time the only purpose for learning a foreign language. She adds that in the early 20th century, the National Education Association’s Committee of Ten declared that foreign language instruction in American schools should be for reading only.

Similarly, Krashen (1993) claims that reading is the foundation of language education. He even promotes the theory that reading is the most potent skill that leads to language acquisition. In other words, he argues that getting the hang of learning reading facilitates and accelerates learning a
language and enhances its acquisition. In this sense, he shares the same view with Grabe (1991) who states that reading is the most central skill for those who learn English as a second or a foreign language in an educational context.

In a similar vein, Grabe and Stoller (2011) maintain the increasing importance of reading skill in EFL or ESL settings around the world. They claim that it is quite logical for reading ability in EFL and ESL contexts to reach such notable significance for a couple of reasons. They explain:

*The overwhelming majority of societies and countries around the world are multilingual and citizens are expected to function well in more than one language. L2 ability, particularly with English as a L2 language, is already in great demand as English continues to spread, not only as a global language, but also as the language of science, technology and advanced research. Many people in multilingual settings need to read in an L2 at reasonably high levels of proficiency to achieve personal, occupational and professional goals (Grabe & Stoller, 2011: xiv).*

Consistent with and to corroborate this idea, Bernhardt (2010) argues that written literary texts could only be appreciated when they are in their original form. In other words, many readers in a second language are very keen to gain unfiltered pieces of information uncontaminated by translation. In that sense, they should pursue and seek direct access to the original source of information rather than indirectly through translation or adaptation.

Therefore, the merits of reading ability generally and especially in EFL or ESL academic and educational context have led to almost a consensus among researchers and methodologists concerning the importance of mastering the reading skill. The significance of reading ability is also manifested in the growing consideration it has received for the past thirty years in terms of research and its role in second language acquisition.
2.2 The Definition of Reading

Goodman, as cited in Carrell, Devine, and Eskey, (Eds.) (1998), holds the opinion that a major reason which forms a hurdle in the way to develop more effective reading instruction is the failure to articulate a clear view of the reading process itself. This statement implies that it is not possible to reach a standard definition which satisfies all the language researchers in the realm of reading. Plausibly, reading means different things to different methodologists, curriculum designers, applied linguists, psychologists, educationalists as well as teachers based on the contexts and situations where it occurs. This Goodman’s theory is supported by both Nutall (1987) and Smith (1985, 2004), two prominent figures in the area of the reading research, who claim that providing a clear cut or accurate agreed on a definition is merely not possible. One possible explanation of this disagreement among language researchers is the belief around which many of L2 studies revolve. It is believed that reading is a complex multi-faceted process where readers depend on various sets of competencies to extract meaning from a reading text (Weisi, 2012). In other words, reading is not considered as one skill, but it is an act which consists of several different skills. That is why the large variety of definitions given by the plethora of experts and specialists of reading tend to be complementary (Bechoua, 2012).

Therefore, complex skills and processes require more complex definitions, though such definitions must still be informative. Although reading could be simply defined in one sentence, such as ‘reading is the ability to draw meaning from the printed page and interpret this information appropriately’, this definition seems to be insufficient to help us to understand the true nature of reading skill (Grabe & Stoller (2011).

In spite of this contention among reading experts to define reading, a review of the essential definitions offered by them is inevitable for the sake of agreeing on a definition which satisfies the purpose and addresses the questions of this study.
Goodman (1988), for instance, defines reading as:

A psycholinguistic process in that it starts with a linguistic surface representation encoded by a writer and ends with a meaning which the reader constructs. There is thus an interaction between language and thought in reading. The writer encodes thought as language and the reader decodes language to thought. (P: 12).

In this definition, Kenneth Goodman indicates that there is an interaction between the writer and the reader via the reading text. The reader should involve in cognitive activities and carry out certain decoding processes to understand the meaning encoded by the author. For him, reading is an interactive process between the reader and the writer. This definition is in line with Brunan W.K (1989) who defines reading as "a two-way interaction in which information is an exchange between the reader and the author" (cited in "Definition of Reading", November 2018). Smith (1973) also shares the same view. He states that "reading is an act of communication in which information is transferred from a transmitter to a receiver" (Smith 1973, p. 2). The former refers to the writer and the latter means the reader.

What can be observed from these definitions is emphasis which the writers put on the interaction between the writer and the reader. However, they ignore the role of the text in the reading process.

Conversely, Widdowson (1979) has explained that reading as "the process of combining textual information with the information a reader brings to a text". He argues that the reading process is not just a matter of interpreting information from the reading text. Rather, it is viewed as a kind of interaction and conversation between the reader and the text.

On the other hand, other experts in the reading research area consider reading as a multi-dimensional process encompasses different other skills. Kennedy (1974), for example, argues that "the ability of an individual to recognise a visual form, associate the form with a sound and meaning he has
learned in the past, and on the basis of past experience, understand and interpret its meaning" (Kennedy, 1974, p.3). The psycholinguistic view of using past experiences in reading comprehension is in line with Goodman (1967), who defines reading as a "psycholinguistic guessing game". This definition requires ability in choosing the fewest, most productive cues needed to generate guesses to construct meaning. He views this act of the construction of meaning as being "an ongoing, cyclical, process of sampling from the input text, predicting, testing and confirming or revising those predictions, and sampling further" (Jahangard, et al., 2012, p. 92). Goodman (1967) continues to add that ideas are only meaningful when related to something already known.

This attitude toward reading, which considers reading as a multifaceted process is consistent with Nassaji (2003, p.261) who defines reading as:

*Reading is not a single-factor process. It is a multivariate skill involving a complex combination and integration of a variety of cognitive, linguistic, and nonlinguistic skills ranging from the very basic low-level processing abilities involved in decoding print and encoding visual configuration to high-level skills of syntax, semantics, and discourse, and to still higher-order knowledge of text representation and integration of ideas with the reader's global knowledge.*

In light of the above definitions, the reader is believed to be an active participant, who makes predictions and processes meaning using his/her background knowledge (schema). This background knowledge plays a significant role in facilitating the whole reading process. In other words, to understand and decodes the writer’s message, the learner needs a variety of skills and abilities. These skills and abilities comprise cognitive, linguistic and non-linguistic altogether with some specific and general background knowledge.

Furthermore, Nassaji (2003) explains that reading consists of three layers; low-level and high-level processing as well as high-order knowledge.
Each layer involves different types of skills, but they integrate and collaborate to extract the message of the writer appropriately.

To some extent, this definition by Nassaji matches the nature, satisfies the purpose and addresses the hypotheses of this study. This definition identifies the linguistic skill as one of the contributory skills which enhance the success of the reading process. Also, it classifies both syntax and semantics as two areas belong to the high-level processing during reading. The central premise underlying this study is the significant role which linguistic knowledge could play in enhancing comprehension. This study is also based on the proposition that most of the comprehension difficulties might stem from syntactic complexity and semantic ambiguity. In order to overcome these two difficulties, readers should be trained on how to syntactically parse sentences and how to correctly label semantic roles to the key nouns in those sentences. Therefore, syntax and semantics are at the heart of this study concern.

2.3 Reading comprehension and reading process.

2.3.1 Definition of fluent reading comprehension

Simply, reading comprehension is defined as the process of extracting meaning. In other words, it refers to the skill a reader uses to comprehend or make meaning from written text. In this context, reading comprehension is believed to be an activity where the reader interacts with the print and is involved in making sense of the writer’s message (Bechoua, 2012). Similarly, Kirby (2007) states that reading comprehension means the process by which we understand the texts we read. It constitutes the ultimate purpose of reading, the reason for teaching and making it the focus of researching reading. It also forms the prerequisite for meaningful learning from text.

However, Grabe (1991) argues that such simple definitions are likely to misrepresent multifaceted cognitive processes such as reading comprehension. He continues to explain that an accurate description of
reading comprehension has to deal with it as a multidimensional process consists of many other processes. In a similar vein, Grabe and Stoller (2011) claim that reading comprehension is far more complicated than what these definitions advocate. They suggest that to reach a more accurate picture of reading comprehension, we should define it according to a set of processes which work together, not individually, to provide a reasonably accurate account of the processes required for fluent reading comprehension (Grabe & Stoller, 2011). To that end, Grabe and Stoller (2011) have identified ten processes involved in fluent reading comprehension:

1. A rapid process
2. An efficient process
3. An interactive process
4. A strategic process
5. A flexible process
6. An evaluating process
7. A purposeful process
8. A comprehending process
9. A learning process
10. A linguistic process

For them, a single process of these ten processes could not alone provide a comprehensive and complete definition of reading comprehension. In fact, all these processes interact and interconnect with each other to make reading comprehension happen. To say it differently, we need to combine them to reach a relatively accurate description of the processes required for fluent reading comprehension.

For comprehension to occur, Grabe (1991) argues that fluent reading should be both rapid and efficient. The reader needs to maintain the flow of information at an adequate rate to make connections and inferences, which in return, facilitate understanding and interpreting of the reading text. However, this process of rapidity in the combination of other processes should be
carried out efficiently if comprehension to take place (Grabe & Stoller, 2011). Furthermore, reading should also be interactive in the sense that all the processes need to be performed at the same time. It also means that the linguistic information from the text interacts with the reader’s prior knowledge. This combination of linguistic expertise and prior knowledge enhances the reader’s comprehension of the reading text (Grabe & Stoller, 2011).

In addition to striking a balance between being rapid, efficient and interactive, the reader also needs to consider that fluent reading comprehension involves both strategic and flexible processes. The former refers to the ability of the reader to identify the processing difficulties and being able to overcome these difficulties by monitoring comprehension and changing goals. Consequently, the reader can adjust the whole reading process strategy to match different purposes. That is to say, the fluent reader can read in different ways based on different reading purposes. In other words, a specific reading purpose might lead to much or less emphasis on different reading processes. The latter, however, means the reader employs a range of strategies to read effectively.

According to Grabe and Stoller (2011) and Grabe (1991), reading comprehension is also an evaluating process in which the reader decides if the content of the reading text is in line with the objective set for the reading. Moreover, reading comprehension is looked at as both comprehending and learning process. In an academic setting, for example, where the students, more often than not, learn new information via reading, comprehending the reading texts forms the central purpose of reading. In this context, Grabe (1991) draws our attention to the notion that reading develops gradually. He claims that the reader does not reach reading fluency abruptly or right after receiving a reading development instruction or course. Instead, fluent reading requires considerable time and resources to develop. In fact, it is the product of long-term effort and gradual improvement.
Finally, unlike the prevailing perspective in the 1980s and 1990s to reading as a reasoning process, Grabe and Stoller (2011) point out that reading is fundamentally a linguistic process. They argue that it is not logical to understand and discuss a reading text without engaging with it linguistically. This attitude toward reading comprehension is consistent with the premise around which the core of this study revolves, which emphasises the primacy of the linguistic process for reading comprehension. Therefore, for perfect reading comprehension to take place, readers have to reach a certain linguistic maturity required to carry out the reading task appropriately. Then they need to combine their linguistic knowledge with the other processes and make them work concurrently to achieve an accurate comprehension.

2.3.2 Elements of fluent reading comprehension skill

Many attempts have been made by researchers in the field of reading to understand, describe and explain the skills involved in the fluent reading comprehension process. They have endeavoured to explore the types of strategies and pieces of knowledge a reader needs to achieve a higher level of reading comprehension. To that end, for instance, these researchers (Carpenter & Just, 1986; Carr & Levy, 1990; Rayner & Pollatsek, 1989), as cited in Grabe (1991), have subdivided fluent reading comprehension process into a set of component skills. The outcome of this subdivision results in a proposal of at least six general component skills, strategies and knowledge area:

1. Automatic recognition skill
2. Vocabulary and structural knowledge
3. Formal discourse structure
4. Content/word background knowledge
5. Synthesis and evaluation skills/strategies
6. Metacognitive knowledge and skill monitoring
Automaticity in reading could refer to the unconscious controlling of the reading process. In other words, throughout the reading process, a fluent reader does all the cognitive and linguistic activities very fast and without much effort or conscious attention. This automaticity in reading, particularly in word identification skill plays a facilitative role in fluent reading (Adams, 1990; Beck & McKeown, 1987; Gough & Juel, 1991; Perfetti, 1991; Stanovich, 1986, 1991). Similarly, as structure and vocabulary knowledge are recognized as a critical feature of reading ability, it is very crucial for readers to possess a sound understanding of language structure and a relatively large recognition vocabulary to become fluent readers.

The text organisation is believed to influence the comprehension of a reading text positively. Carrell (1984) states that comprehension is not determined only by the linguistic effect (sentences or paragraphs), but also by the overall organisation of a text. Each type of text has its own conventional structure. Hence, being aware of these conventions assists readers in comprehending the text as well as in recalling it later. She adds that readers could recall and understand information from reading texts that follow the logical patterns of structure, such as cause-effect, compare-contrast, and problem-solution easier than those texts which are poorly or unsystematically structured. Therefore, being aware of the text structure and how it is organised might facilitate and accelerate reading comprehension.

Content and background knowledge which refer to cultural knowledge and prior knowledge, respectively, are considered as contributory factors in actively enhancing reading comprehension. This speculation is supported by the results reached by Roller (1990) and Carrell (1987) in their exploration of formal and content knowledge interaction as they influence comprehension. Notwithstanding, with different roles, both content and formal knowledge play an essential role in promoting reading comprehension.

Finally, both synthesis and evaluation skills/strategies and metacognitive knowledge and skill monitoring are also found to have a
positive impact on fluent reading comprehension. Sometimes, readers do not only pursue a text comprehension, but also they seek to assess it and to compare it to other collected pieces of information from various sources to reach a new conclusion. More often than not, this scenario occurs at tertiary levels as it involves high order thinking and critical reading. On the other hand, metacognitive knowledge and skill monitoring, which refer to knowledge about cognition and the self-regulation of cognition, is another essential component of fluent reading comprehension skills (Baker & Brown, 1984). Knowledge about cognition means knowledge about language, while monitoring of cognition encompasses identifying problems with information presented in texts. Grabe (1991) points out that the ability to use metacognitive skills effectively is widely recognized as a fundamental component of skilled reading comprehension. In a couple of studies, it has been argued that fluent readers are more effective in using metacognitive skills than less fluent readers.

In the same context, Grabe and Stoller (2011) in their attempt to describe how reading works and to discuss the components of reading abilities, they have divided the reading comprehension skills into two main categories: lower-level processes and higher-level processes. The lower-level processes represent the more automatic linguistic processes and are viewed as skill-oriented. On the other hand, higher-level processes represent comprehension processes which make use of the reader’s background knowledge and making inferences abilities. They explained that "by higher and lower, they do not indicate that the former is more complicated than the latter" (Grabe & Stoller, 2011, p.13).

They continue to note that lower-level processes include lexical access, syntactic parsing and semantic proposition formation. While higher-level processes include text model of comprehension, situation model of reader interpretation, background knowledge use and inferencing control processes. Furthermore, they pointed out that both lower-level processes and higher-
level processes components are considered as aspects of working memory processing that encompasses both of them. This working memory processing, which is now preferred to short-term memory, is defined as:

It refers to the information that is activated, or given mental stimulation for immediate storage and processing. Working memory for reading involves the active use of cognitive processes such as recognizing and storing word information, using syntactic information, connecting pronoun references, building overall text structure, integrating and restructuring information, establishing main ideas, assessing inferences and adapting reader goals (Grabe & Stoller, 2011, p.12).

They also claimed that all the processes involved in reading comprehension are active within the working memory. Nevertheless, they work in the working memory differently. In the case of the lower-level processes, they explained, is very short. It lasts for one or two seconds unless connected to new information. Therefore, the speed of processing is vital to integrate new information and to form a correct update of meaning. Otherwise, the information will fade away from the working memory. Consequently, the reactivation of information is needed to avoid the inefficiency of the reading comprehension process. However, when it comes to higher-level processing, there is continual reactivation of main ideas as long as reading is going on or the reader is reflecting on the text information.

Consistent with and in support to the technique adopted by the researcher to raise the linguistic awareness of the participants in the study and to develop their linguistic knowledge, Grabe and Stoller (2011) have also emphasised the primacy of syntactic parsing in the process of fluent reading comprehension. They have maintained that a fluent reader needs the syntactic parsing skill to recognise phrasal groupings, word ordering information, and subordinate relations among clauses quickly. This recognition will assist the reader in taking and storing words together as clause-level and in absorbing how words are supposed to be understood. In this context, Grabe and Stoller (2011) have further drawn our attention to the necessity of the rapid
 subconscious automaticity of the syntactic parsing process. They have suggested that it should be performed very fast, effortlessly and unconsciously to reach the optimal level of reading comprehension.

In addition to syntactic parsing, in their endeavour to understand how reading works, Grabe and Stoller (2011) also have discussed what they called ‘semantic proposition formation’. It is one of the components of reading comprehension abilities which belongs to the lower-level processes and refers to the process of combining word meanings and structural information into basic clause-level meaning units. This suggested combination of meaning (semantics) and structure (syntax) to enhance reading comprehension has shown an analogy between the strategies the researcher used in the treatment phase and what fluent reading comprehension requires. This analogy provides a piece of supportive evidence that the researcher has chosen the right technique and increases the validity of the teaching tools used to raise the linguistic awareness of the subjects in the Experimental Group to facilitate and accelerate their reading comprehension.

In his discussion of the reading comprehension process, Goodman, (1988) argues that readers employ five processes during the reading process to comprehend what they are reading. He claims that all these five processes occur within the reader’s brain, which is responsible for information processing. He points out that the function of the brain is to maximise information it acquires and to minimise effort and energy used to obtain it. He suggested five processes:

1. Recognition-initiation:
The brain recognises the graphic display in the visual field as written language and initiates reading.

3. Prediction:
The brain anticipates and predicts as it seeks order and significance in sensory inputs.

4. Confirmation:
The brain confirms or disconfirms its predictions.

5. Correction:
The brain processes when it finds inconsistencies or its predictions are disconfirmed.

6. Termination:
The brain terminates the reading when the reading task is completed. However, the termination may occur if the task is nonproductive, little meaning has been constructed, the meaning is already known, the story is uninteresting, or the reader finds it inappropriate for a particular purpose.

In conclusion, reading comprehension is not a single-factor process. Instead, it is a multifaceted skill involving a complex combination and integration of a variety of cognitive, linguistic, and nonlinguistic skills ranging from the very basic low-level processing abilities involved in decoding print and encoding visual configurations to high-level skills of syntax, semantics, and discourse (Nassaji, 2011). Then all these processes amalgamate with the higher-order knowledge of text representation and the integration of ideas with the reader’s formal and content knowledge.

To put it in a nutshell, for perfect and precise reading comprehension to occur, readers have to consider and be aware of all the processes interact within the working memory. To that end, readers are required to reach a certain linguistic maturity needed to carry out the reading task appropriately. Then they need also to combine this linguistic knowledge with other different reading skills and abilities involved in reading comprehension. Finally, it is quite vital for them to make all these skills and abilities work concurrently, rapidly, efficiently, unconsciously and effortlessly to achieve an accurate comprehension.
2.4 Reading comprehension models

As far as the reading process and language acquisition are concerned, in the last decade, a vast body of research has been intended to explore answers to questions related to information processing, its nature and characteristics. This issue has been of interest for its importance in reading classes where the language learners to manage their interaction with the written texts and strive to understand that reading text as much as possible (Sattar, et al., 2014).

Historically speaking, research in reading has started more than one hundred years with the publication of Emile Java’s paper on eye movement in 1879 (Samuels & Kamil, 1988). However, strangely enough, earnest endeavours by researchers to describe the nature of the reading process and to develop models which provide a depiction and an interpretation of the various processes involved in reading comprehension have a history of just little more than thirty years. More accurately, the real scholarly attempts to conceptualise theories and speculations concerning the models of the reading process started in the 1950s and 1960s. Since 1965 research in reading comprehension realm in general and in model-building in particular, has tremendously increased. The advent of the psychological study of mental processes together with the development in language research and more importantly the initiation of psycholinguistic approach to reading by Kenneth Goodman and Frank Smith late 1960s and early 1970s have actively contributed to this profound transformation in reading comprehension research.

There are a plethora of definitions for the term model in the literature. Many researchers and linguists defined the term model from different perspectives. Davies (1995, p. 59), as cited in Škudienė (2002), for example, stated that "A reading model is a theory of what is going on in the reader’s eyes and mind during reading and comprehending (or miscomprehending) a text". From a different angle, Grabe (2009) pointed out that the term model refers specifically to a representation of the psychological processes that
comprise a component or set of elements involved in human text comprehension.

Škudienė (2002), in her attempt to describe the function of the model of reading, she further explained that models of the reading process try to explain and predict reading behaviour. In the same context, Grabe (2009) maintained that models characterise theories of reading, providing ways to represent a theory or part of a theory. Moreover, they explained what reading involves and, in more detailed versions, how reading works to help explain the nature of reading abilities or some major components of reading. Samuels et al., (1988, p. 26), on the other hand, have identified three features which they consider as essential characteristics of a good model. They argue that a good model should (a) summarise the past, (b) understand the present and (c) predict the future. That is to say; a good model can synthesise much of the information which was collected in the past, it also can help us to interpret a complex phenomenon by eliminating the unimportant aspects, by focusing our attention to the essential ones and by showing us how these essential parts interrelate and function. Finally, a good model is one that assists us to develop premises which are verifiable and could help us to anticipate the future.

Grabe and Stoller (2011) identified two types of general models of reading comprehension. These two types are metaphorical models of reading and specific models of reading. The former provides a metaphorical interpretation to the processes involved in reading comprehension while the latter, which are grounded in specific research evidence and arguments, try to account for, and interpret of much of these researches. They classified bottom-up models, top-down models and interactive models as metaphorical models and interactive compensatory model, word recognition model, simple view of the reading model, dual-coding model and psycholinguistic guessing game model as specific models.
2.4.1 Metaphorical models

Grabe and Stoller (2011) stated that metaphorical models of reading serve useful purposes by providing a metaphorical interpretation of the many processes involved in reading comprehension. They added that these models represent metaphorical generalisations that stem from comprehension research conducted over the past four decades. In a similar vein, Grabe (2009) maintained that metaphorical models, which are known as top-down, bottom-up, and interactive models of reading, represent the most common way to discuss models of reading, and they are often used to capture the many processes and concepts involved in reading comprehension.

The metaphorical models represent generalisations that reflect primary processing assumptions about how comprehension is carried out. As introductions to reading-comprehension processing, they are useful because they make fundamental processing ideas accessible to interested individuals. However, they obscure important details, ignore critical distinctions, and typically do not accurately reflect more current views of reading (Grabe, 2009). This view is consistent with the claim stated by Grabe and Stoller (2011) when they argue that as an initiation into thinking about reading comprehension these models are useful, but they do not provide a clear explanation to the contemporary development in research.

The bottom-up model traditionally describes reading as a mechanical process in which the reader decodes the ongoing text letter-by-letter, word-by-word, and sentence-by-sentence. In other words, it extracts meaning via a serial sequence; words, phrases, sentences, and then meanings. To say it differently; this mechanical processing translates information in the text piece-by-piece with little interference from the reader's background knowledge. That is to say; it is based on the linguistic input from the text. Bechoua (2012, p. 4) pointed out that the 'bottom-up' model is sometimes referred to as 'text-based' or 'outside-in' as the information comes to the reader from the outside. She argued that the premise which underlies this model is
influenced by the behaviouristic approach to the teaching of reading which advocates that the identification of sounds, letters and phonemes is the prerequisite to learning larger units and getting meanings. In this regard, she is in line with Samuels and Kamil (1988) who claim that because of the impact of behaviourism in the 1960s, this model is built on how the stimuli of the printed words and the responses of words recognition are connected to play a facilitative role in the reading comprehension process.

The top-down model is mainly associated with the well-known linguists; Gough (1972) and LaBerge and Samuels (1974), to name few. In contrast, this model is based on the idea the entire reading comprehension process is directed by the reader's goals, expectations, background knowledge and strategic processing. In other words, it assumes that the reader actively controls the whole comprehension process, and it focuses on what the reader brings to the reading text. Put differently; this model describes the reader as someone who has a set of expectations about the information in the text and who samples enough information to confirm or reject these expectations. To perform this sampling effectively, the reader needs to focus on the most likely places in the text to find relevant information. Nevertheless, this model does not explain what techniques the reader uses to generate appropriate inferences, nor how sampling is directed by the mind (Grabe, 2009; Grabe & Stoller, 2011). This attitude toward this model is supported by Bechoua (2012, p. 45) who stated that this model suggests that processing of a text "starts in the reader's mind with meaning-driven processes of prediction or assumption ideas about the meaning of a text-based on reader's prior knowledge". In conclusion, it is observed from this discussion that this model adopts a reader-centred approach where prediction, prior knowledge, and making inferences constitute key factors.

The interactive model is mainly connected to two prominent theorists: Rumelhart (1977) and Stanovich (1980). It forms an ideal compromise solution for the shortcomings encountered in both bottom-up and top-down
models. In other words, it integrates the useful ideas from the bottom-up and top-down models and combines them as a hybrid model. Therefore, word recognition, syntactic parsing and semantic proposition need to be fast, unconscious and efficient while background knowledge, prediction and inferencing should enhance reading comprehension. To clarify this point, Grabe (2009) proposed that it might be suggested that word recognition and syntactic parsing strategies need to be fast, efficient and automatic, and both of these processes contribute to the comprehension of a text. Then the context and prior knowledge need to be strong supports for both of these lower-level processes. Finally, predictions and inferencing should function to improve the efficiency of word-recognition processes. As cited in Bechoua (2012, p. 41), Zhenyu (1997), made a very interesting simile to portray and explain this situation when he stated that one has to "see both the tree and the forest".

The danger of overgeneralization and simplifications causes many recent discussions of reading to avoid these metaphorical models and present research in terms of more specific models of reading. These specific models provide explanations for many empirical findings of reading comprehension. They also allow for the verification of assumptions and speculations about reading and comparisons across models (Grabe, 2009).

### 2.4.2 Specific models of reading

Grabe and Stoller (2011) pointed out that it is crucial to review and consider the contemporary findings in reading comprehension research to identify which ones, at least for the present, provide reasonable explanations for what we know about reading from research. They claimed that reviewing and considering the recent accounts in reading research might provide us with an alternative approach to generalised metaphorical models of reading discussed above. In the past 20 years, a number of such models which are based on reading research findings have been proposed. They suggested five types of models of reading that have achieved some prominence and received
recognition and discussions. Theses suggested models are Interactive Compensatory Model, the Word Recognition Model, the Simple View of Reading Model, the Dual-Coding Model and the Psycholinguistic Guessing Game Model (Grabe & Stoller, 2011).

On the other hand, Grabe (2009) added more specific models to the above ones. He suggested Construction-Integration Model, Structure Building Framework, The Landscape View of Reading, Capacity Constrained Reader (CC Reader) Model, Verbal Efficiency Model and Rauding. He claims that all of these contemporary models of reading are, at minimum, empirically driven, descriptive, and psychologically plausible models.

However, for the sake of the scope and focus of this study, some of these specific models of reading will be briefly discussed and reviewed. The intention of discussing these models is not to consider all possible models but instead focus on those the researcher views as being consistent with the approach adopted by this study. In other words, the researcher will mainly review and discuss those models that are highly recognised and in line with the premises underlying the current study.

Interactive Compensatory Model, which was proposed in the late 1970s by Keith E. Stanovich is still relevant for some reading researchers. This model is based on the assumption that a deficit in any particular process will result in a greater reliance on other knowledge sources, regardless of their level in the processing hierarchy. That is to say, the fundamental concept of this model is that a process at any stage can compensate for deficiencies at any other stage. The essence of this model is to fill in the gaps left by both bottom-up and top-down models.

This model is believed to be both interactive and compensatory. It is interactive in the sense that any level can communicate with another level, and it is compensatory in the sense that any reader could depend on better-developed knowledge sources when particular knowledge sources are temporarily weak (Samuels et al., 1988). Furthermore, Grabe and Stoller
argue that this model maintains that (a) readers develop efficient reading processes, (b) less-automatic processes interact regularly, (c) automatic processes operate relatively independently and (d) reading difficulties lead to increased interaction and compensation, even among processes that would otherwise be more automatic.

The Word Recognition Model of Seidenberg and McClelland (1989) as cited in Grabe, et al., (2011) provides a new widely recognised explanation for word recognition processing as it is likely to occur in fluent reading. However, word recognition model is not considered as a model of reading comprehension in itself, but rather as a description of the significant input for efficient reading comprehension (without accounting for higher-level processing) (Grabe, et al., 2011). Most current versions of word recognition model are based on theories which consider the human mind, which usually learns from exposure to reading texts, as an organiser of information. In addition, this model intends to develop automaticity in recognising word forms based on prior input and experience. In conclusion, the key point is that this model is fundamentally bottom-up in orientation, and it accounts for a substantial amount of what we now know about word recognition processes under time constraints.

Finally, the Psycholinguistic Guessing Game Model of Reading was developed by the well-known linguist Kenneth Goodman over several years; 1965, 1966, 1967 and 1976 (Samuels et al., 1988). The unique feature of this model is its procedural nature, which minimises the reliance on the graphic display and the existing graphophonemic knowledge by making the reader depends on his/her existing syntactic and semantic knowledge structure. Simply put, it prefers the reliance on linguistic information (syntactic and semantic) to graphic one to process comprehension. Samuels et al., (1988, p. 23) stated that another fascinating characteristic of Psycholinguistic Guessing Game Model is the use of the term “decoding”. While all his antecedents used this term to refer to the translation of the graphic input to phonemic output,
Goodman used it to describe the process of translating graphic or phonemic input to meaning code. This Model, as Grabe (2009) highlighted, is very similar to the top-down model (despite protestations from Goodman, 1994, 1996). The role of the reader in this model is to generate a set of expectations about the upcoming text, sample minimally from the text as needed, confirm expectancies, and finally generates new predictions.

2.4.3 Parsing Models

In general sense, parsing is known as the mental process which determines the grammatical structure of words sequence. However, in a more narrow sense, it is defined as the assignment of words in a sentence to their appropriate linguistic categories. It does not merely mean assigning of words to simple diagrams or categories but also involves assessing the meaning of a sentence according to the rules of syntax. When speech or text is parsed, each word in a sentence is examined and processed to contribute to the overall meaning and understanding of the sentence as a whole.

There are two models that are classified as parsing models; Garden Path Model (GPM) and Constraint-Based Model (CBM). The former, which was introduced by Frazier and Fodor in 1978, suggests that when a reader faces an ambiguous sentence during reading, only one meaning is initially processed. If the meaning attributed does not make sense, the ambiguous sentence will be reparsed and reanalysed using the available contextual knowledge until the reader construes an appropriate meaning. In other words, reanalysis occurs when the initial analysis is inconsistent with later information encountered. For example, the sentence “the horse raced past the barn fell” can be interpreted as a well-formed sentence until the final word ‘fell’. However, when a reader arrives at the word ‘fell’, there they will discover that they have been led up the garden path. Then they will realise that the first interpretation was incorrect and the sentence has to be reanalysed ("Garden -Path Model", November 2018b). The GPM is considered as a two-stage parser that
primarily draws on two primary principles; ‘minimal attachment’ and ‘late closure’. According to Ferreira and Clifton (1986), minimal attachment proposes information should be attached to the phrase marker using the least syntactic nodes possible and ignoring potentially unnecessary nodes while late closure takes arriving information and attempts to incorporate it into the clause or phrase being processed. However, if a conflict arises between minimal attachment and late closure, the minimal attachment will take priority (Fodor, 1983). Moreover, GPM supports the modular account, in which sentence parsing involves the analysis of each individual unit or module of a sentence, with little or no feedback ("The Garden Path Model", November 2018c).

On the other hand, the latter, Constraint-Based Model (CBM), which is proposed by MacDonald (1994), is known as an interactive model since all lexical, syntactic and semantic processes occur simultaneously not in a linear way. Simply put, it uses multiple sources such as syntax and semantics, to reach the intended meaning. The received meaning will be analysed, and all potential constraints or outputs will be activated and graded based on the strength of the succeeding activation. The syntactic structure which receives the most support from the constraints will be highly activated and, therefore, chosen. In essence, activated constraints compete with one another, and when two constraints are equally activated ambiguity arises. CBM is also believed to be parallel. It means that a reader might come up with multiple interpretations of the same sentence. However, these interpretations should be narrowed to select the appropriate one. CBM is also viewed as a one-stage model ("The Garden Path Model", November 2018c).

In conclusion, though they use different techniques, the main function of both these models is to disambiguate the ambiguous sentences (garden path sentence) to construe the intended meaning of the reading text. To that end, when adopted, the reader involves in perusing and assessing the meaning of a sentence via sentence parsing using a linear manner (GPM) or
multidimensional manner (CBM). The approach of the current study is substantially consistent with the principles of the latter (CBM) which advocates using automaticity, speed and multiple sources of knowledge (syntactic, semantic and lexical) concurrently to construct meaning. However, to some extent, it is also in line with the principles of the former (GPM). In that sense, readers who sometimes encounter complex, ambiguous sentences, especially in a tertiary academic context, need to slow down and reparse to decipher the correct meaning appropriately.

Finally, we should bear in mind that all these models have deficiencies and gaping holes in them. As reading comprehension is a multifaceted process, no one model can satisfy everyone. Therefore, researchers in the reading domain should use a compensatory technique by which they can compensate for the weakness of one model by the strength of another one. In other words, they should adopt an eclectic method when dealing with these various models.

2.5 Reading Complexities in EFL/ESL Context

In English as a foreign language (EFL) or English as a second language (ESL) contexts, reading research settings should consider the wide range of social and ethical backgrounds and varying motivations of the learners as well as their different attitudes towards reading itself. Moreover, the EFL and ESL learners start reading in the second language (L2) with already well-established tacit linguistic knowledge and learning habits. These habits are inherited from their first language (L1). As a result, they are forced to read in the second language (L2) with a two-language processing system. This means, reading in an L2 is supported by a two-language system (L1 and L2 together) rather than just an L2 system. This scenario of having a two-language system where the two systems operate simultaneously is because the L1 never completely turns off. Arguably, the existence of L1 culture and literacy make the reading process harder and make the reader involve in
multi-language processes whenever they read. Alternatively stated, the inherited linguistic and non-linguistic components from L1 either facilitate or debilitate the reading process (Grabe & Stoller, 2011).

Also, Grabe and Stoller (2011) pointed out that besides these linguistic and non-linguistic factors, which more or less, affect reading research in L2 contexts, there are other logistical difficulties with conducting large-scale studies in many L2 settings. They claim that this difficulty stems from the fact that many sites for research cannot track L2 students for long periods of time. Moreover, they continue to add that follow-up research that commonly takes place in L1 settings is less frequently done in L2 settings. There are also fewer L2 reading researchers to conduct such projects. These factors make it even more difficult to assert broad generalisations from research in L2 contexts.

From a different perspective and the same focus, Bernhardt (2010) compares the complexity in L1 reading to L2 reading and makes a fascinating analogy to explain the difference between them. She claims that it is similar to the operating channels on a radio. In that sense, the clear channel is in L1 that tunes phonology, processing strategies and word recognition which are not identical to the same components in L2. She continues to suggest that, most importantly, is the reader’s clear channel of L1 culture and literacy, which lead the development of the conceptual model on which comprehension is built. In her attempt to depict the difference between L1 and L2, Bernhardt (2010) makes one more simile. She points out that:

*While Type I and Type II diabetes are both diseases related to the production of insulin, they are radically different in how they are treated and which mechanism is involved. One involves an inability to produce insulin, the other an inability to use insulin. Those are two very different processes—much like a native speaker who can produce language fluently and the second language speaker who must learn to use that language* (Bernhardt, 2010, p. 7).
Bernhardt (2010) further explains this difference by stating that having two channels; a clear channel from L1 knowledge and a degraded channel from L2 knowledge, which operate concurrently, sometimes deliberately and sometimes incidentally, sometimes facilitating and sometimes distorting make a unique combination of factors for anyone who tries to comprehend in L2.

In the same context, Grabe et al. (2011, p. 36) have identified six major linguistic and processing differences:

1. Differing amounts of lexical, grammatical and discourse knowledge at initial stages of L1 and L2 reading
2. Greater metalinguistic and metacognitive awareness in L2 settings
3. Varying linguistic differences across any two languages
4. Varying L2 proficiencies as a foundation for L2 reading
5. Varying language transfer influences
6. Interacting influence of working with two languages

They deem these differences as the most widely studied aspects of reading development and their possible impact on reading comprehension abilities. However, among these differences, what is relevant and within the scope of this study is the issue of linguistic knowledge and its impact on L2 reading comprehension. Grabe and Stoller (2011) argue that several studies have demonstrated the greater importance of L2 linguistic knowledge for students in varying contexts. They state that L2 readers need to reach a certain linguistic threshold without which reading fluently might be a very challenging target. They point out that, unlike L1 readers who start reading comprehension after reaching the required linguistic maturity or the needed threshold, L2 readers, begin to read for comprehension before obtaining sufficient amount of L2 linguistic knowledge.

Nevertheless, they have noted that several researchers have criticised this premise. They argue that there is no single set of linguistic knowledge that can be defined as presenting the necessary foundation or the threshold. However, they have refuted this criticism stating that the idea behind the
linguistic limit is not that there is a fixed set of language knowledge that L2 readers require. Instead, a variable amount of linguistic knowledge, combined with the fluency of processing, is needed to read a specific text, on a particular topic, for a specific task (Grabe & Stoller, 2011).

In conclusion, in this section, the researcher attempts to highlight the most highly recognised complexities readers might encounter when they read in EFL or ESL context. Unlike reading in L1, reading in L2 is very complicated and requires the readers to strike a balance between two different processing language systems. L1 processing system never stops working; it is always on at the back of the reader’s mind while reading in L2. Therefore, they need to make them operate in a parallel manner without one negatively affecting the other. Furthermore, L2 readers need to reach the required linguistic threshold and acquire the necessary linguistic knowledge to read fluently.

2.6 Thematic Relations and Semantic Role Labelling

In natural language processing (NLP) and semantic role labelling (SRL), which is also known as shallow semantic parsing, is defined as the process that assigns labels to words or phrases in a sentence which indicate their semantic role in the sentence. In other words, it classifies arguments of predicates into a set of participant types. It also describes the semantic relation between the arguments (the thematic role of a noun in relation to a verb) of the verb and the situation described by the verb (content verb) such as that of an agent, goal, theme, instrument, result... etc. In a similar vein, Jurafsky & Martin (2014) simply defines SRL as the task of assigning roles to the constituents or phrases in sentences. It is believed that it consists of the semantic arguments detection associated with the predicate or verb of a sentence and their classification into their specific roles.

He, Li, Zhao, & Bai (2018) state that SRL is a crucial method to obtain semantic information beneficial to a wide range of natural language processing (NLP) tasks. They continue to add that previous studies have
indicated that syntactic information has a remarkable contribution to SRL performance.

### 2.6.1 Conceptual meaning and Semantic Features

The term ‘selectional restrictions’ refers to the semantic sortal restrictions or preferences that each predicate can express its potential arguments. For example, the theme (direct object) of the verb (drink) is generally something drinkable, and of (read) will usually be something readable (Jurafsky, et al., 2014a). In this context, Yule (2010, p. 113) elaborates on this idea of selectional restrictions and states studying of underlying conceptual meaning, and the semantic features of sentence components might help account for what he called “oddness” we experience when we read a sentence such as the following:

The hamburger ate the boy.

He argued that since this sentence has well-formed structures according to the basic syntactic rules for forming English sentences, the oddness of these sentences does not stem from their syntactic structure.

\[
\text{NP} \quad \text{V} \quad \text{NP}
\]

The hamburger ate the boy

He continued to explain that this sentence is syntactically correct, but it is semantically odd. He pointed out that the components of the conceptual meaning of the noun (hamburger) must be significantly different from those of the noun (boy), thus stopping one, and not the other, from being used as the subject of the verb (ate). The kind of noun that can be the subject of the verb (ate) must denote an entity that is capable of “eating.” The noun (hamburger), however, does not have this property and the noun boy does. These nouns entities and properties he referred to them as semantic features, (Yule, 2010).

Semantic features represent the basic conceptual components of meaning for any lexical item. It helps linguists to determine how words that share certain features may be members of the same semantic domain. The analysis
of semantic features is used in the realm of linguistic semantics, more specifically the subfields of lexical semantics. To avoid such oddness and to decipher an ambiguous sentence, we need to determine the crucial element or feature of meaning that any noun must have to be used as the subject of the verb ate.

### 2.6.2 Semantic (thematic) Relations

Thematic relations, also known as semantic roles, are the various roles that a noun or a noun phrase plays concerning its position and the action or state. This action is described by a content verb, which is commonly the sentence's main verb. For example, in the sentence "Tom read a book", Tom is the doer of the reading, so he is an agent; the book is the item that is read, so it is a patient. It is worth noting; most recent linguistic theories refer to such relations in one form or another. However, the general term, as well as the terms of specific ties, varies.

Jurafsky, et al. (2014a) stated that although thematic roles are one of the oldest linguistic models, their modern formulation is due to Fillmore (1968) and Gruber (1965). They continued to add that most thematic role sets have about a dozen roles. Nevertheless, for practicality, they discussed sets with smaller numbers of roles with even more abstract meanings and sets with vast amounts of roles that are specific to situations. To explain the thematic roles clearly (Jurafsky, et al., 2014a, p. 358) list some thematic roles that have been widely, together with rough definitions and examples.

<table>
<thead>
<tr>
<th>Thematic Role</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGENT</td>
<td>The volitional causer of an event</td>
</tr>
<tr>
<td>EXPERIENCER</td>
<td>The experiencer of an event</td>
</tr>
<tr>
<td>FORCE</td>
<td>The non-volitional causer of the event</td>
</tr>
<tr>
<td>THEME</td>
<td>The participant most directly affected by an event</td>
</tr>
<tr>
<td>Thematic Role</td>
<td>Example</td>
</tr>
<tr>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>AGENT</td>
<td>The waiter spilt the soup.</td>
</tr>
<tr>
<td>EXPERIENCER</td>
<td>John has a headache.</td>
</tr>
<tr>
<td>FORCE</td>
<td>The wind blows debris from the mall into our yards.</td>
</tr>
<tr>
<td>THEME</td>
<td>Only after Benjamin Franklin broke the ice...</td>
</tr>
<tr>
<td>RESULT</td>
<td>The city built a regulation-size baseball diamond...</td>
</tr>
<tr>
<td>CONTENT</td>
<td>Mona asked, “You met Mary Ann at a supermarket?”</td>
</tr>
<tr>
<td>INSTRUMENT</td>
<td>He poached catfish, stunning them with a shocking device...</td>
</tr>
<tr>
<td>BENEFICIARY</td>
<td>Ann Callahan makes hotel reservations for her boss...</td>
</tr>
<tr>
<td>SOURCE</td>
<td>I flew in from Boston.</td>
</tr>
<tr>
<td>GOAL</td>
<td>I drove to Portland.</td>
</tr>
</tbody>
</table>

These thematic relations (roles) could play a very facilitative role in EFL or ESL reading comprehension by disambiguating the ambiguous sentences when the syntactic parsing ends in a garden path. Therefore, they do not substitute the syntactic parsing. Rather they work simultaneously with it to achieve an appropriate comprehension fast and automatically and effortlessly.
2.7 Syntactic parsing

Parsing, in the general sense, is defined as the task of uncovering the syntactic structure of language and is often viewed as an essential prerequisite for building systems capable of understanding language. Compared to grammar, which is known as the formal specification of rules of a language, parsing, on the other hand, is defined as a method to perform syntactic analysis of a sentence. Jurafsky, et al. (2014b) noted that syntactic parsing is the task of recognising a sentence and assigning a syntactic structure to it. For them, the parse trees are directly utilised in applications such as grammar checking in word-processing systems. Nevertheless, more typically, parse trees is an essential intermediate stage of representation for semantic analysis.

Psycholinguists claim that comprehending written or signed sentences involve building a grammatical structure which requires a cognitive activity. This cognitive activity includes assigning a word class (part-of-speech) to individual words, combining them into word groups or 'phrases', and establishing syntactic relationships between word groups (Kempen, 1998). This process is called syntactic parsing. Hence, to understand a sentence, a reader needs to carry out a sort of syntactic analysis. Words have specific functions to play within the sentence to complete the meaning. Thus determining which part of speech each word in a sentence belongs to facilitates the reading comprehension process. However, words in a sentence do not work individually. Instead, they work as one group in the form of one body where its parts are complementary to each other. Therefore, to construe the whole appropriate meaning of that sentence, a reader also needs to discern how these words syntactically relate. Kempen (1998) suggested that all these parsing decisions should align not only with rules of grammar but also with the meaning intended by the writer. Therefore, the reader should consider both the sentence well-formedness when parsing as well as trace and pursue the correct meaning which the writer intends to convey.
One of the significant challenges a reader might encounter in their journey to attain the appropriate comprehension is structural ambiguity. The ultimate aim of syntactic parsing is to assist the reader in disambiguating ambiguous sentences. According to Jurafsky, et al. (2014b), structural ambiguity occurs when the grammar can assign more than one parse to a sentence. Simply put, it means that the sentence has two different interpretations, and each one could be correct. Yule (2010, p. 98) explains the notion of structural ambiguity by stating that phrases can also be structurally ambiguous, as in sentences like (small boys and girls). To him, this sentence provides an example of structural ambiguity. He argues that the underlying interpretation can be either “small boys and (small) girls” or “small boys and (all) girls”. Therefore, to reach the intended meaning and to attain the optimal comprehension, the syntactic parsing should explain the structural distinction between these underlying representations. This explanation, more or less, will involve the idea of both deep structure (the underlying structure of sentences as represented by phrase structure rules) and surface structure (the structure of individual sentences after the application of movement rules to deep structure).

One of the most common ways to create a visual representation of syntactic parsing is through tree diagrams where we start at the top of the tree diagram, with a sentence (S) and divide it into two constituents (NP and VP). In turn, the NP constituent is divided into two other components (Art and N) and so on.

2.8 Previous studies

To the best knowledge of the researcher, no PhD degree researches or studies with the same nature of this study have been conducted to investigate the hypotheses proposed or to explore the questions posed in this study. Though to some extent, it is different in the methodology followed, and the focus to investigate its hypotheses, only one master degree study was
conducted in Algeria by Soraya Bechoua in 2012. In her research, she investigated the effect of cohesive devices on reading and writing. Albeit, the difference in the nature of this study and her research, the researcher still deems it exploring in the same domain, syntactic knowledge.

When it comes to Sudan higher education context, again to the best level of the researcher’s knowledge and based on the data available, it is the first of its kind. Nevertheless, it is worth noting that few research papers have been carried out in the same area in various countries but with different context and nature. This study, it should be pointed out, did not wholly replicate one of these published studies. Put it differently; the researcher only used the control and experimental group technique to verify the proposed hypotheses and to address the questions of the study. However, the methodology for treating the two groups was entirely different.

Therefore, the uniqueness of this study resides in the researcher’s attempt to help the participants in the Experimental Group to activate and raise their linguistic knowledge by using both syntactic and semantic analysis (parsing) to solve reading comprehension problems. The researcher endeavours to solve reading comprehension problems which the students whose major is English language and they are at a tertiary level encounter. These problems, as the researcher speculates, are caused mainly by syntactic complexity and semantic ambiguity. The distinctiveness of this study stems from the fact that it combines form (sentence parsing) and meaning (semantic role labelling) to raise the linguistic awareness of the participants in the Experimental Group. In the treatment phase, syntactic parsing was used to develop the participants' syntactic knowledge, and semantic role labelling was utilised to raise the semantic awareness of the tested subjects. Though these published research papers and the current study share the same perspective in investigating the impact of linguistic knowledge in EFL reading comprehension, the focus of this study is different. While most of those studies concentrated on certain grammatical items to develop the linguistic knowledge of the participants
(Bechoua, 2012; Azizifar, 2011; Nation, et al. 2000; Derakhshan, et al. (2015); Weisi, 2012) to name few, the focus of this study was at structure of the sentence and how words, phrases and clause relate to form meaning.

Azizifar (2011), for example, argued in his findings that more likely students encounter complexity and ambiguity in reading. He considered these issues (complexity and ambiguity) as the primary source of reading comprehension difficulties. Thus, he maintained that readers must learn the rules of syntax and sentence structure, which help them work out how each word fits into each sentence and how constituents relate in a reading text to become fluent readers. In a similar vein, Nation and Snowling (2000) maintained that syntactic complexity and semantic ambiguity influence reading comprehension. However, based on their results, they suggested that poor comprehension performance stems from language processing difficulties encompassing grammatical as well as semantic weaknesses. For them, reading comprehension problems are attributed to general weakness with language processing. They even continued to demonstrate that when the processing load is reduced, poor readers perform equivalently to skill readers (Nation & Snowling, 2000). Consistent with the conclusion which Azizifar, (2011) reached, Nation and Snowling (2000) pointed out that the syntactic awareness of poor comprehenders should be raised to solve such comprehension difficulties. In line with this theoretical assumption, Kolavani (2015) put forward the same solution for reading comprehension problems and supported the view that syntactical knowledge constituted bridge over which poor readers could pass all their comprehension difficulties.

2.9 Summary

In this chapter, the researcher reviews the theoretical background of this study. He started by discussing various definitions by different linguists and researchers for the term reading comprehension. Noteworthy, he used the two terms reading comprehension and reading interchangeably. A large body of
definitions was examined to see which one is relevant to the scope of the study. Further, the reading process and comprehension were reviewed, in which the researcher discussed the processes involved in reading and fluent comprehension. Then reading comprehension models were reviewed with a concentration on the models which were consistent with the approach of this study. Next, the researcher explored the complexities of reading in English as a foreign or a second language (L2). All the possible challenges which L2 readers might encounter were also reviewed and discussed. After that, the researcher gave a brief account of the two techniques (syntactic parsing and semantic role labelling). He utilised these two techniques to develop their linguistic knowledge and to raise their linguistic awareness. Finally, since there were no PhD and master degree studies on the topic of the study, most of the published research paper in the same area were discussed and reviewed. Then these studies focus and conclusions were compared to the current study to where it stands and what contribution it provides to the literature.
CHAPTER THREE
RESEARCH METHODOLOGY
Chapter Three
Research Methodology

3.1 Introduction

As the title indicates, the ultimate purpose of this chapter is to clearly describe and thoroughly define the research methods and the methodology implemented to carry out this study. It also aims at explicitly providing information on the target population in terms of demographics, academic background, size and sampling procedures. This chapter goes on to describe the tools and the instruments used to collect the necessary data to address the research objectives and the central research questions of the study and their ability to produce valid results. This description includes the pretest, the posttest, the selection of the teaching materials as well as the techniques and the teaching materials used to handle the Experimental Group. In this chapter, the researcher also explains the research design and procedure. In addition to that, this chapter describes the analytical techniques applied by the researcher to meet the nature and the purpose of this study. Finally, it concludes with a brief discussion on the limitation of the research and the problems encountered.

3.2 Design of the Study

As this study investigated quantitative research questions, and it was carried out in a classroom setting, it had the form of an experimental design with investigative nature where the researcher sought to explore issues on relationships within measurable variables. In other words, it is an attempt to explain causal relationships between two variables. In this study, a positive change was hypothesised and investigated on one independent variable (reading comprehension) as an outcome of interference from a dependent
variable (linguistic awareness) using various statistical procedures, including SPSS and the Wilcoxon Signed Rank Test to estimate the impact of this intervention. Two sets of skill component (sentence parsing and semantic role labelling) were identified and demonstrated to the participants in a treatment phase to raise their linguistic knowledge. Then a pretest and a post-test were administrated before and after the treatment to collect data via which the relative contribution of linguistic knowledge to reading comprehension was investigated.

3.3 Population and sample of the study

The sample of this study consisted of 40 participants (21 females and 19 males) who were selected, based on their consent, from a total of 52 fourth-year students of English Language Department, Faculty of Arts, Shendi University. Then they were divided evenly into two groups; a Control Group (20 students) and an Experimental Group (20 students). The subjects of this study were of an average age of about 22, with almost the same language proficiency (apart from slight individual differences) and education background. They all successfully passed different academic courses in their major with the required standard. This reality, at first glance, gave a shred of evidence for linguistic homogeneity among the participants. A presumption which was later statistically verified by the results of the data analysis in the study.

As the participants’ major is English language and literature, they are required to carry out a lot of critical readings to successfully achieve the learning outcomes of particular courses namely Selected Literary Text, Literary Appreciation, African Literature, 19th Century Literature, Shakespeare and 20th Century Literature. This situation serves the objective of the experiment and it suits the purpose of the study as well.

However, the population of the study had only one course in reading mechanisms and reading strategies throughout their major titled Advanced
Comprehension. Nevertheless, they studied two grammar courses; Grammar 1 and Grammar 2 in the third and the fourth semester, respectively. They also studied two introductory courses in linguistics and advanced linguistics in semester five and seven respectively. In these two courses, the students only studied an introduction to syntax and semantics. Both syntax and semantics were used as target linguistic tools to raise the linguistic knowledge of the Experimental Group. Mainly, they were trained to untangle the syntactic complexity and to discern the semantic ambiguity in the reading texts to enhance comprehension. Statistically speaking, the syntactic complexity, together with the semantic ambiguity, constituted the independent variables while reading comprehension ability, represented the dependent variable in the analysis of data in the study.

3.4 Tools of the study

3.4.1 The Tests

To meet the purpose of this study, the researcher collected the required data from the scores of the participants in a pretest and a post-test. The two tests were conducted before and after treatment, respectively, for both the groups. The objective of the pretest was to measure the linguistic homogeneity as well as the current reading proficiency threshold of both groups before the treatment. On the other hand, the post-test aimed at assessing the impact of the intervention on the reading comprehension performance of the Experimental Group.

To satisfy the objective of this study, the researcher used the same test paper for both the pretest and the post-test. The test consisted of a version of ReadTheory.org. It is an interactive website which is designed to provide a wide variety of reading comprehension exercises. ReadTheory.org is an American computer-supplemental reading program for the students. It is worth mentioning that, on this website, all the tests are in line with the Common Core State Standards for English Language Arts. These standards,
are mainly designed to help ensure that all American students are college and career ready in literacy and to craft high-quality education standards. They, standard 6 to standard 12, in particular, help the students meet the challenges of reading, writing, listening and speaking in their respective disciplines, ("Common Core", 2010). These standards also help the students to be literate people in the 21st century.

Furthermore, these standards equip students with the necessary skills to enjoy the complex work of literature and critical reading. As most of the required reading in colleges is informational and challenging, these standards advocate the need for college and career students to be competent in reading a complex text independently in a variety of contexts. Most importantly, keeping in line with the Common Core, all the tests and activities on ReadTheory.org are constructed in a way to enhance critical thinking, enrich the vocabulary and above all prepare students for college and career-relevant literacy. These tests and activities draw on research and input from professional scholars and assessment developers. The tests, in particular, are a culmination of successive drafts and numerous rounds of feedback. Therefore, the validity and reliability of these tests are not questionable ("Common Core", 2010). Consequently, to produce valid and unquestionable results and findings, the researcher selected this website as a source for his measuring tool in this study.

The test paper, which the researcher used for both the pretest and the post-test, consisted of two parallel reading passages from level 6, followed by multiple-choice questions. The first passage was approximately 400 words in length, while the second one was nearly 350 words in length. For the first passage, there were nine multiple-choice questions to test the students’ reading comprehension. On the other hand, the second passage followed by ten multiple-choice questions. Guided by the questions and the objectives of the study, the researcher found that the multiple-choice items in this test almost assess all the required reading skills including scanning to get specific
information, skimming to identify the main idea, reading for comprehension to get details, guessing the meaning from the context, thinking critically and making inferences.

### 3.4.2 Teaching materials

To achieve the objectives and to effectively investigate the questions of the study on the relationships within the measurable variables, the researcher consulted different and various academic resources to carefully design, compile, select and adapt the teaching materials (Wang, 2010, Lyons, 1995, Kempen, 1998, Jacobs, 1995, Yule (2010), englishforeveryone.org, ReadTheory.org). The sources were ranging from printed references and eBooks to online and internet documents. Moreover, to have as accurate as possible results, the researcher prepared the target syllabus in such a manner that maintains constructive alignment. Therefore, he precisely aligned all the teaching materials with the objectives and the questions of the study. Then in return, both of them—the teaching materials and the objectives and the questions of the study—were matched with the assessment tool used to test the hypotheses of the study.

Furthermore, while compiling and adapting the teaching materials, the researcher took into consideration the participants’ academic context and their language proficiency level to make the syllabus as effective as possible. Thus, the best was done to meet the participants’ needs to achieve the objectives of the study and to explore the questions posed by the study. In other words, directed by both the questions and the purpose of the study, the teaching materials were prepared in such a way to facilitate what the subjects of the study lacked in the content of their current syllabus to reach the target linguistic knowledge. To that end, the researcher studied the whole participants’ syllabus thoroughly and carefully to see where they were and where they needed to go. In addition to that, as a preliminary assessment, a pilot a reading comprehension test, as well as a sentence syntactic and
semantic structure test, were conducted. One of the purposes of the former was to measure their current reading comprehension performance of the participants, and the latter aimed to determine their present linguistic awareness according to which the researcher designed the teaching materials.

The central learning outcome of the designed syllabus was to equip the participants in the Experimental group with the necessary linguistic knowledge which the researcher deemed as a contributory factor in improving reading comprehension abilities. The questions of the study guided the content preparation process of the syllabus and directed the way the researcher delivered and executed it to the participants. In other words, the target syllabus was purposely designed to raise the linguistic awareness of the subject of the Experimental Group to see how this could affect their reading comprehension performance. In addition to that, as the participants were advanced students whose major is English language and literature, the teaching process and the teaching materials aimed at reaching with the participants the required linguistic maturity and helping them to acquire the needed skills to untangle complex structures and decipher ambiguous sentences. Therefore, the whole focus of the treatment process and the teaching directions were at the sentence level. Consequently, the two target domains used as sources of the teaching materials and the syllabus content to achieve the objectives of the study were syntax and semantics.

3.4.3 Selection of the Reading Texts

All the reading texts which were used as handouts for practising and for formative assessment in the teaching sessions were selected from the same website; ReadTheory.org, from which the tests (pretest and post-test) were chosen from the same level; six. The academic philosophy behind this decision was to maintain the constructive alignment and consistency within the chosen syllabus and to achieve the objectives of the treatment sessions as efficiently as possible.
3.5 Procedure of Data Collection

Initially, to carry out the study with the participants from the Faculty of Arts, Shendi University, the researcher sought official permission from the college management via the College of Graduate and Scientific research. The registrar of the latter issued a formal letter to the Dean of Faculty of Arts requesting approval for the researcher to conduct the experimental study with the students of the fourth year (see appendix).

Once the approval was given (see appendix), in coordination and collaboration with the English Language Department, the target students were contacted and called for a general meeting. Fifty-two students attended the meeting. The purpose of the meeting was twofold. First, an orientation session was arranged for them. The central aim of the orientation session was to verbally inform the participants about the purpose and the procedures of the study. To that end, on the orientation session, a brief description of the main objectives of the study was given. Then the nature, stages, the timeline and the duration of the treatment sessions were explained. It was also maintained that participation was voluntary. However, as it would have negative consequences on the validity and the reliability of the study, they were reminded that once they registered their names, then withdrawal was not allowed.

In addition to that, the researcher ascertained confidentiality and anonymity in all the procedures of the treatment, including the results of the pretest and the post-test. The second part of the meeting was mainly dedicated to seeing who were willing to take part in the study.

Later and after the general meeting and based on their consent, forty students (21 females and 19 males) agreed and registered their names to be the sample of the experimental study. Then the researcher divided the forty volunteer students randomly into two even groups; 20 students in each group. Group A will be considered as the Experimental Group, while group B will be dealt with as the Control Group. Fortunately, all the students who decided to
participate voluntarily in the experiment showed a great deal of commitment and dedication, which later constituted a fundamental factor in the success of the treatment sessions.

The researcher believes that validity and reliability constitute the heart of any measuring tool or method in research with quantitative nature. Nenty (2009) states that validity refers to the accuracy of the measuring instrument, while reliability represents the precision of it. It means that the measuring tools should precisely measure what is measuring and accurately measure what it is supposed to measure. In the same context, he further claims that the measuring procedure should produce scores that validly represent the variables under testing for every participant. He continues to add that measure contamination in which items that are irrelevant to the variables under measurement should be avoided entirely. In other words, the measuring tool must succinctly test the suggested hypotheses of the study.

Therefore, to increase the reliability, to maintain the validity of the teaching materials as well as the assessment process and to verify the suitability of the measuring tool, the researcher conducted a piloting test to a sample from the target population consisted of ten students. These students almost share the same linguistic characteristics of the target population of the study. They were chosen randomly from the students who decided not to take part in the experimental study and the treatment sessions. The piloting test was administered two days before the start of the treatment procedures. Guided by the overall purpose of the study and the questions of the research, this piloting test was meant to achieve three objectives. Firstly, it aimed to accurately place the Experimental Group and the Control Group at the right level according to the Common Core State Standards for English Language Arts- Reading Standards for Literature & Informational Text ("Common Core State Standards", 2010). Secondly, depending on the performance of the sample, it intended to verify the reading proficiency threshold of the target
sample. Thirdly, from an assessment point of view, the piloting test aimed at estimating the suitable duration time for the participants to finish the test.

To satisfy these objectives, the participants, who represented the target population under study and having the same linguistic characteristics of the subjects under study, attempted two versions of tests from two levels; level 6 and level 9. First, the researcher tried with the participants level 9. However, based on their results, the researcher found out that level nine was too high for them, and they were way down below this level. Then, thirty minutes later, he made the participants attempt level 6. This time, the scores of the test-takers in the second test indicated that level six was the suitable one to meet the purpose and to explore the questions of the study as well as to efficiently test the suggested hypotheses.

Based on the outcomes of the piloting test, the researcher concluded that the target population under study was almost at Level 6. Unlike the Level 9 test in which all the participants dramatically failed, when they took the Level 6 test, the participants demonstrated normal high, average and low performance, displaying typical individual differences which do not affect the linguistic homogeneity of the selected sample. The results of the piloting test also provided the researcher with an indication that these participants’ reading proficiency fall within Level 6. Finally, while the students were taking the piloting test for Level 6, the researcher was monitoring the time to maximise the reliability of the test. Practically, he registered the time in which each student submitted his/her test paper. The best and the fastest performer test taker finished the test paper after forty minutes, while the worst performer and the slowest one finished in one hour and ten minutes. As a result, the researcher estimated that one hour and fifteen minutes would be enough and suitable time for the test takers to properly complete the test. Therefore, the time allotted for the test was one hour and fifteen minutes.

Two days later, the researcher started the treatment process with the Experimental and the Control groups. In the first session and before starting
the treatment procedures, all the subjects of the two groups took the pretest. As it has been mentioned earlier, the objective of this pretest was to determine their current reading comprehension proficiency level which later the researcher would compare to their level after the treatment phase to examine the relative contribution of raising their linguistic knowledge to their reading comprehension performance. The pretest was also meant to verify that all the subjects were linguistically homogeneous before conducting the treatment process. Thus, any significant portion of the variance in the performance of the two groups in their reading comprehension would be attributed to the treatment process.

All the participants (40 students) attended the test, and everything went smoothly and ended as it was planned. The scores of the participants in the pretest, which showed a linguistic homogeneity among the participants with (0.39) P-value, were kept for comparison with the results of the post-test and further statistical analysis to investigate the impact of the treatment process on their performance in reading comprehension.

The whole treatment phase lasted for two weeks, including the pretest and the post-test sessions. However, to address the purpose of the study and to achieve the best results of the experiment, the two groups were treated differently. While the Experimental Group was taught for two weeks, each week contained five sessions, and each session was 180 minutes (thirty hours in total), the Control Group was trained for only two sessions, each session was 180 minutes (six hours in total). As there was no other option, most of these treatment sessions were conducted between and sometimes after the regular classes of the participants. However, in some cases, we conducted a few treatment sessions when the students were off, and in other cases, we conducted them in regular classes as the teacher of the class for one reason or other could not manage to teach his/her class.

The difference in the treatment process between the two groups was not only in the duration of the teaching sessions but also in the instructional
materials which each group received. The Experimental Group was trained in such a way to raise their linguistic awareness by providing them with the needed skills to untangle complex structures and decipher ambiguous sentences. In other words, the researcher helped them to process and analyse sentences within a reading text to facilitate and enhance full comprehension. In addition to that, the participants in this group were taught the reading strategies. On the other hand, the Control Group was only taught how to use the reading strategies to improve their performance in reading comprehension.

Statistically speaking, using reading strategies to develop reading comprehension was considered as a controlled variable for both groups. The philosophy behind controlling the reading strategies factor was to avoid unwanted and irrelevant elements which might negatively affect the investigation and the analysis process as well as it may contaminate the independent variable; linguistic awareness, namely sentence parsing and semantic role labelling. Based on the review of the syllabus taught to the subjects of the study in which they were not explicitly trained to use reading strategies, the researcher found out that most, but not all of the participants in the experiment lacked the skill of reading strategies. Moreover, the results of the piloting test, as well as the way they answered the reading comprehension questions together with the time they spent to complete the test, indicated that these test-takers were very poor in using reading strategies skill. Directed by these observations, the researcher concluded that the subjects of the study were almost homogeneous in terms of vocabulary and prior knowledge but, that was not the case in using reading strategies to enhance reading comprehension. Therefore, to maximise the linguistic homogeneity of the subjects of the study, the researcher taught both the Experimental and the Control groups reading strategies and trained them on using them to facilitate reading comprehension.

To keep the participants in this study at the same reading proficiency level and to maintain the linguistic homogeneity, both the two groups
(Experimental and Control) were taught by the same teacher (the researcher), and they received the same instructional materials in the first two sessions, which were devoted to teaching and practising reading strategies. Each session was 180 minutes with a 15-minute break after 90 minutes. The researcher taught the participants how to improve and accelerate their reading comprehension by using scanning, skimming, locating the main idea, reading for details, guessing the meaning of new words from the context and making inferences. The researcher used PPP to present and explain these skills after which the subjects of the two groups started to show their learning in different ways. They were asked to practise these skills using different reading texts. As it was mentioned earlier, these reading texts were selected from ReadTheory.org website. The researcher used various teaching methodologies to achieve the objectives of the lessons. Similarly, the participants completed the exercises using different techniques ranging from group work and pair work to individual feedback.

Guided by the nature of the study, the researcher did not carry out any summative assessment to assess learning. Instead, the researcher depended on the formative assessment to measure the performance of the participants in the assigned exercises as well as the verbal feedback to evaluate how much they fulfilled the objectives of the lessons and to what extent they learned the target skill. When the researcher concluded that the participants learned how to scan, to skim, to locate the main ideas, to read for details, to guess the meaning of new words from a context and to make inferences efficiently, he announced the end of the treatment phase for the Control Group. He explained that the rest of the treatment process would be devoted to raising the linguistic awareness of the Experimental Group, which formed the cornerstone of the whole experimental study. Then the researcher told the Control Group to come ten days later for the post-test session.

The rest of the treatment phase was an essential part of the entire experiment. It was dedicated to handling the Experimental Group by raising
the linguistic awareness of the participants to investigate its impact on their reading comprehension performance. The researcher identified two sets of processing skills; sentence parsing and semantic role labelling. These two skills constituted the pivot around which the whole teaching procedure in the treatment process revolved.

The 20 participants who formed the Experimental Group were taught and trained to solve the syntactic complexity and semantic ambiguity problems within a reading text by using sentence parsing and semantic role, respectively. In eight 180-minute sessions, and based on the introductory course in syntax they had in their major, the researcher trained the subjects of Experimental Group on sentence analysis to clarify the linguistic forms as well as to activate their previous knowledge. The ultimate aim of this training was to raise their conscious awareness of language by improving their ability to provide description and definition of language rules and structures to enhance reading automaticity as well as reading comprehension.

Hence, the researcher taught the participants deductively the phrase structure rules and drawing tree diagrams to help them determine the grammatical relations and the classification of constituents in a sentence. The instructional materials were delivered through a variety of teaching techniques such as giving examples, questions and answers, identifying the grammatical rules explicitly and verbal feedback. The researcher depended on PPP to present and explain the lessons and handouts and sheets to practice and assess learning. During the practice stage, and as sentence parsing was not an end in itself, the participants were required to apply sentence analysis and constituents categorisation in several reading texts by using tree diagrams to elicit meaning and to facilitate comprehension.

The participants in the Experimental Group were also exposed to semantic role labelling to solve semantic ambiguity problems through different teaching methodologies. In this part of the treatment process, the subjects of this group were trained to assign semantic roles such as agent,
patient/them, experincer, location, goal, instrument and time to the nouns according to their positions in a sentence. Again the researcher used PPP to explain these thematic (semantic) relations and how to assign them correctly to the nouns in the noun phrases in a sentence to get a sound interpretation and to solve the semantic ambiguity problems of that sentence. Then the participants were asked to practice labelling roles to nouns within a reading text. After that, they were required to answer reading comprehension questions and to provide explanations to their answers using semantic role labelling. Explaining their answers was used as a gauge to evaluate their mastery of assigning the right role to the correct noun to get the right message of the writer. However, the researcher kept reminding the participants throughout the sessions that to get the mastery level of the process of labelling roles to the nouns in a sentence they should reach a point where the process was turned to be automatic and unconscious. This theory relies on this assumption that rules learned consciously can be converted into an unconscious process of comprehension and production (Weisi, 2012).

After the end of the treatment phase, both groups (Experimental and Control) were post-tested through the same reading comprehension test they had in the pretest. As it was stated earlier, the time allotted for the post-test was one hour and fifteen minutes. The 40 participants attended the test, and it ended as it was planned. All the test papers were scored by the researcher. Later, the results were analysed and compared to the results of the pretest by entering the collected data into the computer software program “Statistical Package for Social Sciences”, (SPSS) and using the Wilcoxon Signed Rank Test.

3.6 The experiment

The general premise that reading comprehension involves sentence processing constitutes the core of this study. It is based on the belief that linguistic knowledge; untangling syntactic complexity and discerning semantic ambiguity, is necessary for adequate reading comprehension.
Moreover, it (linguistic knowledge) is deemed to explain the significant variance in the performance of readers at tertiary levels. In other words, this study is an attempt to investigate the possible existence of causality between raising linguistic awareness and efficient reading comprehension.

In light of the above, the researcher designed the instructional materials in such a manner to equip the participants in Experimental Group with the necessary abilities and skills which help them to process sentences in a reading text to facilitate and accelerate comprehension. The central aim of the treatment process was to raise the linguistic awareness of the participants to such extent that helped them to untangle sentences that are syntactically complex and to decipher semantically ambiguous sentences in a reading text. Two linguistic skill components were identified within the linguistic knowledge for their relative contribution to reading comprehension and upon which the instructional materials were designed and taught. These two linguistic skill components which the researcher used as tools to raise the participants’ linguistic awareness were “sentence parsing” and “semantic role labelling”.

Barnetiz (1975) stated that linguistic research in reading is built upon the speculation that the reading process involves sentence processing. He went on to argue that understanding of a sentence’s meaning depends on several elements. One of them is the reader’s conscious and unconscious awareness of linguistic structures. In a similar vein, Kempen (1998) stated that many psycholinguists believe that understanding or fully comprehending any form of spoken or written sentences requires building grammatical structures. In other words, the reader needs to carry out a sort of cognitive activity in which he or she combines individual words into phrases and establishes syntactic relationships between them. This process is called sentence analysis or sentence parsing. In support of this assumption, Alderson (2000) noted that the ability to parse sentences into their correct syntactic structure is an essential element in comprehending a reading text. In other
words, he emphasised the importance of particular syntactic structures knowledge and the ability to process them to aspects of second language reading. However, when a sentence contains complex syntactic structures, the parsing process may slow down or even break down completely. As a result, the reader faces comprehension difficulties. The researcher anticipated that when the learners reach a certain level of syntactic maturity, they could efficiently carry out sentence parsing. Hence, they would rarely face comprehension difficulties.

Taking these premises into consideration, the researcher used sentence parsing as one of the teaching tools which he demonstrated in the treatment process. The participants in the Experimental Group were trained on how to draw tree diagrams to parse sentences and to detect the relationships of the constituents within each sentence. The treatment process mainly aimed to provide the subjects in the Experimental Group with the necessary structural analysis skills to improve their reading competence and their decoding ability as well. Based on the hypotheses of the study, the researcher would expect an improvement in the reading comprehension performance of the Experimental Group when they mastered sentence parsing in a reading text.

When it comes to reading comprehension, structure and meaning are inseparable issues. They are inextricably bound, and they should always be tackled together. For example, the sentence (Omar hit Ali) means something quite different from the sentence (Ali hit Omar) even though they use the same number of words and they have the same structure, (Berk, 1999). This discrepancy in meaning results from the different semantic roles which each noun plays according to its position in the sentence. Therefore, further to the syntactic analysis and parsing of structures, learners need to clearly understand who did what to whom to get the correct message behind the sentence.

This view is supported by Miller (2016), who maintains the positive impact of the semantic component or the semantic roles in addition to the
syntactic analysis in facilitating reading comprehension. He argues that assigning roles to the nouns in the noun phrases in a sentence will enhance the right interpretation of that sentence. He continues to add "the interpretation of any given clause combines information from the syntactic structure, including roles, information from the lexical verb and information from the lexical nouns inserted into a given structure" (Miller, 2016, P. 121). To support his argument, Miller (2016, p. 119) provides two examples: (a.) Emma made Harriet her friend and (b.) Emma made Harriet some food to explain how labelling roles could help to analyse sentences with the same syntactic structure, but they are semantically different. In the sentence described by (a), Emma does something to Harriet, whereas in (b) Emma does something for Harriet. Harriet plays different roles, although Harriet is the indirect object in both examples.

Yule (2010, p. 135) points out that "words are not just containers" of meanings. He goes on to conclude that they "fulfil different roles within the situation described by a sentence ". Therefore, In addition to identifying and describing these relationships, the students need also to understand the linguistic realisation of events and their participants. In other words, to answer the questions such as who did what to whom, where, when and perhaps how and to reach the highest level of reading comprehension performance, readers should learn how to assign roles to the constituents or phrases in sentences correctly. This process of assigning roles to the noun phrases (NPs) in a sentence is known as semantic role labelling. Semantic roles, for example, agent, patient/them, experiencer, location, goal, instrument and time, are representations which express the abstract role that, arguments of a predicate plays in a sentence. These roles represent both general semantic features of the arguments and also show their relationship to the syntactic function of the argument in the sentence (Jurafsky et. al., 2014a).

Based on these arguments, it has been believed that training the students on identifying and describing the relationships between predicate
(content verb) and the expressions noun phrases (NPs) could help them to improve their reading comprehension skill. Accordingly, the semantic (thematic) relations and semantic role labelling were used as a second technique to raise the linguistic awareness of the Experimental Group and to validate the hypotheses of the study as well.

The researcher faced a group of problems and limitations while conducting the treatment process, which, to some extent, debilitated the overall output of the intervention procedures. The participants in this study, the Experimental Group, in particular, had to do the treatment sessions and their regular classes simultaneously. Consequently, more often than not, as there was no other option, they had to work for more than six hours a day. This situation put more pressure on them and created a stressful atmosphere. If the participants did the treatment phase in more relaxed circumstances, the instructional materials would be more effective.

Another problem was the motivation among the subjects of the study. The researcher adopted active learning teaching model, which promote learners’ autonomy, to deliver the instruction materials. Nevertheless, teaching grammar, sentence parsing, in particular, was boring to some of the participants in the Experimental Group. The major of the subjects in this experiment was English language and literature, where most of the time, they did critical readings. As a result, a group of them were not interested in the syntax and grammar classes. This reality debilitated the efficiency of the teaching materials and negatively affected the final results.
CHAPTER FOUR
DATA ANALYSIS AND DISCUSSION
Chapter Four
Data Analysis and Discussion

4.1 Introduction

As the title implies, this chapter describes and analyses the collected data followed by the discussion of the analysis results. Then it delineates the limitations of the study. The whole discussion is guided and directed by the objectives, questions, hypotheses, as well as the findings of the study in relation to the results and the conclusions of the previous studies. This discussion encompasses researches and studies that deal with the same topic either with similar results or with different ones.

In this study, the collected data were analysed to investigate whether there is a positive impact of raising linguistic awareness on EFL reading comprehension performance at the tertiary level or not. Moreover, the investigation of data intended to explore if the students’ reading comprehension performance improves when we raise their linguistic awareness or not.

As it describes the data analysis and the tests applied to analyse the collected data as well as it discusses the results, this chapter constitutes the most important part of this study. In other words, the outcomes of this chapter will define the directions of this study in terms of findings, implications, conclusions, and recommendations.

A pretest and a post-test which were conducted for both the groups before and after the treatment represent the primary resource of data for this study. As it was stated in the previous chapter, the main objective of the pretest was to determine the linguistic homogeneity as well as the current language proficiency level of both groups in term of their reading comprehension competence before the treatment. On the other hand, the post-test aimed at assessing the impact of the treatment on the subjects of the
Experimental Group reading comprehension performance in comparison to the Control Group, which did not receive the same treatment. The central purpose of the assessment and the target of the analysis were to investigate whether the intervention which the researcher made resulted in a significant difference in the scores of the Experimental Group in the post-test compared to their scores in the pretest. Then the post-test scores of the Experimental Group and the Control Group were compared to examine to what extent the performance of the former improves in relation to the latter. To that end, the collected data were entered into the computer software program “Statistical Package for Social Sciences”, (SPSS) for statistical analysis using various types of tests.

The statistical analyses of the collected data have been classified and arranged in tables and graphs using the percentage method, followed by a thorough description and interpretation of the results shown on those tables and figures. Finally, all the obtained results are discussed and compared with the findings of other studies and research papers in the same area to show how this study differs, confirms or adds to the literature. In other words, to display how much this study contributes to research and knowledge in general.

### 4.2 Samples Description

First of all, it is worth mentioning that both the Control Group and the Experimental Group showed a great deal of linguistic homogeneity in their performance in the pretest. The mean scores obtained by the two groups (Experimental and Control) in the pretest were compared and analysed, and the P-value was calculated to verify whether the results of the pretest show any significant difference or not in the reading comprehension performance of the participants in the two groups. The P-value obtained was (0.39), which exceeds the level of probability (0.05).

Hence, statistically, we can claim that there is no significant difference in the reading performance of the Experimental and Control groups at the start.
of the experiment and they are almost at the same linguistic proficiency level before the treatment. This situation is a statistical fact which serves the overall purpose of the study. In other words, any portion of the variation in the performance of the two groups (Experimental and Control) in their reading comprehension after the treatment process would empirically support the central hypothesis of the study. That is to say, the treatment process, which intended to raise the linguistic awareness of the participants in the Experimental Group has a relatively positive impact on their reading comprehension.

The following tables and graphs describe the samples statistically.

**Table No (4.1) The statistical description of the Control Group (pretest)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>50%</td>
</tr>
<tr>
<td>Minimum</td>
<td>6%</td>
</tr>
<tr>
<td>Maximum</td>
<td>56%</td>
</tr>
<tr>
<td>Mean</td>
<td>32%</td>
</tr>
<tr>
<td>S. D.</td>
<td>11%</td>
</tr>
</tbody>
</table>
Table No (4.2) The statistical description of the Control Group (post-test)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>50%</td>
</tr>
<tr>
<td>Minimum</td>
<td>12%</td>
</tr>
<tr>
<td>Maximum</td>
<td>62%</td>
</tr>
<tr>
<td>Mean</td>
<td>36%</td>
</tr>
<tr>
<td>S. D.</td>
<td>12%</td>
</tr>
</tbody>
</table>

As shown in the above two tables (4.1 & 4.2), the Minimum value increases from (6%) in the pretest to (12%) in the post-test while the Maximum value increases from (56%) in the pretest to (62%) in the post-test. On the other hand, the Mean value makes a slight increase from (32%) in the pretest to (36%) in the post-test, which indicates that the post-test scores are better than pretest scores. The Standard Deviation for the pretest scores is (11%), while it is (12%) for the post-test. This difference gives a piece of statistical evidence that the dispersion of the pretest scores and the post-test scores are almost the same.
Graph No (4.1) Comparing the pretest and the post-test for the Control Group

Graph No (4-1) demonstrates that the post-test scores of students in the Control Group improve compared to the students’ scores in the pretest. Although it shows that the improvement is not steady, for example, some students got lower scores in the post-test than the one they achieved in the pretest, most of the students’ scores in the post-test increase.

Table No (4.3) The statistical description of the Experimental Group (pretest)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>69%</td>
</tr>
<tr>
<td>Minimum</td>
<td>6%</td>
</tr>
<tr>
<td>Maximum</td>
<td>75%</td>
</tr>
<tr>
<td>Mean</td>
<td>41%</td>
</tr>
<tr>
<td>S. D.</td>
<td>20%</td>
</tr>
</tbody>
</table>
Table No (4.4) The statistical description of the Experimental Group (post-test)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>56%</td>
</tr>
<tr>
<td>Minimum</td>
<td>25%</td>
</tr>
<tr>
<td>Maximum</td>
<td>81%</td>
</tr>
<tr>
<td>Mean</td>
<td>51%</td>
</tr>
<tr>
<td>S. D.</td>
<td>16%</td>
</tr>
</tbody>
</table>

The two tables above (4.3 & 4.4) show that the Minimum value increases substantially from (6%) in the pretest to (25%) in the post-test, whereas the Maximum value increases from (75%) in the pretest to (81%) in the post-test. The Mean value rises from (41%) in the pretest to (51%) in the post-test, which statistically indicates that the post-test scores are better than pretest scores and statistically gives evidence that there is an improvement in the students’ reading comprehension performance. Nevertheless, the Standard Deviation for the pretest scores is (20%) while it is (16%) for the post-test. This difference shows that the dispersion of the post-test scores is less than the pretest scores. However, the homogeneity is higher in the post-test scores than the pretest ones.
Graph No (4.2) Comparing the pretest and the post-test for the Experimental Group

Graph No (4.2) above displays that the post-test scores of students in the Experimental Group improve. Although the improvement in the ratings is not steady, that is to say; some students got lower scores in the post-test than the ones they got in the pretest, 98% of the students’ scores in the post-test rise compared to the pretest.

4.3 Statistical Tests

The statistical description of the tables and the graphs above indicate that there is a noticeable variation in the scores between the pretest and the post-test for both the Control Group and Experimental Group. To verify whether this difference is statistically significant, the researcher used the Wilcoxon Signed Rank Test. It is a non-parametric test, which is commonly used to verify the significance of differences in the performance level in a pretest and a post-test in the same group as well as in different groups for small samples ranging from 8 to 25. Therefore, as the samples in this study are 20 students for each group, this Test is used. This Test obtains probability (significant) value (P-value) and compares it to a significant value (.05),
which represents the probability of error. If the obtained P-value exceeds (.05), that means the difference is not significant. Nevertheless, if the obtained P-value is less than (.05), this means that the difference is significant.

**Table (4.5) The P-value for the Control Group and the Experimental Group**

<table>
<thead>
<tr>
<th>Group</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>.007</td>
</tr>
<tr>
<td>Experimental</td>
<td>.008</td>
</tr>
</tbody>
</table>

As table (4.5) reveals, when this Test is applied to the scores of the Control Group, the P-value obtained is (.007) which is less than (.05). This calculated value indicates that there is a significant difference between the scores of the pretest and the scores of the post-test in the Control Group.

On the other hand, when this Test is also applied to the scores of the Experimental Group, the P-value obtained is (.008), which is also less than (.05). This obtained value again means that there is also a significant difference between the scores of the pretest and the scores of the post-test in the Experimental Group. However, the significant difference which the Experimental group made (.008) is higher compared to the one made by the Control Group (.007).

The Coefficient of Variation (CV) is a measurement, which calculates the performance level difference in the same group. It is also used to compare the performance level for different groups. The group or the test score with the less CV is considered as the one which has a higher performance level.
Table No (4.6) Coefficient of Variation (CV) for the Control Group

<table>
<thead>
<tr>
<th></th>
<th>Coefficient of Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>34%</td>
</tr>
<tr>
<td>Post-test</td>
<td>33%</td>
</tr>
</tbody>
</table>

Table No (4.5) displays that the performance in post-test is better than the performance in the pretest.

Table No (4.7) Coefficient of Variation (CV) for the Experimental Group

<table>
<thead>
<tr>
<th></th>
<th>Coefficient of Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>48%</td>
</tr>
<tr>
<td>Post-test</td>
<td>31%</td>
</tr>
</tbody>
</table>

Table No (4.6) displays that the performance improves in post-test when compared to the performance in the pretest.

It is observed from the comparison between Table No (4.6) and Table No (4.7) above that the Coefficient of Variation (CV) of the post-test for the Experimental Group (31%) is less than the CV of the post-test for the Control Group, (33%). This difference empirically supports the idea that the reading comprehension performance level is better in the Experimental Group than the Control Group. Moreover, the difference in the CV of the Control Group between the pretest and the post-test is only (1%). It decreases from (34%) in pretest to (33%) in the post-test. This drop in the CV value shows that there is a slight improvement in the performance of the group. However, the difference in the CV of the Experimental Group between the pretest and the post-test is (17%). It goes down from (48%) to (31%), which gives a piece of
statistical evidence that the development in the performance of this group is quite significant compared to the Control Group.

**Table No (4.8) Summary of Indicators**

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>The increase in Min. Value</td>
<td>6%</td>
<td>19%</td>
</tr>
<tr>
<td>The increase in Max. Value</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>The increase in the Mean</td>
<td>4%</td>
<td>10%</td>
</tr>
<tr>
<td>The decrease in the CV</td>
<td>1%</td>
<td>17%</td>
</tr>
</tbody>
</table>

* The decrease and the increase is from the pretest to the post-test

As it can be seen in Table No (4.8) above, the increase in the Minimum Value shows that the performance of both groups improves. The weakest students’ performance improves by not less than 6% in the post-test for the Control Group, while the weakest students’ performance improves by not less than 19% in post-test for the Experimental Group. This difference statistically gives a piece of evidence that the treatment, which each group received, has a significant impact on both the Control Group and the Experimental Group. On the other hand, the increase in the Maximum Value for both groups is the same, which indicates that the effect of the treatment has a noticeable impact on weak students rather than the excellent students.

Since the mean refers to the sum of the scores divided by the total number of the students, which is a fixed and independent variable, any increase in the mean indicates that there is an improvement in the scores obtained by the students which represent a dependent variable. The Mean increases by (4%) for the Control Group while it increases by (10%) for the Experimental Group. Statistically, this shows that the improvement in the students’ performance in the Experimental Group has significantly developed compared to the Control Group.
The Coefficient of Variation (CV) and the students’ performance has a sort of negative correlation. When the CV decreases, it indicates that the students’ performance improves and vice versa. The CV for the students in the Experimental Group decreases in the post-test by (17%) while it decreases by only (1%) for the students in the Control Group. This significant variation in the CV gives a shred of statistical evidence that the students’ performance level in the Experimental Group has significantly and positively improved compared to the students’ performance level in the Control Group in the post-test. It also gives additional statistical evidence which empirically supports our hypothesis. It provides statistical proof to the primary hypothesis of this study that the impact of raising the linguistic awareness on the reading comprehension performance of the participants in the Experimental Group is significantly positive.

4.4 Discussion

In this study, the researcher endeavoured to investigate and examine the possible existence of causality between linguistic knowledge and reading comprehension. For that purpose, the researcher attempted through conducting this experiment to explore two questions; 1) what is impact (if any) of linguistic knowledge on EFL reading comprehension? 2) To what extent does the performance of the students' in reading comprehension improve when their linguistic awareness is raised?

The results of the data analysis provide statistical pieces of evidence consistent with the two proposed hypotheses of the study and experimentally support them. First, in line with the first hypothesis, these results empirically demonstrated a positive impact of linguistic knowledge on EFL reading comprehension. Second, they statistically also corroborated the second hypothesis, which states that when the students' linguistic awareness is raised, their performance in reading comprehension improves. As these results reveal, the subjects in the Experimental Group, who received treatment to
boost their linguistic awareness, outperformed the subjects in the Control Group, who received no treatment, in the reading comprehension post-test. Therefore, the two proposed hypotheses of the study were retained and the two null hypotheses; 1) linguistic knowledge has no positive impact on EFL reading comprehension and 2) when the students' linguistic awareness is raised, their performance in reading comprehension does not improve were rejected.

It is apparent from the obtained results in this study that linguistic knowledge has a positive impact on reading comprehension. The statistical results of the study demonstrated on Tables No (4.1), (4.2), (4.3), (4.4) and (4.8) verify this theoretical assumption. Although they were almost at the same reading proficiency level, the post-test scores of the subjects in the Experimental Group were positively and significantly improved after the intervention compared to their ratings in the pretest and in relation to the post-test scores of the participants in Control Group. The relatively high increase (19%) in the Minimum Value of the Experimental Group from 6% in the pretest to 25% in the post-test compared to only (6%) from 6% in the pretest to 12% in the post-test for the Control Group provides statistical evidence that this premise is plausible. Similarly, the increase (10%) in the Mean of the Experimental Group, from 41% in the pretest to 51% in the post-test compared to only (4%) from 32% in the pretest to 36% in the post-test for the Control Group, empirically supports this proposition.

Interestingly, as Table No (4.8) displays, the increase of the maximum value for both the groups was the same (6%). One possible explanation of this result could be that, more often than not, the outstanding and high achievers students have a minimal margin to improve their scores. For example, if a student got 95% in a pretest, the maximum possible change for him/her is only 5%. Nevertheless, the poor performers and low achievers ones have a wider margin. They can raise their scores, for example, from 55% to 85% or even up to 90%. Therefore, the increase of the Maximum value in this study
does not have a significant variation in the results of the participants with high reading proficiency in both groups.

The first proposed hypothesis of the study is also empirically supported by the P-value obtained by the Experimental Group when the scores of the pretest and the post-test were compared and tested. The calculated P-value (.008) which is less than (.05) statistically proved that there is a significant difference between the scores before the treatment phase and the scores after it. This considerable variation between the two scores indicated that the instructional materials, namely sentence parsing and semantic role labelling, which they intended to raise the linguistic awareness of the participants in the Experimental Group, were positively influenced the scores in the post-test for this group. In other words, it provides one more piece of statistical evidence that linguistic knowledge plays a decisive and efficient role in developing and facilitating reading comprehension. Consequently, the researcher may argue that readers who lack the required linguistic expertise or they have not yet reached the needed linguistic maturity, they might likely face reading comprehension difficulties, which negatively affect their achievement in reading tasks, mainly, when they are required at a tertiary level, or they involve higher thinking order.

As displayed in Table No (4.5), (4.6) and (4.7) and indicated by the decrease in CV (1%) and the calculated P-value (.007), unexpectedly and surprisingly, the post-test scores of the participants in the Control Group substantially improved. Although it is a slight improvement in their reading comprehension performance, according to the decrease in the CV (1%) compared to their scores in the pretest, it is still considered as a significant one based on the calculated P-value (.007). Since the participants in this group did not receive the same treatment as the Experimental Group and the independent variable; linguistic knowledge was not treated nor raised for them, the researcher can claim that this improvement is due to the controlled variable; reading strategies. Although the positive effect of teaching reading
strategies on the post-test scores of the Control Group was not as significant as the impact of raising linguistic awareness on the post-test ratings of the Experimental Group, this positive influence in the scores and the performance of the participants in Control Group should not be ignored. Statistically, it implies that the syllabus of the target population might lack this skill or, possibly, it did not handle it appropriately. Moreover, it gives a statistical indication that training the tested target population on using reading strategies ability likely enhances their reading comprehension performance.

Second, based on the data analysis of the study, it is evident from the results that the students with high linguistic knowledge, more often than not, perform better in reading comprehension than those students whose linguistic knowledge is relatively lower. The results of the data analysis have shown statistical pieces of evidence which support this theoretical speculation. They have indicated that the treatment has effectively improved the performance of the Experimental Group. Although the two groups had almost the same ability of reading comprehension with nearly the same linguistic proficiency level with (.39) P-value in the pretest and before the treatment, the Experimental Group outperformed the Control Group in the post-test. In other words, the results have provided a significant statistical implication that when the students' linguistic awareness is raised, considerable improvement occurs in their reading comprehension performance. This conclusion is empirically corroborated by the result of the Coefficient Variation test, which measures the performance level of the Experimental Group and the Control Group. In spite of the fact that the two groups received different treatment, the decrease in the CV from the pretest to the post-test for both groups, as Table No (4.6) and Table No (4.7) demonstrate, indicated an improvement, though at different degrees, in their reading comprehension performance. As it has been mentioned earlier, the participants in the Control Group were only taught reading strategies, while the subjects of the Experimental Group were trained to parse sentences to solve syntactic complexity and to assign roles to nouns.
in a sentence to decipher semantic ambiguity together with reading strategies. The decrease was (1%) and (17%) for the Control Group and the Experimental Group, respectively. This significant difference between the two values shows and suggests to what extent the Experimental Group outperformed the Control Group in the post-test due to the independent variable, namely, raising linguistic awareness. Furthermore, it empirically demonstrated the fundamental role which linguistic knowledge plays in developing reading comprehension ability and enhancing reading comprehension performance of the target population of this study.

It could be observed in Graph No (4.2) that the improvement in post-test scores and performance of the Experimental Group was not steady. Meaning, few participants (3) in this group, surprisingly, got lower scores in the post-test compared to their ratings in the pretest. Contrary to the researcher expectations, the performance of these few participants dropped while it was supposed to rise based on the hypotheses of the study and due to the expected positive impact of the treatment which this group received. It is not easy to explain this inconsistency in scores of these participants, but, as it usually occurs during tests, it might be related to outside factors, such as fatigue, stress, anxiety, lack of motivation or a short memory. It also seems possible that this discrepancy could be attributed to the fact that these few participants gave too much attention to the syntactic analysis, which might have resulted in losing track of the content of the reading texts in the post-test. Another possible explanation for this rather contradictory result is that they failed to convert the target linguistic knowledge into the procedural automatic one which could facilitate their reading comprehension performance. This argument is supported by Cromer and Winer (1966), as cited in Derakhshan, Sani, Ghalaee, and Izadi, (2015), who stated that poor readers do not apply their syntactic knowledge to take advantage of it in decoding written text. Pedagogically speaking, teaching does not always guarantee learning. Notwithstanding these three participants attended all the treatment sessions,
there still a probability that they did not achieve the objective of the lessons. In other words, they could not reach the level where they were able to use the target linguistic knowledge unconsciously and automatically to solve reading comprehension problems such as syntactic complexity and semantic ambiguity.

Based on these statistical calculations and results, the researcher can claim that the instructional materials, which the Experimental Group received during the treatment sessions, were very useful in developing the participants’ linguistic knowledge. In return, the development of their linguistic knowledge contributed positively and significantly to their performance in reading comprehension.

The results of this study have shown empirical support to the findings of other related studies in the same area, which have substantiated that linguistic knowledge enhances and facilitates the students’ reading comprehension performance. In other words, it is consistent with the results and in line with the conclusions of previous published studies (Azizifar, (2011); Derakhshan, et al., (2015); Nation, and Snowling (2000), Kolavani (2015); Shiotsu and Weir (2007); Martohardjono, Otheguy, Gabriele, de Goeas-Malone, Szupica-Pyrzanowski, Troseth and Schutzman, (2005); Weisi, (2012); Bechoua, (2012)) in the same field of research which linked, though from a different perspective, the relative variations in the reading comprehension among readers to their linguistic knowledge.

In agreement with the results of this study which indicated that using syntactic analysis and sentence parsing enhances reading comprehension, Azizifar (2011), for example, argued in his findings that more likely students encounter complexity and ambiguity in reading. He considered these issues (complexity and ambiguity) as the primary source of reading comprehension difficulties. Thus, he maintained that readers must learn the rules of syntax and sentence structure, which help them work out how each word fits into each sentence and how constituents relate in a reading text to become fluent
readers. In a similar vein, Nation and Snowling (2000) maintained that syntactic complexity and semantic ambiguity influence reading comprehension. However, based on their results, they suggested that poor comprehension performance stems from language processing difficulties encompassing grammatical as well as semantic weaknesses. For them, reading comprehension problems are attributed to general weakness with language processing. They even continued to demonstrate that when the processing load is reduced, poor readers perform equivalently to skill readers. Consistent with the conclusion which Azizifar (2011) reached, Nation and Snowling (2000) pointed out that the syntactic awareness of poor comprehenders should be raised to solve such comprehension difficulties. Similarly and in line with this theoretical assumption, Kolavani (2015) put forward the same solution for reading comprehension problems and supported the view that syntactical knowledge constituted a bridge over which poor readers could pass all their comprehension difficulties.

Most of these studies claimed that both complexity and ambiguity problems in reading comprehension could be solved by learning the syntactic structures of a sentence and raising syntactic awareness. The obtained results in this study are in total agreement with this proposition. However, according to the reached results, the researcher could argue that syntactic analysis could only solve the complexity issues. However, when it comes to ambiguity problem, the researcher, based on the results of his study, suggests that semantic analysis represented by semantic role labelling plays a very notable role in facilitating comprehension and enhancing the reading skill. Therefore, the uniqueness of this study resides in the fact that it attempted to help the participants in the Experimental Group to activate their linguistic knowledge by using both syntactic and semantic analysis to solve reading comprehension problems. To that end, they were taught and trained in such a way to acquire the necessary skills which help them to reach a point where using linguistic knowledge becomes automatic and unconscious process. Hence, teaching
linguistic knowledge, represented by sentence parsing and semantic role labelling, was not for its sake, but it was regarded as a tool to assist the participants in the Experimental Group in overcoming comprehension difficulties in academic texts at a tertiary level.

On the other hand, the findings of the current study do not support the results of other previously published studies which concluded that linguistic awareness has no significant or facilitative effect on reading comprehension performance (Jahangard, et al., (2012); Lopez, (2008). For instance, and surprisingly, in their study, Jahangard, et al. (2012) found out that the participants in the experimental group, who received grammar instruction, where the focus was clarification of linguistic forms and the activation of their prior knowledge, performed worse in the reading comprehension test than the participants in the control group, who received no treatment. This result is in complete disagreement with the one we reached in this current study. Since, to the best knowledge of the researcher, this result has not been found or reached elsewhere in any research with the same nature, we cannot extrapolate a trend from such a rare finding. It is probably that the poor performance of the participants in that group was not due to teaching them grammar, instead it could be attributed to the instructional materials used to clarify the target linguistic forms. There was a possibility that these instructional materials were not effective enough to enhance the subjects’ reading comprehension ability in that group. Another explanation could be that the researchers might put too much emphasis on teaching the grammatical items in questions which, in return, distracts the participants from the primary purpose of the post-test, which was reading comprehension. In other words, possibly they concentrated more than necessary on form rather than tried to focus on extracting the meaning from the reading test.
4.5 Limitations

As every study has its own limitations, this study is not an exception. The most important limitation of this study is the size of the sample. Notwithstanding the sample represented more than 90% of the target population, only forty participants in this study are considered relatively small. Further studies should be carried out with a larger size using different contexts to come up with more decisive results.

Another major drawback which should be avoided in replicating this study is the duration of the treatment phase. The whole treatment was done intensively in two weeks. This short period of time during which a lot of work was done created too much pressure on the participants and the researcher as well. Future studies on the current topic are therefore recommended to assign a more extended time. A complete semester, for instance, could give both the participants in the study as well as the researcher an ample time to achieve the objectives of the treatment sessions appropriately.

In addition to that, in future studies, a longer time is needed to determine whether raising linguistic knowledge of the participants results in a long-lasting improvement in their reading comprehension performance. The rationale behind this extension is the possibility that the subjects of this study might lose their linguistic knowledge with the passing time.

Another primary source of uncertainty, in this study, was in the method used to measure the effectiveness of the instructional materials during the treatment sessions. The researcher depended only on exercises and feedback from the participants to assess learning. Further researches need to adopt a more rigorous method in which a test should be administered after the end of the treatment phase and before the final post-test to evaluate the efficiency of the teaching materials.

One more shortcoming of this study lies in the fact that it attempted to measure only the impact of raising linguistic awareness on general comprehension. In other words, this study turned a blind eye to investigate the
impact on different reading skills and strategies to find out which skill, for example, making inferences, reading for details, guessing the meaning from the context or critical thinking and the like is more enhanced than the other. Future studies should consider this shortcoming to fill in this gap.
CHAPTER FIVE
CONCLUSION, FINDINGS & RECOMMENDATIONS
Chapter Five

Conclusion, Findings and Recommendations

5.1 Conclusion

The current study was an endeavour to empirically investigate the impact of raising linguistic awareness on EFL tertiary level learners' reading comprehension ability. Forty students whose major was English language and literature and who studied at the Faculty of Arts, Shendi University, were selected as a sample for this experimental study. Then they were divided into the Experimental and Control groups for statistical purposes.

The statistical analysis of the data demonstrated that the positive effect and the improvement occurred in the reading comprehension performance of the participants in the Experimental Group, in comparison to their previous stage, were due to the introduction of two independent variables (skills) which were syntactic analysis (sentence parsing) and semantic analysis (semantic role labelling). This statistical conclusion was also empirically supported by the variation in the post-test scores of the Experimental Group and Control Group. That is to say the former substantially outperformed the latter.

Moreover, the obtained data revealed that teaching sentence parsing and semantic role labelling had a positive impact on the reading comprehension of the tested participants. Additionally, the collected data provided a piece of statistical evidence that when the tested participants’ linguistic awareness was raised, their reading comprehension performance significantly improved.

The rationale behind training the participants of the Experimental group on these two skills was to improve their linguistic knowledge. The training purpose was not to help the participants learn how to perform the syntactic structures correctly but to assist them in acquiring some insight into how these structures work within a text. Furthermore, it was designed to help them become aware of how the parts of each sentence function in a reading text to facilitate and enhance their reading comprehension process. Based on the

88
results of the study, this technique was successful, and it significantly increased the experimented subjects' reading comprehension performance.

Even though this study was limited in duration and scope, its statistical results showed a great deal of consistency with the previous published researches and studies in the literature. Those studies came to conclusions which empirically supported the positive impact of linguistic knowledge on reading comprehension performance.

More importantly, as to the best knowledge of the researcher and based on the available data, it is the first of its kind in Sudan, this study would possibly open new channels for researchers, syllabus designers, material developers, methodologists as well as teachers in Sudan to replicate the same study using different contexts with a broader range of participants to have more decisive results.

However, it should be considered that this study encountered a couple of limitations and setbacks which constrained attaining more valid and accurate results. Future researches need to minimise these limitations, such as the size of the sample the time and the duration of the treatment phase. Also, the efficiency of the instructional materials should be measured as much as possible to reach more valid, reliable and accurate results.

5.2 Findings

Based on the results obtained from the collected data, the context where the study took place and the tested subjects, this study has come up with the following findings:

1. Raising the linguistic awareness of EFL learners enhances their reading comprehension performance.

2. Syntactic complexity and semantic ambiguity constitute one of the major sources of poor reading comprehension performance.

3. Syntactic parsing is very effective in helping readers overcome syntactic complexity they may encounter during reading.
4. Semantic role labelling provides the readers with the necessary skill they need to disambiguate an ambiguous sentence they face in a reading text.
5. Poor comprehension performance could be caused by language processing difficulties encompassing linguistic as well as semantic weaknesses.
6. Semantic role labelling and syntactic parsing are efficient in enhancing reading comprehension when they work together concurrently.

5.3 Recommendations

The findings of this study, together with the available literature in the realm of reading comprehension, have stimulated the researcher to put forward a number of implications and recommendations. The research believes, if properly implemented, these recommendations concerning developing reading comprehension might make a positive transformation in the students’ reading comprehension performance. These recommendations are summarised in the followings:

1. The linguistic knowledge represented by syntactic and semantic knowledge of the learners should be considered and incorporated when designing reading instructional materials at tertiary levels. Especially if the learners have to do sophisticated academic readings at their majors.
2. The syllabi in the faculties of English language and literature in Sudan, where the students carry out high order thinking readings should be designed in such a way that makes the students reach the required linguistic threshold before start critical reading courses.
3. Based on the assumption that “rules learned consciously can be converted into the unconscious process of comprehension and production”, the courses that are intended to raise the linguistic knowledge (syntax, grammar and semantics) of the learners should be taught as early as possible. As a result, the students could get the opportunity to convert
their conscious learning of the linguistic components to unconscious and automatic acquisition.

4. Syntactic parsing and semantic role labelling can enhance reading comprehension by facilitating syntactic complexity and semantic ambiguity, respectively. Therefore, teachers should integrate and teach them simultaneously with the other reading strategies (scanning, skimming, guessing the meaning from the context and making inferences) in any reading course.
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APPENDICES
الموضوع: تسهيل إجراءات دراسة الدكتوراه

إشارة للموضوع أعلاه نفيذكم بأن الطالب/ عوض الكريم رحمة الله أحمد من ضمن الطلاب المسجلين لنيل درجة الدكتوراه في اللغة الإنجليزية.

وتأمل في حسن تعاونكم مع كلية الدراسات العليا والبحث العلمي جامعة شندي، نرجو شاكررين تسهيل مهمته بغرض إجراءات البحث.

وجزاكم الله خيراً،

د. خالد حسن جاد الله

مسجل كلية الدراسات العليا والبحث العلمي
المحضر:

الأخ... سيد كليما... DPR.

الموضوع: تسهيل إجراءات دراسة دكتوراه

إشارة للموضوع أعلاه نفذتهكم. واعظ الكرم رحمة الله أحمد

من ضمن الطلاب المسجلين لدرجة الدكتوراه في اللغة الإنجليزية.

وبعمل محسن نتعاون مع كلية الدكتوراه العليا والبحث العلمي جامعة

شندل، نرجو شاكيرين تسهيل مهمته بغرض إجراءات البحث.

وجزاكم الله خيرا...!!

TESTS
Reading Comprehension 2 Level 6

Directions: Read the passage. Then answer the questions below.

It is bad to have food stuck between your teeth for long periods of time. This is because food attracts germs, germs produce acid, and acid hurts your teeth and gums. Flossing helps to remove the food that gets stuck between your teeth. This explains why flossing helps to keep your mouth healthy, but some doctors say that flossing can be also good for your heart.

It may seem strange that something you do for your teeth can have any effect on your heart. Doctors have come up with a few ideas about how flossing works to keep your heart healthy. One idea is that the germs that hurt your teeth can leave the mouth and travel into your blood. Germs that get into the blood can then attack your heart. Another idea is based on the fact that when there are too many germs in your mouth, the body tries to fight against these germs. For some reason, the way the body fights these mouth germs may end up weakening the heart over time.

Not every doctor agrees about these ideas. Some doctors think that the link between good flossing habits and good heart health is only a coincidence. A coincidence is the occurrence of two or more events at one time apparently by mere chance. The incidence of these events is completely random, as they do not admit of any reliable cause and effect relationship between them. For example, every time I wash my car, it rains. This does not mean that when I wash my car, I somehow change the weather. This is only a coincidence. Likewise, some doctors think that people who have bad flossing habits just happen to also have heart problems, and people who have good flossing habits just happen to have healthy hearts.

The theory that flossing your teeth helps to keep your heart healthy might not be true. But every doctor agrees that flossing is a great way to keep your teeth healthy. So even if flossing does not help your heart, it is sure to help your teeth. This is enough of a reason for everyone to floss their teeth every day.

Questions

1) Which of the following would be the best title for this passage?

A. Why Doctors Disagree about Flossing
B. How to Keep Your Teeth Healthy
C. Flossing Your Way to a Healthy Heart
D. Flossing by Coincidence

2) Flossing effectively helps to keep your mouth healthy by preventing

A. germs from producing acid
B. food from entering your body
C. germs from entering into your blood
D. acid from contacting your teeth and gums

3) In paragraph 2, the author introduces ideas about how flossing works to keep your heart healthy. Exactly how many of these ideas does the author put forth in this paragraph?

A. 1
B. 2
C. 3
D. 4
4) Based on information in paragraph 2, it can be understood that germs in the mouth may harm your heart by
   I. getting into the blood that flows to the heart
   II. forcing the body to fight against too many of them
   III. causing food to get stuck in the arteries
   A. I only
   B. I and II only
   C. II and III only
   D. I, II, and III

5) In paragraph 2, the author explains how having too many germs in your mouth can "end up weakening the heart." Using the passage as a guide, it can be understood that with respect to the actual way in which this occurs, doctors are
   A. reluctant to hypothesize
   B. confident in their estimations
   C. extremely knowledgeable
   D. uncertain but speculative

6) In paragraph 3 the author writes, "Not every doctor agrees about these ideas." The author’s purpose in writing this sentence is to
   A. provide an example
   B. introduce a new topic
   C. change a previous statement
   D. clarify an earlier assertion

7) Using information in paragraph 3 as a guide, which of the following is the best example of a coincidence?
   A. Jim wakes up with a sore throat. He eats a piece of bacon for breakfast. By noon, he feels much better. Jim decides that the bacon has cured his sore throat.
   B. Laura remembers to brush her teeth every day, but she only remembers to floss once a week. She writes a note to herself, reminding herself to floss and sticks it to her bathroom mirror.
   C. Mario is not very good at baseball. He practices playing every day. After a several months of practice, he is a much better baseball player.
   D. Jai has a bad heart. Her doctor tells her to eat more vegetables and less junk food. After nearly a year of doing this, the doctor tells Jai that her heart is doing much better.

8) Based on its use in the final paragraph, it can be inferred that theory belongs to which of the following word groups?
   A. query, question, interrogation
   B. assertion, declaration, affirmation
   C. hypothesis, supposition, belief
   D. idea, thought, notion

9) Which of the following best states the main idea of the final paragraph?
   A. Because doctors do not agree that flossing will help your heart, it is useless to floss.
   B. It is a fact that flossing can help your heart as well as your teeth.
   C. Even if flossing is only good for your teeth, you should still do it every day.
   D. There is no good reason to believe that flossing will help your heart, but it is still a good idea to do it every day.
Answers and Explanations

1) C
A good title summarizes the main idea of the passage, letting the reader know what to expect should he or she continue reading. The main idea of this passage is that flossing may be linked to having a healthy heart. This idea is introduced at the end of the first paragraph, when the author states, "This explains why flossing helps to keep your mouth healthy, but some doctors say that flossing can be also good for your heart." In paragraph 2, the author gives possible reasons for this idea. In paragraph 3, the author talks about how flossing and heart health may be a coincidence. In the final paragraph, the author gives concluding remarks about the benefits of flossing. Using this information, we can understand that the best title for the passage would be Flossing Your Way to a Healthy Heart, as it best summarizes the main idea of the passage. Choice (C) is correct. Even though the passage does mention that not all doctors agree about whether or not flossing is good for your heart, and that flossing is good for your teeth, these are not the main ideas. They are merely details the author uses to support a larger idea: that flossing is good for your teeth and may also be good for your heart. Therefore (A) and (B) are incorrect. The author does not state the idea that flossing occurs by coincidence. Rather, the author uses the idea of coincidence to illustrate why some "doctors think that the link between good flossing habits and good heart health,"—an idea explained in paragraph 3. This lets us know that choice (D) is incorrect.

2) D
In paragraph 1, the author tells us that "food attracts germs, germs produce acid, and acid hurts your teeth and gums." The author continues to tell us that "Flossing helps to remove food that gets stuck between your teeth." Using this information, we can understand that flossing helps remove food from between your teeth. This, in turn, removes germs from your mouth. If there are no germs in your mouth, the acid they produce cannot get on your teeth and gums. If the acid cannot get on your teeth and gums, it cannot harm them. This is how flossing effectively helps to keep your mouth healthy. This idea is reflected in (D), making it the correct choice. Although flossing helps prevent food from attracting germs, it does not prevent germs from producing acid. Germs will produce acid regardless of flossing. Flossing simply makes sure that germs don't produce acid in your mouth. This lets us know that flossing does not help to keep your mouth healthy by preventing germs from producing acid. This means (A) is incorrect. Technically speaking, flossing may indeed prevent minuscule pieces of food from entering your body. However, this is unrelated to the way in which it helps you teeth. This lets us know that flossing does not help to keep your mouth healthy by preventing food from entering your body. Choice (B) is incorrect. The author does not discuss the possibility that germs will enter the blood. Rather, the author says that acid may enter the blood. However, this is unrelated to the way in which flossing helps your teeth. This lets us know that flossing does not help to keep your mouth healthy by preventing germs from entering your blood. Choice (C) is incorrect.

3) B
In paragraph 2, the author introduces two ideas about how flossing works to keep your heart healthy. The first idea is introduced as the author writes, "One idea is that the germs that hurt your teeth can leave the mouth and travel into your blood." The second idea is introduced as the author writes, "Another idea is based on the fact that when there are too many germs in your mouth, the body tries to fight against these germs." This means (B) is correct. The passage does not provide information to support choices (A), (C), and (D). Therefore they are incorrect.

4) B
In paragraph 2, the author introduces two ideas about how flossing works to keep your heart healthy. First, the author says, "One idea is that the germs that hurt your teeth can leave the mouth and travel into your blood. Germs that get into the blood can then attack your heart." This supports option (I). Second, the author says, "Another idea is based on the fact that when there are too many germs in your mouth, the body tries to fight against these germs." For some reason, the way the body fights these mouth germs may end up weakening the heart over time. This supports option (II). The author does not provide information to suggest that germs may harm your heart by causing food to get stuck in the arteries. This eliminates option (III). Therefore (B) is correct.

5) D
At the end of paragraph 2, the author writes, "Another idea is based on the fact that when there are too many germs in your mouth, the body tries to fight against these germs. For some reason, the way the body fights these mouth germs may end up weakening the heart over time." After explaining how having too many germs in your mouth causes the body to fight against them, the author introduces the explanation behind this using the phrase, "For some reason." This phrase is used to signify that doctors are uncertain about the actual cause of this. Nonetheless, they venture to speculate that it has something to do with the way the body fights these mouth germs and how that may end up weakening the heart over time. Using this information, we can understand that doctors are uncertain but speculative with respect to the actual way in which this occurs. Choice (D) is correct. Although doctors may be reluctant, they still venture to speculate, or hypothesize, about the actual way in which this occurs by positing that "the way the body fights these mouth germs may end up weakening the heart over time." This lets us know that (A) is incorrect. Choices (B) and (C) depict the doctors as more confident in their suppositions than the passage leads us to believe. Therefore they are incorrect.

6) D
To answer this question correctly, it helps to use context. In paragraph 2 the author writes, "Doctors have come up with a few ideas about how flossing works to keep your heart healthy." The author continues to describe these ideas in the remainder of paragraph 2. At the beginning of paragraph 3, the author tells us that "Not every doctor agrees about these ideas." This lets us know that the author plans to use paragraph 3 to clarify his or her earlier assertion presented in paragraph 2. This means (D) is correct. The passage does not provide information to support choices (A), (B), and (C). Therefore they are incorrect.

7) A
coincidence (noun): a striking occurrence of two or more events at one time apparently by mere chance.
In paragraph 3, the author tells us that "A coincidence is the occurrence of two or more events at one time apparently by mere chance. The incidence of these events is completely random, as they do not admit of any reliable cause and effect relationship
between them." In Jim's case, Jim eats bacon and his sore throat happens to go away. These two events do not admit of any reliable cause and effect relationship. Jim's eating of the bacon (cause) does not mean that bacon cured his sore throat (effect). This is a single occurrence that intuitively seems very unlikely to happen again. This fits the author's description of a coincidence. Therefore choice (A) is correct. (B) is unrelated to the idea of a coincidence and is therefore incorrect. In choice (C), Mario's practice makes him a better player. A reliable cause (several months of practice) and effect (getting better at baseball) relationship is readily identifiable. This is not a coincidence. In choice (D), Jill's healthier diet makes her heart healthier. A reliable cause (nearly a year of eating more vegetables and less junk food) and effect (her heart is doing much better) relationship is readily identifiable. These effects are directly linked to their causes.

8) C

theory (noun): a proposed explanation whose status is still conjectural and subject to experimentation, in contrast to well-established propositions that are regarded as reporting matters of actual fact.

To answer this question correctly, it helps to use context. In the final paragraph, the author writes, "The theory that flossing your teeth helps to keep your heart healthy might not be correct. Nonetheless, every doctor agrees that flossing is a great way to keep your teeth healthy. So even if flossing does not help your heart, it is sure to help your teeth." Using this text, we can understand that the idea that flossing your teeth helps to keep your heart healthy is a theory. We also learn that this idea may or may not be correct. So, this idea is a speculative, or uncertain, attempt to state a fact about the world or how it works. A theory is not merely an idea, it is a speculative assertion. The words hypothesis, supposition, belief capture this definition nicely. This lets us know that choice (C) is correct. In his or her use of the word theory, the author does not pose a query, question, or interrogation. Rather, the author makes a speculative assertion, as explained above. This means (A) is incorrect. In his or her use of the word theory, the author does not make an assertion, declaration, or affirmation. Rather, the author makes a speculative assertion, as explained above. This is different than a straightforward assertion, which is a simple claim that is not intended to be speculative. This means (B) is incorrect. In his or her use of the word theory, the author does not illustrate an idea, thought, or notion. Given the above explanation, we can understand that this idea is a speculative, or uncertain, attempt to state a fact about the world or how it works. A theory is not merely an idea, it is a speculative assertion. This means (D) is incorrect.

9) C

In the final paragraph, the author says that "even if flossing does not help your heart, it is sure to help your teeth. This is enough of a reason for everyone to floss their teeth every day." This statement is intended to mean that while it may be true that flossing might not really help your heart, it definitely is good for your teeth. Therefore, the author recommends that you should do it every day. Choice (C) is correct. The passage does not provide information to support choices (A) or (B). Therefore they are incorrect. (D) is incorrect because the author does not suggest that you should floss merely because it may be good for your heart. Rather, the author says that flossing is good for your teeth, and that the fact that it may also be good for your heart is a potential added benefit.
• Reading Comprehension 5  Level 6

Directions: Read the passage. Then answer the questions below.

To Whom it May Concern:

On March 5, 2010, I bought a Perfect Muffin Kit from your store at Midfield Mall. The cashier who assisted me was George. George was very friendly and assured me that the Perfect Muffin Kit would live up to the guarantee on the box: “Perfect Muffins Every Time!”

Unfortunately, this product did not live up to its claim. Although the box promised, as I stated above, to provide “Perfect Muffins Every Time,” the muffins I made were far from perfect. I followed the directions included in the package very carefully. First, I removed the bag of mix from the box. Then, I poured it into a bowl. Next, I added the correct amount of water to the mix and stirred it. The directions said that after stirring the mixture, I could, and I quote, “add half a cup of raisins, nuts, berries, or another favorite ingredient.” My favorite ingredient happens to be hot sauce. I find that a dash of hot sauce makes pizza, pasta, and soup taste very delicious. So, continuing to follow the directions, I added half a cup of hot sauce to the mix and stirred it. Finally, I poured the mix into muffin tins and baked it in the oven at 350 degrees for exactly 20 minutes.

When the muffins finished baking, I was very excited to eat the “Perfect Muffins” as promised on the box. You can imagine my disappointment when, upon tasting the muffins, I discovered that they were not perfect. These muffins were, in fact, absolutely terrible. Not even my dog was interested in eating these supposedly “perfect” muffins.

I would appreciate a full refund ($3.99) for this product as soon as possible. Enclosed are the receipt, the empty box, and one of the un-perfect muffins so that you can experience it for yourself. Thank you for your prompt attention to this matter.

Sincerely,
Michelle Bauer

Questions

1) This letter is most likely addressed to

A. the owner of the muffin mix company
B. a local store owner
C. the clerk at a local muffin bakery
D. George, the cashier who sold Michelle the muffin mix

2) The tone of the author can best be described as

A. furious
B. disgusted
C. embarrassed
D. frustrated

3) As used in paragraph 1, which is the best synonym for guarantee?

A. lie
B. warning
C. promise
D. sentence
4) Which of the following best describes the organization of paragraph 2?
   A. The paragraph follows chronological order, in which events are presented in the sequence that they occur.
   B. The author explains a problem and then proposes a solution to that problem.
   C. The author makes an argument and then provides evidence to support that argument.
   D. The paragraph follows a cause-and-effect order, in which a series of causes are given, followed by their effects.

5) It can be understood that the author is disappointed by the product because
   A. it was worth less money than she paid for it
   B. it did not fulfill the promise made on the box
   C. the directions included with the product contained a mistake
   D. the directions included with the product were too difficult to follow

6) It can be understood that the author put hot sauce in the muffins because she
   A. wanted to get a full refund
   B. did not read the directions carefully
   C. was out of raisins, nuts, and berries
   D. considered it one of her favorite ingredients

7) The author's main purpose in writing this letter is to
   A. complain about how bad the muffins tasted
   B. obtain a full refund for her money
   C. prevent others from making the same mistake she did
   D. persuade the company to change the wording on their box

8) Which of the following words best describes the author?
   A. shrewd
   B. senseless
   C. unreasonable
   D. careful

9) Instead of hot sauce, which of the following ingredients might the author have reasonably added to enhance the flavor of the muffins?
   I. raspberries
   II. banana nuts
   III. chocolate chips
   A. I only
   B. I and II only
   C. II and III only
   D. I, II, and III

10) According to the author, the muffins tasted "absolutely terrible." This is the result of
    A. misinterpretation
    B. negligence
    C. forgetfulness
    D. recklessness
Answers and Explanations

1) B
In the first paragraph, the author writes that she “bought a Perfect Muffin Kit from your store at Midfield Mall.” This lets us know that the author is most likely addressing the owner of the store from which she bought the muffin mix. Therefore (B) is correct. The passage does not provide information to support choices (A), (C), and (D). Therefore they are incorrect.

2) D
In this passage, the author requests a refund for her product. In writing this request, she seems annoyed, or irritated, that the muffins did not live up to their expectations, even though she took extra care to follow the directions included in the package “very carefully.” In paragraph 3, the author expresses excitement about eating the “Perfect Muffins” as promised on the box. However, upon trying them, she notices that they taste terrible. Given that she took special care to ensure that she made them correctly, yet still found them to taste terrible, we can understand that she feels disappointed or thwarted. The word frustrated accurately captures this sentiment. Therefore (D) is correct. Although she is upset, it is wrong to think the author is furious. This is too strongly negative. Therefore (A) is incorrect. In paragraph 3 the author says that the muffins tasted “absolutely terrible.” Although the muffins may have tasted disgusting, this is different than saying that the author was disgusted. If someone is disgusted, he or she is offended or revolted. This is too strongly negative. What is more, this does not capture the idea that the author feels thwarted, as her careful efforts were not properly rewarded. This means (B) is incorrect. (C) is incorrect because the author is very explicit, or clear and forthright, in her explanation of why she deserves a refund. Since she holds no reservations in telling the letter's recipient her exact thoughts, we can understand that her tone is not embarrassed.

3) C
Guarantee (noun): a promise of quality; something that assures a specific outcome.
The question asks us to find the best synonym. Synonyms are words that have nearly the same meanings. In the first paragraph, the author states that the Perfect Muffin Kit had a “guarantee on the box: "Perfect Muffins Every Time!” Using the context in paragraph 2, we can figure out the meaning of this word. In paragraph 2, the author writes: “Unfortunately, this product did not live up to this claim. Although the box promised, as I stated above, to provide "Perfect Muffins Every Time,” the muffins I produced were far from perfect.” The words “claim” and “promise” should help readers understand that a “guarantee” is a promise. This lets us know that (C) is correct. The passage does not provide information to support choices (A), (B), and (D). Therefore they are incorrect.

4) A
In paragraph 2, the author explains the steps she followed in making the muffin using the words “First,” “Then,” “Next,” and “Finally.” Since these words are all used to describe the order of events in time, this lets us know that the author is using a chronological order. Therefore (A) is correct. The passage does not provide information to support choices (B), (C), and (D). Therefore they are incorrect.

5) B
According to the author, the Perfect Muffin Kit box guarantees, or promises, that the product will produce “Perfect Muffins Every Time!” The author’s muffins are not perfect, as they turn out to be “absolutely terrible.” Since this qualifies (In the author's opinion) a violation of the product's guarantee, we can understand that (B) is correct. (A) is incorrect because although the author requests a refund in her letter, this does not mean that she thinks the product was worth less money than she paid for it. Rather, she requests a refund for the product. This means that she would like the full amount paid for the product to be returned to her. Her disappointment does not result from anything involving the actual price of the product. It may seem like the directions that came with the product contained a mistake. After all, the author did follow them perfectly as they were written. However, this is not actually the case. Using the passage as a guide, it can be understood that directions were written with the understanding that their reader is able to reasonably conclude that “one of your favorite ingredients” does not include something as extreme as hot sauce. Rather, as the directions suggest, something like raisins, nuts, or berries would be more suitable. Although hot sauce may indeed by one of the author's favorite ingredients, it is unreasonable to believe that it could be a tasty ingredient in muffins. In any case, one does not have to be a chef to understand that hot sauce does not go well with muffins. Therefore (C) is incorrect. Although the author did fail to follow the directions properly, she is unaware of this fact. Therefore, she could not be disappointed by this. This means (D) is incorrect.

6) D
In paragraph 2, the author states that the directions for the muffin mix tell her to add “half a cup of raisins, nuts, berries, or another favorite ingredient.” Because the author’s favorite ingredient is hot sauce (and she wants to follow the instructions “very carefully”), she puts half a cup of hot sauce into the mix. This lets us know that (D) is correct. The passage does not provide information to support choices (A), (B), and (C). Therefore they are incorrect.

7) B
Paragraphs 1-3 in the author's letter are all intended to provide reasoning behind why the author should be eligible for a “full refund,” which she asks for in the final paragraph. Given that the majority of the letter is reserved for this purpose, we can understand that it is the main purpose. This lets us know that (B) is correct. Although the author complains about how bad the muffins tasted, probably does not want others to make the same mistake as she did, and suggests that the wording on the box was misleading, her main purpose for writing this letter is to get her money back. Therefore (A), (C), and (D) are incorrect.

8) C
The author lacks the common sense necessary to realize that hot sauce would not be a good ingredient in muffins. Given that the vast majority of people know that these two foods do not mix well, it is unreasonable of her to request a "full refund" simply because
she fails to understand this. Choice (C) is correct. Although the author may seem shrewd in her willingness to write a letter requesting monetary compensation for her own mistake, this is not as defining an aspect of her character as her inability to reason properly. Therefore (A) is incorrect. (B) is incorrect because senseless is too strongly negative. We know that the author has some sense (albeit very little), otherwise she wouldn’t have come to the conclusion that hot sauce and muffins don’t mix well. While the author follows the instructions on the box “very carefully,” she misses the larger idea that some ingredients simply do not mix well with others. The failure of her to see this larger idea is a more defining aspect of her character than her desire to follow the instructions carefully, as it results in her writing of the letter. Therefore (D) is incorrect.

9) **D**
In paragraph 2, we learn that the directions on the box say to “add half a cup of raisins, nuts, berries, or another favorite ingredient.” Since raspberries are a kind of berry, it is reasonable to think they would enhance the flavor of the muffins. This supports option (I). Since banana nuts are a kind of nut, it is reasonable to think they would enhance the flavor of the muffins. This supports option (II). Since chocolate chips are a common favorite, and they are a reasonable ingredient to add to muffins, we can understand that they would enhance their flavor. This supports option (III). Therefore (D) is correct.

10) **A**
In paragraph 2, we learn that the directions say to “add half a cup of raisins, nuts, berries, or another favorite ingredient.” The author reads these directions literally, meaning she reads them following the strict meaning of the words. She does not think for herself about what they may actually mean. So, she does not reason that, although it is one of her favorite ingredients, hot sauce would be a bad ingredient to add to muffins. Since the author fails to interpret these directions properly, we can understand that they muffins tasted terrible as a result of a misinterpretation. Choice (A) is correct. The author does not make any careless errors. Actually, her error comes from following the directions too carefully. Since negligence is carelessness, we can understand that (B) is incorrect. (C) is incorrect because the author does not forget anything while making the muffins. (D) is incorrect because the author is never reckless or wild and irresponsible.
TEACHING MATERIALS
MAKING INFERENCES

Awad Alkarim Omar

What does it mean to “make an inference”? 
Before answering this question let us study and discuss this part of a story;

Ali said to Abdullah “would you drive slowly please” “but we will be late, the class will start in fifteen minutes” replied Abdullah. ”fifteen minutes are fine we are close” said Ali.

Now let us answer these questions:

1. Who are these two people?
2. Where are they?
3. How is Abdullah driving?
4. Where are they going?
Because of the word “class” we can guess that these people are *students*, and they are going to *school or college*. The word “drive” helps us to say that they are in a *car*. Ali asked Abdullah to drive “*slowly*”, this means, Abdullah is driving “*fast*”.

The underlined words are the answers for the above questions. However, they (the underlined words) are not clearly stated in the part of the story. We use the information in text (class, drive and slowly) together with the information we have (fast is opposite of slowly, the word class is related to schools and students and when the word drive is mentioned we remember cars) to guess these answers. So making an inference is to put together the information which the writer gives and the information you already know to come up with an answer or a conclusion.
The information in the text 
+ your prior knowledge 
= making inferences.

We make inferences every day. Most of the time, we do so without thinking about it. Imagine that you are going to a mosque. When you get there, people are coming out of the mosque. You have not yet entered inside the mosque but you infer that the prayer has just finished. Another example, suppose you are in a hospital visiting a friend who is sick. When you enter his room you find many doctors and nurses around his bed. Then the doctors ask the nurses to take him to the intensive care room immediately. You may infer or guess that your friend is very sick.
Making inferences is very important in reading comprehension for many reasons:

➢ it helps readers to develop the skill of guessing.
➢ it allows the readers to comprehend the text deeply.
➢ it supports the readers to comprehend what is important and what is not.
➢ it leads to better comprehension by reading behind the lines and between the words.
➢ it develops the skill of dealing with reading as a problem-solving task rather than a translation exercise.

Practice

Here is a part of a story. Read it carefully, and then make inferences to answer the questions that follow:

“It is not easy to live in the same room with a person who always plays his guitar every day up to midnight”. Said Tom when he handed the knife that was covered with blood to the police”.
Questions

1. What did Tom do?

2. Why did he do it?

3. How did he do it?

4. What was the relationship between Tom and the guitar player?

5. What will happen to Tom?
Scanning

Scanning is very high-speed reading that you do when you are looking for a specific piece of information. When you scan, you have a question in mind. You do not read every word, only key words that will answer your question. Practice in scanning will help you learn to skip over unimportant words so that you can read faster.
Practice: use scanning to answer the questions.

Taman Negara National Park is located on Malaysia’s east coast. The variety of plants and wildlife are amazing and the scenery includes lazy, winding rivers and roaring waterfalls.

Angkor Wat, Cambodia Angkor Wat, means “City Temple”, and is a complex of ancient temples that is considered the most important architectural site in Southeast Asia. It was built in the 12th century to honor Vishnu, the Hindu god.

1) Where is Taman Negara National Park?
2) What does “Angkor Wat” mean?
3) When was it built?

Skimming

Skimming is another high-speed reading technique that can save your time and help you get through a text quickly. You skim to get the general sense by reading the topic sentence of each paragraph of a passage, not specific details. When you skim, you should not read the whole text. Your eyes should move very quickly over the lines and you should read only the parts of the text that will help you answer the questions.
Locating the main idea

Locating the Main Idea is useful way to understand the main idea of a paragraph is to start by identifying the paragraph’s topic. A paragraph’s topic is the subject under discussion. When identifying the topic of a paragraph, remember that it should be general enough to cover the material in the paragraph, but not so general that the label could apply to many paragraphs.

Let’s look at this paragraph to illustrate

Beginning in the late tenth century, many new cities and towns were founded, particularly in northern Europe. Usually, a group of merchants established a settlement near some fortified stronghold, such as a castle or monastery. Castles were particularly favored since they were usually located along major routes of transportation or at the intersection of two such trade routes; the lords of the castle also offered protection. If the settlement prospered and expanded, new walls were built to protect it.

What is this paragraph about? The opening sentence tells us that it is about “cities and towns” in “Europe” in the “late tenth century.” But, is it about all towns in tenth-century Europe? No. As the opening sentence establishes, it is about the founding of new towns. The rest of the paragraph contains specific details about how (by merchants) and where (near castles and trade or transportation routes) the new towns were established. The paragraph’s topic is the founding of new towns in late tenth-century Europe.
Parts of the main idea

The main idea is often found in the first sentence of a paragraph (*topic sentence*); however, you may find it in other locations; that is, in the last sentence, in the middle sentence, split between the first and the last sentences or not stated in the paragraph at all.

A main idea of a sentence (MIS) has two parts, usually called the *topic* (T) and the *controlling idea* (CI). If you like math, think of it as an equation: MIS = T + CI

Example:
The students in section 15 are wonderful ones.

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Reading for Comprehension

Reading for comprehension is a type of slow reading in which you look for details
Guessing the Meaning from the Context

What is the context?
It is the sentence or sentences around the word which helps you to guess the meaning of the words as well as its class.

Do you know the meaning of this word?

*Pacanacia*

When I ate *Pacanacia*, I found it very tasty.
When I drove *Pacanacia*, I found it very fast.
When I read *Pacanacia*, I found it very interesting.
Determining Meaning

To understand the meaning of a sentence, there are 3 different types of semantic analysis that we can use:

- We can determine the *semantic features* of key words in the sentence.
- We can analyze the *lexical relations* of these words in the sentence.
- We can analyze the *semantic roles* of key words in the sentence (i.e. the roles they fulfill in the situation described in the sentence).
Meaning beyond the Word Level

“Words are not just “containers” of meanings. They fulfill different “roles” within the situation described by a sentence” (Yule, 2006).

The boy kicked the ball.

The verb ‘kicked’ describes an action. The noun phrases ‘The boy’ and ‘the ball’ describe the roles of entities— people and things involved in the action.

Meaning beyond the Word Level

Study these sentences:

The hamburger ate the man.
The table kicked the ball.
My dog studied linguistics.

What’s wrong with these sentences? Do they make sense?

- The structure and word order of the sentences are correct:
  - NP VP NP
  - S V O
Meaning beyond the Word Level

The hamburger ate the man.
The table kicked the ball.
My dog studied linguistics.

- The kind of nouns which can be subjects of the verb ‘ate’ must have an entity that is capable of eating (+human).
- The words hamburger, table, and dog make the sentences odd because the three nouns carry the semantic feature of (-human).
- Hamburger and table also carry the semantic feature of (-animate), so they cannot perform the action described by the verbs.

Semantic Roles (Thematic Roles)

Semantic Roles (also called Theta Roles) refer “to the way in which the referent of the noun phrase contributes to the state, action, or situation described by the sentence” (p. 215)
Semantic Roles (Thematic Roles)

Agent = the animate entity that performs the action
Theme / Patient = the entity that undergoes (or receives) the action.

Basim kicked the ball

Although agents are typically human, they can also be non-human forces, machines or creatures.

The dog caught the ball

The same agent in passive voice.

The ball was kicked by Basim.

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Semantic Roles (Thematic Roles)

Agent = the animate entity that performs the action
Theme = the entity that undergoes (or receives) the action

The theme can also be an entity that is simply being described.

The ball was red

The theme can be human. Indeed the same physical entity can appear in two semantic roles.

The boy kicked himself.

Agent         Theme
Semantic Roles (Thematic Roles)

*Experiencer* = one who enjoys, knows, sees, accepts, experiences, or undergoes the effect of an action.

Did you hear that noise? 

*Experiencer*     *Theme*

*Instrument* = an inanimate entity used by an agent to perform an action, that other entity fills the role of instrument.

She hit the bug with the magazine

In “writing with a pen” the phrase “a pen” has the semantic role of instrument.

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Semantic Roles (Thematic Roles)

*Location* = the place where the action happens 

*Source* = the place from which an action originates 

*Goal* = the place where the action is directed or the place to which something moves 

*Time* = when an event took place

- Mary saw a mosquito on the wall.

- I will take my money from my saving account in BBK and deposit it in NB next week.
A note...

What do you notice?

The ball broke the window
   Agent
   instrument

There are no clear boundaries between thematic relations. The ball can be seen as an agent or an instrument.

Semantic Roles (Thematic Roles)

- **Agent** = the animate entity that performs the action
- **Theme** = the entity that undergoes (or receives) the action
- **Experimencer** = one who receives, accepts, experiences, or undergoes the effect of an action
- **Instrument** = an inanimate entity used by an agent to perform an action
- **Location** = the place where the action happens
- **Source** = the place from which an action originates
- **Goal** = the place where the action is directed or the place to which something moves
- **Time** = when an event took place
Semantic Roles (Thematic Roles)

- **Cause** = the entity that causes (but does not do) an action or an event (*because of what*). *Bad weather ruined the corn crop.*

- **Beneficiary** = the entity that is advantaged OR disadvantaged by an action. I gave *Bob* a new TV. He built a house *for me.*

- **Manner** = how the action, experience, or process of an event is carried out. I cried on the floor *loudly.*

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Semantic Roles (Thematic Roles)

**Measure** = the quantification of an event. I bought a new car *for 7000BD.*

**Range/Result** = the entity that completes, is a product of, or further specifies an event. I *did a victory dance* when I received my new car.

**Accompaniment** = the entity that participates closely with an agent or cause. I celebrated *with my children.*
Semantic Roles (Thematic Roles)

- **Cause** = the entity that causes (but does not do) an action or an event (*because of what*)
- **Beneficiary** = the entity that is advantaged OR disadvantaged by an action.
- **Manner** = how the action, experience, or process of an event is carried out.
- **Measure** = the quantification of an event.
- **Range/Result** = the entity that completes, is a product of, or further specifies an event.
- **Accompaniment** = the entity that participates closely with an agent or cause.

References


Practice

Selected sentences, paragraphs and reading texts will be discussed and analyzed
Definition of Syntax

- Syntax is the study of the rules governing the way words are combined to form sentences in a language.
- *garden the *Children are *Work in
- This class: what syntactic structure is and what the rules that determine syntactic structure are like.
Properties of Syntactic Knowledge

- Properties of syntactic knowledge:
- Humans can understand & produce an infinite number of sentences they never heard before
  - “Some purple gnats are starting to tango on microwave”
- Our grammar can understand and produce long sentences
  - “Bill said that he thought that the esteemed leader of the house had it in mind to tell the unfortunate vice president that the calls that he made from the office in the White House that he thought was private…..”
- Determine the grammatical relations in a sentence
  - Mary hired Bill. Vs. Bill hired Mary

Syntax & Meaning

- Non-sense sentences with clear syntax
  - Colorless green ideas sleep furiously.
  - A verb crumpled the milk.

Sentences are composed of discrete units that are combined by rules. These rules explain how speakers can store infinite knowledge in a finite space- brain.
Generative Grammar

- Generative: a very explicit system of rules specifying what combinations of basic elements result in well-formed sentences.
- Defines the syntactic structure of a language.
  (Noam Chomsky 1950s)

Phrase Structure Rules

- Some words seem to belong together:
  \{The crazy man\} \{is jumping off the bridge\}
Groups of words that belong together are called (constituents)
- The component that determines the properties of the constituent is (the head), and the constituent can be referred to as (a phrase): e.g. noun phrase
Phrase Structure Rules

* If we look at phrases, some patterns emerge:
* Det N: the instructor = NP
* Det N: a friend = NP
* Det N: some homework = NP
* Det N: two classes = NP

Phrase Structure Rules

* some more patterns:
* V Det N: call the instructor = VP
* V Det N: meet a friend = VP V
* Det N: do some homework = VP
* V Det N: skip two classes = VP
Phrase Structure Rules

- More patterns:
- Prep Det N: with the instructor = PP
- Prep Det N: from a friend = PP Prep
- Det N: with some homework = PP
- Prep Det N: after two classes = PP

The Main Phrase Structure Rules

1. S → NP VP
2. NP → {Det N, Pro, PN}
3. VP → V (NP) (PP) (Adv)
4. PP → P NP
5. AP → A (PP)
Deep and Surface Structure

- The deep structure is an abstract level of structural organization in which all the elements determining structural interpretation are represented.
- Sentences that have alternative interpretations
- Sentences that have different surface forms but have the same underlying meaning.
- Surface structure: how the sentence is actually represented

- How superficially different sentences are closely related?
  
  Charlie broke the window.
  The window was broken by Charlie.
  Charlie who broke the window.
  Was the window broken by Charlie?

- Difference in their surface structure = difference in syntactic forms, BUT they have the same 'deep' or underlying structure
Structural Ambiguity

- How superficially similar sentences are different? (multiple meanings)
  e.g. Annie whacked the man with an umbrella
- Same surface structure but different deep structure
  The boy saw the man with a telescope
  The question is: What is the scope of "with the telescope"? Does it modify only "the man" or does it modify "saw the man"?

Recursion

- Rules can be applied more than once in generating sentences
  e.g. repeat prepositional phrase more than once
  The gun was on the table near the window in the bedroom in the pink house
- Put sentences inside sentences
  This is the cat that ate the rat that ate the cheese that was sold by the man that lived in the city that was on the river…
  No end to recursion - produce longer complex sentences
* [Mary helped George]. (A sentence)
  [Cathy knew] that [Mary helped George].
  * (a sentence within a sentence)
    [John believed] that [Cathy knew] that [Mary helped George].
  * The word that introduces the complement phrase

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**Complement Phrases**

* Cathy knew that Mary helped George
* That = complementizer (C) introducing complement phrase (CP)
* The CP comes after the VP
  * S: NP VP
  * VP: V CP
  * CP: C S
Transformational Rules

- Phrase structure rules represent ‘deep’ structure—always generate structures with fixed word order.
  
mary saw George recently Recently Mary saw George
- Transformational rules = take a specific part and attach it in another place
  
you will help Cathy
  will you help Cathy?

Exercises

- Rewrite the following sentences with Phrase Structure Rules. Hint: Locate your principal NP and VP before beginning.

  a) Miriam swims.
  b) The dog is barking.
  c) Peter told the truth.
  d) The wicked witch spilled the potion.
  e) The runner with the best time won the prize.
• Draw a labeled tree diagram for the following English phrases. (Hint: what part of speech is the leader for the phrase?)
  a. ancient pyramids
  b. in the early evening
  c. Drove a car

• Draw phrase structure trees for the following sentences:
  1. The puppy found the child
  2. The ice melted
  3. The hot sun melted the ice.
  4. The house on the hill collapsed in the wind.
  5. The boat sailed up the river.
  6. A girl laughed at the monkey.
• Draw two phrase structure trees representing the two meanings of the sentence:

The magician touched the child with the wand.

• In what way these sentences are ambiguous?
1. We met an English history teacher.
2. Flying planes can be dangerous.
3. The parents of the bride and groom were waiting outside.
4. The students complained to everyone that they couldn’t understand.