The Relationship between Saudi EFL College-Level Students' Use of Reading Strategies and

Their EFL Reading Comprehension

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ABSTRACT

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Reading is a process that requires effort on the readers' parts if they want to

understand what they are reading. A considerable amount of research has been devoted to

understanding the processes that contribute to reading comprehension. As part of that

research, this study was conducted to explore Saudi students' use of reading strategies

and their effect on students' reading comprehension. The study employed both

quantitative and qualitative methods to obtain information about Saudi students'

perceived use of reading strategies as well as their comprehension level.

The results showed that EFL learners in Saudi Arabia showed significantly more

perceived use of planning strategies than attending strategies and evaluating strategies.

They also perceived the environment as the most important factor affecting their reading

comprehension. The results of the study showed no significant relationship between

Saudi EFL learners comprehension level and their use of reading strategies. In fact, Saudi

students perceived other factors such as prior knowledge (appropriate schemata),

enthusiasm for reading, time on task, purpose for reading, and vocabulary as having

much effective contribution to their final comprehension.

Gender differences favoring female learners were evident in almost all analyses conducted in the current study. Significant differences were found favoring female students in overall strategy use, comprehension level, and the use of evaluating strategies.

Suggestions are made that EFL educators in Saudi Arabia focus on increasing the efficiency of reading strategies when planning reading curriculum and instruction. The study presents some recommendations that are related to reading materials, the ways these materials are presented in the classroom, and reading strategy instruction. The study also recommends that reading instruction should supplement students with sufficient and balanced extensive reading activities.

Approved: _____

William E. Smith

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To the ones who stayed up nights so I could sleep comfortably; to the ones who suffered their whole lives to give me the chance to prove and improve myself; to the ones who nurtured in me the love for learning, To my parents: Ahmed Mazawid and Ghaliah Alayafi.

To You

To my wife, Rahma, for her great support, encouragements, and sacrifices throughout this process. Thank you, Rahma, for your love, care, and understanding.

To the joy and true meaning of my life, to my three shining stars: Ahmed, Ziad, Hazim, and to the expected boy/girl. You all are the true blessing I am blessed with in this life; You all are my hope in bright future.

I dedicate this endeavor to you, so you might pursue higher than it in your life.

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CHAPTER ONE

Introduction

Reading plays a crucial role in our lives. It is so much a part of everyday living that one can hardly imagine life without it. Reading is also uniquely individual and flexible. In the age of the Internet and information revolution, reading retains its importance as an essential skill for learners of any language. For most of them, it is the most important skill to master in order to ensure success in learning (Alderson, 1984). However, an old question remains incompletely answered by reading theorists. It is the question about the processes that take place, either inside our brains or in actual eye movements, on texts which make us read. What does it mean when we say we "read something"? These questions have played a crucial role in driving reading research in the past century.

Language theorists as well as reading specialists have come a long way in explaining the reading process. Their work leaned on foundational theories of human learning, psychology, and sociology to yield different hypotheses and thus suggest different reading theories and models. There are two kinds: bottom-up processes and top-down processes. The former takes in letters and words from the outside world and deal with them with little recourse to higher-level knowledge. By comparison, top-down processes are characterized as the intake of information based on the reader's prior knowledge and expectations (Goodman, 1994).

Different cognitive theories of reading place varying emphases on the two approaches. Theories which emphasize the bottom-up approach focus on the processes

readers use to extract information from the printed text. The proponents of these theories claim that readers deal with letters and words in a complete and systematic way (Gough, 1972). By contrast, theories which stress top-down processing claim that readers mainly conduct a kind of hypotheses testing; one about words they will encounter and then take in only enough visual information to test their hypotheses (Goodman, 1967; Smith, 1971).

However, the interactive model appears to be the most promising in helping to explain the reading process. It encompasses different types of first-language and second-language reading; it incorporates both bottom-up and top-down processes and recognizes the contribution of both the reader and the text (Grabe, 1991). The interactive model description recognizes other language factors, which are either taken for granted in the top-down model or are over emphasized in the bottom-up model. The interactive model also recognizes reader variables such as background knowledge, prediction, and other global reading processes which are either unaccounted for in bottom-up models or accounted for in top-down models for everything about reading.

English as a Foreign/Second Language (EFL/ESL) Reading Strategies

In the past decades, there has been sustained interest in promoting reading as a significant and viable means of language development for foreign language (FL) learners (Susser & Robb, 1990). Reading in English as a foreign language (EFL) has been greatly emphasized in traditional FL teaching, and until today EFL reading is the core of instruction in many countries (Susser & Robb, 1990). Today, this instruction focuses on teaching readers rather than teaching texts (Hass & Flower, 1988). To be more specific,

we now teach reading skills and strategies to understand some elements related to the process like content, textual features, rhetorical elements, and cultural background (Susser & Robb, 1990).

Some researchers classify reading strategies according to the time they are used – before, during, or after reading. Others categorize these strategies as either global or local according to the part of the text on which they focus (Young & Oxford, 1997). Also, there exists a common distinction between cognitive and metacognitive strategies. The former are those which help the reader construct meaning from the text. Aebersold and Field (1997) maintain that while reading, people's minds constantly engage in different complex processes. They start by processing information at the sentence level by using bottom-up strategies. They focus on identification of a word's meaning and grammatical category, on sentence structure, on text details, and so forth. During this process, readers constantly check their own schemata to see if the new information fits using top-down strategies such as background knowledge and prediction (Barnett, 1988; Carrell, 1989).

By contrast, metacognitive strategies function to monitor and regulate cognitive strategies (Devine, 1983; Flavell, 1979). These include "checking the outcome of any attempt to solve a problem, planning one's next move, monitoring the effectiveness of any attempted action, testing, revising, and evaluating one's strategies for learning" (Baker & Brown, 1984, p. 354). For example, skimming any text for key information requires a cognitive strategy, while evaluating the effectiveness of skimming as a technique involves a metacognitive strategy (Devine, 1983). In first-language and

second-language contexts, there have been many studies on the effects of cognitive and metacognitive strategy instruction on L1 and L2 reading.

Some of these studies (Carrell, Pharis, & Liberto, 1989; Palincsar & Brown, 1989) revealed that non-proficient L1/L2 readers either do not have the knowledge about reading strategies or generally employ bottom-up strategies. The findings suggest that strategy instruction should focus on comprehension monitoring to help non-skilled readers overcome their difficulties.

From a personal point of view, which has developed out of my seven-year experience as a teacher of EFL , a supervisor of EFL, and later a teaching assistant of EFL curriculum and instruction, EFL teachers' practices in Saudi schools are far from teaching reading skills and strategies. Rather, EFL teachers spend the time devoted for reading in practicing one skill, "silent reading", and on what they believe are "comprehension questions". Because of this huge gap between the world's rapid movement toward teaching reading skills and strategies and the reality of reading instruction in Saudi Arabia, this researcher thought of conducting a study to explore the use of reading strategies among Saudi EFL college-level learners. I will determine Saudi students' reading abilities, what reading strategies they are already using effectively, and which ones they are not. To do so, I will use a new reading strategies questionnaire that utilizes cumulative and psychometric inclinations to measure reading strategies.

Significance of the Study

Saudi Arabia has spent millions of dollars to make free education available to all members of its community. Exploring the use of reading strategies among Saudi EFL

learners will provide data that help in suggesting implications for effective EFL instruction. This study aims to provide information needed to enhance teaching pedagogy and to improve learning conditions in Saudi Arabia. For, in order to improve the teaching of EFL reading in Saudi Arabia, research is needed to understand the learners' reading problems and to evaluate their progress as they progress through EFL programs in the educational system.

In my experience as a former EFL teacher and supervisor, I have observed a huge gap between Saudi college-level students' proficiency level and that of the higher proficiency expected from EFL university students. The Educational Testing Services (ETS) reports of the last seven years showed that Saudi students who took the Test Of English as a Foreign Language (TOEFL) scored the lowest compared with their peers from Middle Eastern countries (Educational Testing Services, 2007). Therefore, the results of this study will generate baseline information and provide insights to decision makers in higher education institutions and in the Ministry of Education. This study will also work as a baseline and foundation for more research on this area in Saudi Arabia. It will provide empirical data that might help in comparing Saudi students' reading comprehension level with EFL learners in other countries.

Finally, since L2 reading ability is regarded as the most needed skill for EFL learners in academic settings (Alderson, 1984**),** the learners' inability to read L2 materials may hinder the academic and professional development of those whose professions and academic programs require accessing and obtaining information in the target language.

Thus, it is important for university EFL programs in Saudi Arabia to estimate their students' reading ability in order to design appropriate reading courses.

Another significance of this study is that it will show the general types of reading strategies which Saudi EFL learners usually use when confronting academic texts. Addressing the reading needs of university EFL learners in Saudi Arabia will not only help these learners succeed in their language learning but will also help them succeed in their academic and professional futures. Moreover, examining Saudi EFL learners' strategy use may raise learners' metacognitive awareness of some useful reading strategies they might not have come across before responding to the reading strategies survey.

In summary, after analyzing the data, it is hoped that the results of this study might provide the following:

1. Provide Saudi educators with new understandings and insights concerning the factors that affect EFL reading comprehension so that educators can make their instructional decisions based on sound judgments rather than intuitions.

2. Lead to further research in the relationship among students' knowledge and use of different strategies and other skills of English language.

3. Provide useful information for other developing EFL/ESL studies that have a situation similar to the Saudi one.

4. Help Saudi college-level students in their academic study by developing effective reading strategies.

5. Assist in providing recommendations to improve the current state of teaching

English in Saudi schools and public universities and provide some suggestions for

further research.

Statement of the Problem

There is an unclear picture about the most popular uses of reading strategies by

Saudi EFL learners in Saudi public universities. At present, only a small number of

studies have been conducted on the effectiveness of reading strategies on Saudi EFL

reading comprehension (Madkhali, 2005; Mushait, 2004; Al-Nujaidi, 2003; Al-Seweed,

2000). To the researcher's knowledge, all studies that have measured reading strategy use

have utilized self-report questionnaires. For example, Al-Nujaidi (2003) examined the

relationship between reading strategies, vocabulary size, and reading comprehension of

EFL Saudi learners. He measured the students' strategy use by adapting the Survey of

Reading Strategies (SORS) of Mokhtari and Reichard (2002). According to Tseng,

Dörnyei, and Schmit (2006), such self-report questionnaires are based on the assumption

that strategy use and strategic learning are related to an underlying trait because items ask

respondents to generalize their actions across situations rather than referencing singular

and specific learning events.

Al-Nujaidi (2003) concluded that the perceived use of reading strategies shown

by EFL learners in Saudi Arabia should be subjected to additional investigations. He

added that the awareness of reading strategies may not necessarily mean that Saudi EFL

learners know how and when to use these strategies. Thus, he recommended replications

of his study, using think-aloud protocols and interviews in examining the reading

strategies of EFL learners, which, according to him, would provide important and more accurate details about the different aspects of EFL reading in Saudi Arabia.

Moreover, there is a lack of empirical studies that investigate the success of EFL learners who use reading strategies compared with those who do not. The scarcity of such studies does not permit the creation of any firm conclusions or generalizations about the effectiveness or success of teaching reading strategies in Saudi public universities. Without this knowledge, it is difficult to understand factors affecting reading comprehension and important factors in reading instruction.

This study investigates how Saudi EFL learners in Saudi public universities use reading strategies to improve their comprehension. Given the relative paucity of research in this area, this study should be of particular interest when addressing how Saudi EFL learners in public universities use reading strategies to improve comprehension.

The Purpose of the Study

This study has three main goals. First, it aims to explore Saudi EFL learners' use of reading strategies (before reading, while reading, and after reading). Second, the study investigates the relationship between the use of reading strategies and reading comprehension. Finally, the study investigates the Saudi students' perceptions of other factors that might affect their EFL reading comprehension. The uniqueness of this study lies in utilizing a new scale in measuring reading strategies use. The current study utilizes a new psychometric and cumulative scale that targets the learner trait of self-regulatory capacity. The questionnaires used in most strategy studies consist of specific statements that focus on specific strategic behaviors. In the L2 field, the most frequently

used instrument for assessing learning strategies is the Strategy Inventory for Language Learning (SILL). Developed by Oxford (1990), it consists of six scales: (a) "Remembering more effectively" (memory strategies); (b) "Using your mental processes" (cognitive strategies); (c) "Compensating for missing knowledge" (compensation strategies); (d) "Organizing and evaluating your learning" (metacognitive strategies); (e) "Managing your emotions" (affective strategies); and (f) "Learning with others" (social strategies).

SILL items involve five-point rating scales ranging from "never or almost never true of me" to "always or almost always true of me" (Oxford, 1990). These items are specific to one or more language learning strategies. They focus on specific strategic behaviors, and the scale descriptors indicate frequencies of strategy use (ranging between never to always). Thus, these items are not cumulative, and computing mean scale scores is not justifiable psychometrically. Therefore, we cannot assume a linear relationship between the individual item scores and the total scale scores (Tseng, et. al, 2006). In contrast, items of the Reading Strategies Questionnaire (RSQ) used in this study ask respondents to generalize their actions across situations rather than referencing singular and specific learning events. They are general declarations or conditional relations focusing on general and prominent facets of the learning process. Since RSQ items are general inclinations, they can be assumed to be in a linear relationship with the corresponding learner traits.

Finally, the study will provide more insight into the factors affecting Saudi EFL reading comprehension. Based on the researcher's personal experience and contact with

many Saudi learners, the reading section is considered the most difficult and challenging section in standardized tests such as the TOEFL and Graduate Record Examination (GRE). Awareness of these factors is critical in understanding how Saudi students approach reading materials and what strategies most need to be taught in the classroom to help them enhance their reading comprehension and academic achievement in general.

Variables of the Study

The study's first independent variable is the use of reading strategies. This variable consists of three subscale variables:

Planning strategies (before reading), such as setting a purpose for reading, guessing what the text will be about, and finding the suitable environment.

Attending strategies (while reading), such as keeping concentration focused, preventing procrastination, and engaging with the text.

Evaluating strategies (after reading), such as judging the consistency of the new information, modifying and evaluating new learning, and linking new learning with existing knowledge.

The only dependent variable in this study is students' reading comprehension in English as a foreign language.

Research Questions

This study is designed to explore three things: the use of reading strategies among Saudi EFL college-level learners; the relationship between strategy use and Saudi EFL reading comprehension; and the Saudi students' perception of other factors that

affect their EFL reading comprehension. The study attempts to answer the following research questions:

1. What reading strategies are most often used by Saudi EFL learners in Saudi public universities? This research question seeks to identify the most widely used strategies by Saudi learners to aid comprehension.

2. Do reading strategies (planning, attending, and evaluating) predict college-level Saudi students' achievement in English reading comprehension as a foreign language?

3. How does Saudi students' perception of reading for comprehension contribute to understanding their use of reading strategies? (This question attempts to find out what other factors, if any, might contribute to Saudi students' reading comprehension).

To address these questions, the researcher will determine students' reading ability by giving them a basic comprehension test. An old version of the TOEFL reading section will be adapted for this purpose. (See appendixes A and B for a copy of the reading test and model answers). The test consists of two comprehension passages followed by seven multiple-choice reading comprehension questions on each. The reason behind choosing two passages is to avoid any bias that could affect the results of the study when using one reading comprehension passage. The expected full mark on the test is 14 points (one point for each item). The test will be followed by a questionnaire that includes general cumulative and psychometric statements about some of the planning, attending, and evaluating reading strategies. The research participants will be asked to weigh to what

extent he/she agrees with each strategy statement on a scale of strongly agree (SA), partially agree (PA), agree (A), slightly disagree (SLD), disagree (DA), and strongly disagree (SD). Finally, by interviewing a sample of Saudi students, the researcher will gain information that can help address the third question.

Definition of Terms

L1: First language: A speaker's mother tongue.

L2: Second language.

ESL: English as a Second Language: English learned in a country where it is a primary language (for example, United States, United Kingdom., and Australia).

EFL: English as a Foreign Language: English learned in a country where it is not the primary language (for example, Saudi Arabia, Japan).

Reading Strategies: Langer (1982) defines reading strategies as the general patterns that reveal a reader's resources for understanding. Johnson (1983) defines reading strategies as when the readers monitor, understand, and take action when necessary. In this study, the researcher defines reading strategies according to three types: Planning strategies (before reading), attending strategies (while reading), and evaluating strategies (after reading):

> *Planning Strategies* (before-reading strategies) include selecting (learning goals), preparing (activating relevant memory schemata), gauging (determining difficulty of tasks and depth of processing involved), and estimating (predicting the information processing demands of the task).

Attending Strategies (while-reading strategies) include focusing (on materials), searching (relating presented information to memory), contrasting (comparing presented information to memory), and validating (confirming presented information with existing knowledge).

Evaluating Strategies (after-reading strategies) include testing (determining the consistency of new information) and judging; reviewing strategies include confirming (using new information), repeating (practice recall), and revising.

Reading Strategy Use: Strategy use in this study is defined as the Saudi students' agreement on some general statements that reflect their self-regulatory capacity.

College-Level Saudi Students: Students, who are first year; sophomores, juniors, or seniors majoring in the department of English language and literature in four major Saudi universities: King Faisal University, King Abdul-Aziz University, Teachers' Colleges in Jeddah, and Teachers' College in Al-Ahsa.

Reading Comprehension Achievement: Reading comprehension achievement is the amount of learning, meaning, and information gained which readers are able to develop while reading. This achievement is measured by a score students obtain in a comprehension test. In this study, the maximum achievement score is 14 and the minimum is zero.

Reading Strategies Questionnaire: RSQ is a measure of reading strategy use among EFL students. It consists of general inclination statements about three types of reading strategies (planning, attending, and evaluating).

Self-regulation: Self-generated thoughts, feelings, and actions that are planned and systemically adapted as needed to affect one's learning and motivation (Schunk, 1994; Zimmerman, & Schunk 1989). Baumeister and Vohs (2004) define "self-regulation" as "the exercise of control over oneself, especially with regard to bringing the self into line with preferred (thus, regular) standards" (p.2). In this study, five facets of self-regulation are introduced:

> *Commitment control*: This helps to preserve or increase the learners' original goal commitment (e.g., keeping in mind favorable expectations or positive incentives and rewards; focusing on what would happen if the original intention failed).
>
> *Metacognitive control*: This involves the monitoring and controlling of concentration and the curtailing of any unnecessary procrastination (e.g., identifying recurring distractions and developing defensive routines; focusing on the first steps to take when getting down to an activity).
>
> *Satiation control*: This helps to eliminate boredom and to add extra attraction for or interest in the task (e.g., adding a twist to the task; using one's fantasy to liven up the task).
>
> *Emotion control*: This concerns the management of disruptive emotional states or moods, and the generation of emotions that will be conducive to implementing one's intentions (e.g., self-encouragement; using relaxation and meditation techniques).
>
> *Environmental control*: This helps to eliminate negative environmental influences and to exploit positive environmental influences by making the environment an

ally in the pursuit of a difficult goal (e.g., eliminating distractions; asking friends to help and not to allow one to do something).

Organization of the Study

The research is organized into five chapters. Chapter 1 introduces the nature and the objectives of the study. Chapter 2 presents a review of related literature for the study that is organized into eight main headings: Introduction, models of reading (bottom-up, top-down, and interactive), reading in L1 and L2, language-learning strategies, reading strategies (definition, classification, the relationship between reading strategies and reading ability, and reading strategies studies in Saudi Arabia), reading skills (reading skills and language writing systems and proficient readers' skills), and education in Saudi Arabia (teaching English language in Saudi school and current classroom reading practices in Saudi Arabia. Chapter 3 describes the research design and methodology. Chapter 4 will present the findings of the study. Chapter 5 will discuss conclusions that are drawn from the data and present some recommendations based on the findings.

CHAPTER TWO

Literature Review

Introduction

A large number of foreign-language reading specialists view reading as an interactive process. This means that while the reader's mental processes occur at different levels, he engages himself in an interaction with the print to create meaning (Barnett, 1988; Carrell, Devine & Eskey, 2000). It is the interaction among the *reader variables* (an interest in the topic, a purpose for reading, a prior knowledge of the topic) and *text variables* (the text structure and vocabulary) that determines the reader's comprehension of the text (Hosenfeld, 1979).

According to "schema theory," the reader may misunderstand the new material, ignore it, or revise schemata to validate the new information given within the text when it does not fit into his own schemata (Rumelhart, 1980). Carrell (1987) created the divisions of schemata into content schemata and formal schemata. The former is background knowledge about the content which helps the reader understand and remember more than someone who is less familiar with the topic (Carrell, et al., 2000). Formal schemata describe the reader's expectations about how different textual information will fit together and in what order they will appear.

As a former teacher of English at elementary and secondary schools and a supervisor of EFL for two years, I can say that teaching EFL reading in Saudi Arabia depends mostly on *repeated reading*. Students read different genres of texts several times in class and then answer questions, most of which are based on facts. Students'

comprehension of texts is usually measured by their ability to answer these questions correctly. This involves the first two levels of Bloom's taxonomy: knowledge and comprehension. However, I believe that students should learn how to effectively read and reflect on reading to go beyond these levels to analysis, syntheses, and evaluation. Testing what students learn in real life, comparing ideas from different books based on their applicability, and modifying these practical ideas to fit their needs are skills that enhance their reading ability.

The researcher's theoretical stance is based on the interactive model of reading, which recognizes the contribution of both the reader and the text to the reading process and the interaction between bottom-up and top-down processes. Therefore, the first section of the literature review discusses the bottom-up, top-down, and interactive reading models.

Models of Reading

In the last four decades, different views concerning the nature and the process of reading have resulted in the emergence of several reading models. The bottom-up model (Gough, 1972), the top-down model (Goodman, 1967; Smith, 1971), and the interactive model (Rumelhart, 1977, 1980; Stanovich, 1980; Carrell, 1983a, 1983b) are usually discussed in literature on reading. Almost every single reading strategy is based on some of the theoretical assumptions of these models. In this section, I will briefly discuss their main tenets, their implications for reading instruction, and how reading is explained in each model.

Bottom-Up Models

Usually described as "linear," the bottom-up theory of reading was widespread in the 1960s and revived by Gough's (1972) views of the process. The reader starts with letters in the decoding; proceeds to words; and then, ultimately, understands sentences. This data-driven process mainly utilizes the textual elements to construct the meaning of a passage, becoming so automatic that sometimes the fluent reader is unaware of it. Since the bottom-up approach emphasizes sight-reading of words in isolation, rapid word recognition is essential (Van Duzer, 1999).

Bottom-up models are also hierarchical, which means that one needs to know not only all the letters of a word to access its meaning but also all the words in a clause or a sentence to access their total meanings (Paron, 1997). Therefore, the bottom-up approach puts more emphasis on knowledge of vocabulary than other models do. Beyond letter recognition, words in bottom-up models seem to represent the basic units of meaning, whose comprehension is a prerequisite for that of the entire text.

A second important aspect of the bottom-up model is its focus on orthographic recognition. According to this view, second-language learners, like the Saudis, whose first languages have different orthographic systems from the target language, may have some difficulty in word identification and recognition (Coady & Huckin, 1997). This observation emphasizes the role of vocabulary knowledge, which facilitates automatic decoding in second language prefixes, suffixes, and foreign root words. This automaticity allows readers to focus more attention on comprehension rather than on decoding individual words. It seems that the more effort put in decoding words, the less processing

capacity is left for comprehension. It has also been confirmed that fast decoding improves comprehension (Breznitz, 1997; as cited in Pressley 2000).

Implications for Instruction

According to bottom-up models, comprehension processes demand resources. Therefore, "educators should aim at helping learners automatize lexical access through a great amount of repeated exposure to print" (Taguchi, Gorsuch, & Sasamoto, 2006, p.3). Readers can make use of some of their attentional resources to achieve better comprehension by executing word recognition fast and automatically (Samuels, 1994). Therefore, students should learn how to identify individual letters first (visually) and then how to put these individual letters and letter combinations to different meaningful sounds. Although many approaches to teaching decoding concentrates on sounding out words, all such instruction focuses on automatic decoding and on comprehension. The main assumption in this model is that (until proven to be wrong by diagnostic tests), poor readers have potential decoding problems (Purcell-Gates, 1997).

Bottom-Up Models and L2/FL reading

The increased importance attributed to automatic word recognition in L1 reading has extended to the L2 reading area. Haynes (as cited in Weir & Urquhart 1998) points out that instructors and teachers need to raise the level of automaticised vocabulary rather than focus on decoding. She cites evidence from L1 studies that found fluent reading is achieved by increasing one's bottom-up processing of print and by decreasing semantic and syntactic guessing. However, Bernhardt (1996) goes so far as to claim that the

ultimate goal of L2 reading is automaticity, since the good L1 reader processes language without thinking consciously.

Although there is a great deal of consensus on the role of automaticity in L2 reading, there is less agreement on how to achieve it. Haynes (cited in Weir & Urquhart 1998) argues that the importance of word unit processing needs to be recognized in ESL teaching. Therefore, precision of encoding, spelling, and pronunciation can be increased through oral and written practice of important vocabulary from reading.   Conversely, Juel (as cited in Weir & Urquhart 1998) points out that automaticity in most skills comes from over learning, although she admits that we do not know what exactly how word recognition becomes automatic. Is it recognition of common sound spelling patterns, or recognition of high frequency words?

Emphasizing bottom-up processing, Paran (1996) argues strongly for developing exercises to help EFL students recognize vocabulary more automatically. He places a good deal of emphasis on bottom-up processing. According to Paran (1996), good readers do not depend solely on hypothesis formation as is generally believed. Rather, bottom-up processing as well as visual inputs occur during reading. He also argues that guessing is not an appropriate strategy for the lower levels of processing (word or phrase recognition). Furthermore, top-down approaches would seem to be more suited to expeditious reading such as skimming or search reading where the focus is on the macrostructure of the text.

I believe that the use of bottom-up models in Saudi classrooms can be justified for two reasons: the age of the language learners (Saudi students start learning English at

grade 11), and the lack of input and incidental learning in the total FL learning environment. According to the Critical Period Hypothesis,

> language learning, which occurs after the end of the critical
>
> period, may not be based on the innate structures believed to
>
> contribute to first language or second language acquisition in
>
> early childhood. Rather, older learners depend on more general
>
> learning abilities --the same ones they might use to learn other
>
> kinds of skills or information. (Lightbown and Spada, 1997, p.
>
> 42)

Compared with many second-language learners in second language situations, foreign language learners are also at a disadvantage in terms of the role of the learning environment in reinforcing FL learning. Therefore, they are still limited to traditional classroom settings. FL (such as EFL) and L2 (such as ESL) learners are usually classified into the same group. However, the amount of exposure to the second language might vary from one country to the other. To achieve a desired proficiency in FL learning, an appropriate learning atmosphere should be carefully created in the language classrooms. Practicing decoding skills as well as phonics instruction – both of which are recommended by bottom-up models proponents – immensely benefit FL students, especially those in my homeland of Saudi Arabia.

In fact, this is what teachers really do in classroom nowadays in Saudi Arabia since there is no concern about teaching "isolated skills". According to this reading theory, by isolating the decoding process into pieces, we make it easier to grasp and

practice. The authors of bottom-up models suggest that their theories implicate instructional activities as well. They propose repeated readings, which increases accuracy and automaticity in word recognition; reading familiar texts if the student's problem is decoding, and reading interesting and satisfying texts within the student's decoding ability (Purcell-Gates, 1997).

Finally, when applying bottom-up models, such as Automaticity Theory (AT) to Saudi reading classrooms, Saudi learners usually start from an absolute beginning language learning stage and should progress until they acquire the desired proficiency. Before they get involved in complex tasks in real interactive communication, they need to become more fluent, automatic, and efficient in some mental processes. By incorporating integrative tasks in the learning situation, people can use different skills they have developed in more complex activities.

However, a major problem of bottom-up models is their view of word recognition. Although Gough (1984) believes that word recognition is mediated by letter recognition, Terry, Samuels, and Laberge (as cited in Samuels & Kamil, 1984) have found frequent words to be processed and identified as holistic units. They found no difference in the processing time between short and long words, which supports a holistic word-recognition processing. Another problem with the bottom-up model of reading is that it does not seem to consider the contribution of the context or the reader's background knowledge to reading comprehension. Going beyond the printed letters seems to receive little or no attention in this model. Recognition of inadequacies in the

bottom-up model, such as how it explicates the reading process, led to the emergence of other models, such as the top-down model.

Top-Down Models

Goodman (1967) introduced the top-down model of reading, in which reading was viewed as a psycholinguistic guessing game. Another renowned advocate of the top-down model is Smith (1971). In this concept-driven model, readers' background knowledge and expectations guide them in their reconstruction of the meaning of the text. Based on their background knowledge, readers start with certain expectations concerning the text. They then use their vocabulary knowledge in decoding words in the text to confirm, disconfirm, or modify previous expectations (Aebersold & Field, 1997). This process is usually called "sampling" of the text. Describing the process, Cohen (1990) maintains that "the reader does not read all words and sentences in the text, but rather chooses certain words and phrases to comprehend the meaning of the text " (p.75).

The top-down model focuses on some reading skills, such as prediction, inferences, and content guessing. Unlike the bottom-up model, in this model, texts have no stand-alone meaning. It is the reader who reconstructs the meaning of the text by fitting it into his prior knowledge. Samuels and Kamil (1984) have noted: "It is more accurate to assert that [Goodman's] model always prefers the cognitive economy of reliance on well-developed linguistic (syntactic and semantic) rather than graphic information" (p.187). This would entail the existence of well-developed linguistic knowledge, of which lexical knowledge may be the most important.

Thus, the top-down model assumes that readers would have no decoding problems to use the text as a prompt for activating and implementing global and top-down processes and strategies. Therefore, some reading researchers (Eskey, 1988; Stanovich, 1980) believe that the top-down model seems to explicate the reading process of fluent readers but not for poor or beginning ones.

Despite the fact that bottom-up processes play a central role in reading , top-down processes are still of great importance. Reading studies have shown that predictable words are fixated on for shorter periods of time. Besides, readers tend to skip these words more often than the less predictable ones (Rayner & Pollatsek 1989).

Implications for Instruction (Top-Down Models)

Since the main purpose of reading in this model is comprehension, learners should always deal with whole texts, which are read for authentic purposes (whole language instruction). Breaking the process down into isolated pieces is counterproductive to comprehension. It deprives the learners from using all the cue systems and from engaging in a full cyclic use of reading strategies in the pursuit of meaning (Purcell-Gates, 1997).

Teachers who adopt these ideas will encourage their students to read the texts that they want to. These teachers will not focus on reading fluency. Rather, their focus will be on helping students make sense of texts by the use of translation. Therefore, students in these classes may rarely be asked to read aloud for accuracy. If they happen to do so, it is to share their favorite readings or because the teacher can learn more about different ways and strategies students use in pursuit of meaning (Goodman, 1994; Rosenblatt, 1994).

Top-Down Models and L2/FL reading

The importance of Goodman's attribution to hypothesis formation and sampling has had a considerable influence on L2 reading theory. Grabe, Eskey, & Dubin (1986) pointed out that because this approach is based on a good understanding of the reading process, its effect on methods and materials for the teaching of second-language reading has been both dramatic and mainly positive. They continued to argue that much of the credit for the new concern in language teaching with reading as an independent skill, and for improvement in reading pedagogy and materials, is accorded to the work of Goodman and Smith and their supporters. The latter have successfully promoted a top-down model of the process (Grabe, et al., 1986).

Because comprehension is viewed as a personal transaction between the reader and the text, teachers will use the traditional comprehension questions for activities calling for different responses to texts – questions neither evaluated as correct nor incorrect. Besides, teachers neither tend to read nor encourage their students to read simplified texts. They believe that by reading simplified texts, we damage their nature (as a natural language) and hence the reader stops using his language knowledge and strategies (Purcell-Gates, 1997).

Under this model, teachers should employ highly predictable texts for beginning readers so that they can engage with the whole text very easily. Teachers can use patterned language such as jingles, songs, and poetry to help these readers employ some of their reading strategies such as predicting, sampling, and selecting. Teachers also help students engage in the confirming and disconfirming of correction (Purcell-Gates, 1997).

The Interactive Model

Introduced by the writings of Rumelhart (1977) and Stanovich (1980), the interactive model suggests an interaction between bottom-up and top-down processes. Proponents of this model assert that neither bottom-up nor top-down models can by themselves describe the reading process. Each type of processing is seen to contribute to the reconstruction of the message encoded in the text (Eskey, 1988). Stanovich (1980) suggests that poor readers tend to resort to high-level processes more often than skilled or fluent readers. The use of top-down processes seems to compensate for poor readers' lack of recognition skills or use of bottom-up processes.

The interactive model also incorporates several major findings from research on schema theory. Anderson and Pearson (1984) define schema as "an abstract knowledge structure" (p. 259). A schema is usually described as a kind of prior knowledge that readers use to put the information from the text in a certain perspective so as to better comprehend it. Some schema researchers suggest that comprehension of texts involves using the text as a guide to the kind of background information that needs to be activated for comprehension (Carrell, 1983a). Bensoussan (1998) found that 23% of EFL learners' incorrect answers to comprehension questions were attributed to activating inappropriate schemata. Carrell (1987) describes two types of schemata – a content schema and a formal schema – while Cohen (1990) suggests the existence of three types, namely, content (subject, culture, etc.), language (vocabulary, cohesive structures, spelling, and punctuation), and textual (rhetorical structure of different genres).

For fluent native speakers, Eskey (1988) maintains that knowledge about language is part of their schema which can be readily available and thus activated automatically. In the realm of second-language reading, Eskey believes that rapid and accurate decoding is an important skill for L2 readers. This accurate decoding will certainly allow other important higher and top-down processes to operate simultaneously. L2 readers usually need linguistic knowledge, of which vocabulary knowledge is paramount. Such knowledge enables readers to use the text efficiently during the comprehension process. Clarke (1979) has also suggested that there is a linguistic threshold, after which L2 learners may read L2 texts as efficiently as they read their L1 texts. Stanovich (1980) and Carrel1 (1984) believe that bottom-up and top-down processes compensate for each other.

When a reader lacks the appropriate content schema for a certain text, he will rely more heavily on bottom-up processes to compensate for a lack of necessary background knowledge. The opposite could be true about some readers who lack the bottom-up processes necessary to comprehend a text. The interactive approach assumes that good readers are proficient at both decoding and interpreting the text (Eskey, 1988). This approach also endorses the idea that having automatic recognition skills will free the reader's mind to make connections between the parts of the text, interpret the text more accurately, and comprehend what is being read. Such interaction between high-level and low-level processes seems to take place simultaneously.

The Interactive Model and L2/FL Reading

If one sees reading as a process of constructing meaning, evidence of reading growth will include, but not be limited to, achievement data. Braunger and Lewis (2006, p. 14) assert:

>Additional evidence of literacy development comes from naturalistic studies of students actually reading, for example, teachers' observations and analysis of literacy experiences; classroom research on the impact of social interaction, strategic modeling, and materials on literary learning; readers' use of all cue systems in reading (letter-sound, meaning, syntax, and pragmatics) ; connections between learners' reading and writing; and a host of other variables involved in the reading process.

For skilled readers, top-down and bottom-up processing are concurrent. Comprehension takes place only when accumulated evidence strongly supports a particular hypothesis. Because comprehension depends on both graphic information and information in the reader's mind, it may be obstructed when a critical skill or a piece of information is missing. Then, comprehension is hampered; the skilled reader compensates by decoding key words, by relying on context, or both (Rumelhart, 1980). A skilled reader is the one who is able to use all kinds of information such as sensory, syntactic, semantic, and pragmatic to accomplish his goals. These different information sources interact in complex ways during the reading process.

Finally, the interactive model places a great deal of importance on vocabulary building in developing reading fluency. It is not only important to have an extensive

vocabulary, but it is also a precondition for the development of reading fluency and reading skills. Consequently, it is crucial to develop word recognition since it is more important in developing fluency than contexts clues are (Abisamra, 2001).

Implications for Instruction

As a "whole-part-whole" instruction (Purcell-Gates, 1997), the interactive model of teaching involves learners in meaningful reading and writing activities to extract some specific skills. These focused-upon skills are then integrated into authentic activities for practice in the actual reading and writing process. Because they acknowledge the role of social context, the teachers use different reading and writing strategies in various genres and for different audiences and purposes (Rumelhart, 1977).

In summation, approaches in reading theories assume that the reading process, even in L2, is interactive. It involves a mixture of bottom-up and top-down processing. This is a widely accepted view by researchers, in that both models interact during the reading process. The reader, using them, interacts actively with the text (Block, 1992). Therefore, teachers who adopt the interactive model in their reading instruction take comprehension as the only purpose for reading. Hence, in their classrooms, they stress meaning making activities. Some teachers might even teach isolated skills or involve their students in the reading and writing of compelling texts.

Reading Strategies

Reading strategy research emphasizes the reading process rather than comprehension. Ryan, et al.(as cited in Garner, 1987) have concluded that insufficient strategies and limited involvement in the reading process lead to comprehension

problems, even among students who have sufficient vocabulary knowledge and decoding skills. These findings may suggest that low EFL-reading proficiency problems may not be related to attitudinal factors. According to several EFL reading studies conducted in Saudi Arabia (Al-Arfaj, 1996; Al-Samani, 1999; & Al-Akloby, 2001), learners seem to have positive attitudes towards learning English and reading EFL materials. Their problems, therefore, may be attributed to poor linguistic or strategic knowledge. Sheorey and Mokhtari (2001) believe that an awareness of reading strategies and comprehension monitoring is an important characteristic of good readers. (They claim that to comprehend a text, readers need to use their metacognitive knowledge about reading and "invoke conscious and deliberate strategies" (p. 433). This may mean that if readers are not aware of certain strategies, they will not use them in the reading task. Thus, good readers both know and utilize appropriate reading strategies.

Definition of Reading Strategies

Literature on reading provides several definitions of reading strategies. According to Garner (1987), reading strategies are mainly deliberate, planned activities used by active readers, to remedy apparent cognitive failure. Carrell, Gajdusek, and Wise (1998), on the other hand, defined reading strategies based on the writing of several reading researchers as "actions that readers select and control to achieve desired goals or objectives" (p. 97). Both definitions reflect the reading strategies that will be used in this dissertation research.

Classification of Reading Strategies

Reading strategies can be classified according to the time they are used – before, during, or after reading. They also can be categorized as either global or local according to the part of the text on which they focus (Young & Oxford, 1997). A general distinction is also made between cognitive and metacognitive strategies. Garner (1987) states: "If cognition involves perceiving, understanding, remembering, and so forth, then metacognition involves thinking about one's own perceiving, understanding, and the rest" (p. 16). Flavell (1979) maintained that "cognitive strategies are invoked to make cognitive progress, metacognitive strategies to monitor it" (p. 909). Moreover, Sheorey and Mokhtari (2001) suggest that the metacognitive knowledge of readers includes an awareness of an array of reading strategies.

In this study, the researcher will maintain the first classification. For this research, reading strategies are grouped into three main types: planning strategies (before reading), attending strategies (while reading), and evaluating strategies (after reading).

Planning strategies (before-reading strategies) include selecting goals, preparing (activating relevant schemata), gauging (determining difficulty of tasks and depth of processing involved), and estimating (predicting the information processing demands of the task).

Attending strategies (while-reading strategies) include focusing (on materials), searching (relating presented information to memory), contrasting (comparing presented information to memory), and validating (confirming presented information with existing knowledge). Encoding strategies include elaborating

(linking presented information with existing knowledge) and qualitatively relating

(linking presented information with deeper levels of existing knowledge).

Evaluating strategies (after-reading strategies) include testing (determining the

consistency of new information), and judging; reviewing strategies include

confirming (using new information), repeating (practicing recall), and revising.

The Comparison of L1 and L2 Reading Strategies

The issues of how first-language reading and second-language reading are related;

whether first-language reading strategies can be transferred to second-language reading;

and the relationship between first- and second-language reading are still attracting

researchers' attention. Cheng (1998) interviewed 10 Taiwanese students to learn about

the types of reading strategies used by these participants when reading English. Two

distinctive patterns emerged: "integrating" and "non-integrating." Integrators were more

likely to use more general or top-down types of strategies, while non-integrators tended

to use local, bottom-up types. Cheng's findings also indicated that sociocultural factors

impacted these participants' reading purposes, particularly their English-learning

experiences, and the fact that they employed different patterns of strategies to achieve

those purposes. Cheng mentioned that other factors (e.g., personality, exposure to

strategy training, language proficiency, reading interests, and academic major) in a

learning context might have influenced the development of these participants' reading

strategies.

Wu (2002) also explored whether L2 high-proficient students differed from their

low-proficient counterparts in their reading awareness. Furthermore, she examined

whether younger and older students had different perceptions about reading and also investigated if there was any distinction between native and foreign-language reading strategy use. Wu found that older and more proficient readers appeared to have more awareness of their metacognitive skills, while low-proficient readers relied on bottom-up strategies for processing information. Other researchers concentrated on L2 readers' awareness of effective reading strategies as they read L2 texts (Chern, 1994; Cheng, 2000; Hsu, 2003). Chern (1994) investigated Chinese readers' metacognitive awareness when reading Chinese and English. The results demonstrated that Chinese readers were dictionary-dependent and accuracy-oriented readers while reading English and that they lacked awareness of their reading behaviors when comprehending meaning or remembering the text.

Cheng (2000) also concluded that Taiwanese EFL college students' metacognitive awareness was more "global," or top-down, while reading Chinese. In contrast, they relied on local reading strategies, such as rereading, sentence syntax, and word meanings when reading English texts. Hsu (2003) compared English reading awareness, their perceptions of their knowledge about strategy use, and the reading performance of college students in the General Education System (GES) and the Technological and Vocational Education System (TVES). Her findings showed that GES students had more confidence reading in English than the TVES students did. Also, the TVES students perceived the translating of unknown words as an effective reading strategy. When faced with repair strategies, GES and TVES students' favorite strategy was to "go back to a point before the problematic part and reread from there." The results showed differences

in metacognitive awareness between GES and TVES students in terms of their reading effectiveness, reading difficulties, and repair strategies.

Other researchers have conducted studies on the strategies and metacognitive awareness between the first language and second language. Yang (1996) compared strategies that 90 EFL Taiwanese college freshmen employed when reading Chinese and English. She found that the students reported using more global and macrolinguistic-level reading strategies (guessing through the context and making inferences) when reading Chinese. On the other hand, the students tended to use more local and microlinguistic strategies (looking up vocabulary) when reading English. They thought that the more vocabulary they memorized, the more they could understand the texts. Later, Feng and Mokhtari (1998) investigated the strategies used by native speakers of Chinese when reading easy and difficult passages in their own language and in English. The results revealed that the native speakers employed strategies more frequently when they read in English than in Chinese. Moreover, subjects employed reading strategies more frequently for difficult texts than for easy ones.

Al-Sheikh (2002) examined the metacognitive knowledge and reading strategies used by native Arabic speakers. Ninety participants completed background and reading strategy inventories. Ten were then selected for an interview in the follow-up study focusing on how they actually use the strategies when reading in English and Arabic. The 90 participants used significantly more strategies in English than in Arabic. They also reported using more repair strategies (adjusting the reading time, visualizing information, and rereading) and "support reading strategies" in English rather than in Arabic. Support

reading strategies included asking oneself questions and translating readings from English. These results were consistent with those of Feng and Mokhtari (1998), who investigated Chinese native speakers' use of reading strategies while reading easy and difficult passages in Chinese and English. However, Feng and Mokhtari's (1998) findings and Al-Sheikh's (2002) challenged Pritchard's (1990) and Tang's (2001) conclusions. Pritchard indicated that bilingual Latino high school students used the same reading strategies across languages. Similarly, Tang (2001) found that four ESL students used similar strategies when reading English and Chinese narrative texts. While researchers differ in their views about the relationships between first-language strategies and second- or foreign-language strategies, the consensus is that reading in a second or foreign language depends, to some degree, on the reader's proficiency in that language and on his employment of metacognitive strategies.

Sarige (1987) compared the strategy use of learners reading in L1 and in L2 using a think-aloud protocol method. She found that the readers' use of strategies and the relation between strategies used and actual success in comprehension were highly similar in L1 and L2. She also claims to have determined which strategic "moves" contributed to a reader's success and failure. McDough (1995) brings together the reading strategies identified in different research within Sarige's four categories. Identified by researchers interpreting the think-aloud data, they are:

Technical aid strategies: These would include skimming, scanning, marking the text, and using the glossary.

Clarification and simplification strategies: These include syntactic simplification, producing synonyms, using paraphrase of rhetorical function, interpreting the text, and using inference.

Coherence detection strategies: These would include identifying the macroframe, keeping the meaning in mind, using information about the story, using background knowledge, and identifying key information.

Monitoring strategies: These would include consciously changing the plan, varying the reading rate, rereading, correcting mistakes, evaluating guesses, and questioning.

<div align="center">

Reading Skills

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The process of reading involves the interaction of some complex linguistic processes and knowledge bases which can be divided into "print decoding" and "comprehension processes" (Norris & Hoffman, 2002). Decoding processes include the visual processing of basic print shapes and the auditory phonetic characteristics of the speech sounds represented by the print. These shapes and auditory features are categorized by the reader into letters and phonemes.

Through phonotactic and orthographic rule systems, these phonemes and letters are organized into allowable syllable and word forms. Consequently, the reader relates each word in print to its meaning in his mental lexicon. These decoding processes are informed by the comprehension processes, which include knowledge of how syntactic structure informs meaning, knowledge of how different discourse structures organize

information, and an ability to relate the propositions derived from print to the reader's

current knowledge and beliefs (Martino & Hoffman, 2002).

For those reading theorists who acknowledge the importance of both the text and

the reader in the reading process, a combination of the two emerged in "the interactive

approach," in which reading skills surpass linguistic processes. Here, reading is a process

of combining textual information with the reader's prior knowledge. The interactive

model (Stanovich, 1980) views reading as the interaction between the reader and the text,

with which he interacts to create meaning as his mental processes function together at

different levels (Bernhardt, 1996; Carrell, et al., 2000).

Upton and Thompson (2001) state: "Reading in a second language (L2) is not a

monolingual event; L2 readers have access to their first language (L1) as they read, and

many use it as a strategy to help comprehend an L2 text" (p. 469). Research has begun to

focus on some variables related to L1 that might influence L2 reading. One of these

variables is "mental translation," defined by Kern (1994) as "the mental reprocessing of

L2 words, phrases, or sentences in L1 forms while reading L2 texts" (p. 442). Cook

(1992) argued that all L2 learners access their L1 while processing L2. He suggested that

L1 should be considered as a vital variable when teaching L2 reading because L1 is

already present in L2 learners' minds. Moreover, Kern (1994) found that L2 learners use

translation as a cognitive strategy to understand the L2 text. In addition, he found that

mental translation during L2 reading served the functional purpose of facilitating the

generation and comprehension of meaning.

In another study, Upton (1997) found that reliance on L1 as the language of

thought decreased as proficiency in the L2 increased. He noted that non-proficient L2 learners used their L1 more frequently when wrestling with unfamiliar vocabulary (seeking global understanding of L2) and when attempting to summarize what they understood. Upton suggested that L1 is also used to think about and process what is being read in the L2, in addition to being in mental translation. Lastly, Upton and Thompson (2001) concluded that "the use of L1 by L2 readers to help them wrestle with word and sentence-level problems, confirm comprehension, predict text structure and content, as well as monitor text characteristics and reading behavior, supports a sociocultural view of language as a tool for thought as proposed by Vygotsky (1986)" (p. 491).

With respect to the relationship between L1 and L2 reading skills, different hypotheses have been suggested. The "transfer" hypothesis (Goodman, 1971), the "threshold" hypothesis (Alderson, 1984; Clarke, 1979; Cummins, 1980) and the "processing efficiency" hypothesis are the best known hypotheses that attempt to explain L1 and L2 reading relations. The transfer hypothesis states that differences between the components of L1 and L2 reading are negligible. This is because L2 readers transfer all their reading comprehension skills already acquired in L1 reading (such as reading strategies and metacognitive knowledge about reading tasks) to L2 reading.

By contrast, the threshold hypothesis was proposed to explain the observation that reading in a language which is not the learner's first language is a source of considerable difficulty (Alderson, 1984). Claims surfaced that L2 reading was not only slower but also that it resulted in less comprehension than L1 reading, even when readers understood the words and structures in L2 texts (Alderson, 1984). It was also assumed that poor L2

lexical and grammatical knowledge prevented beginning L2 readers from applying

reading strategies and the metacognitive knowledge they used in L1 reading.

Metaphorically speaking, L2-specific linguistic knowledge constitutes a threshold which

has to be crossed before L1 skills transfer to L2 performance and they become similar.

The hypothesis states that the initial stages of L2 reading development, L2 vocabulary,

and grammar knowledge are more important than reading strategies and metacognitive

knowledge.

Reading Skills and the Language Writing System

Language orthographic systems might direct readers to focus more on some

reading skills than on others. Three major orthographic systems are used in languages:

logographic, syllabic, and alphabetic. In logographic systems such as Chinese, one

graphemic unit usually represents the meaning and the sound of an entire word or

morpheme (Koda, 1988). Because of the one-to-one correspondence between graphemic

representation and meaning, learning to read a logography is simplified when a limited

number of characters must be processed. The logographic-proficient reader must know as

many signs as there are words and graphemes in his spoken language.

In syllabic systems, each graphemic unit represents a syllable (each Japanese

syllabary consists of 46 basic letters and two forms of diacritical marks). Finally, in

alphabetic systems such as English, the unit of representation is the phoneme. According

to Gelb (as cited in Koda, 1988), since the symbol-to-sound correspondence in the

English alphabet is reduced to the smallest sound unit (phoneme), a smaller number of

symbols is needed to transcribe spoken language.

Orthographic knowledge also makes a more substantial contribution to L2 reading. Different L1 orthographic properties generate qualitatively distinct processing procedures for word recognition in different languages. Koda assumes that L2 word-recognition processing mechanisms are heavily constrained by the learner's L1 orthographic properties. Koda also contends that L2 readers bring their L1 orthographic knowledge and processing mechanisms to bear on L2 word recognition. Green and Meara (1987) found that ESL learners with Roman-alphabetic (Spanish), non-Roman alphabetic (Arabic), and non-alphabetic (Chinese) L1 backgrounds utilized different visual-processing strategies when performing a letter-searching task in their L1s. However, when performing the task in their L2, all subjects used visual search strategies similar to those used in their L1s (as cited in Coady & Huckin, 1997). These findings suggest that L1 writing systems have profound and long-lasting effects on the way L2 linguistic materials are processed.

From different perspectives, several studies on bilingual word recognition (Brown & Haynes, 1985; Koda, 1988, 1990) have confirmed that L2 readers with a non-alphabetic orthography in their L1 (e.g., Chinese, Japanese) are less efficient at processing phoneme-grapheme correspondences in English words than are readers with an alphabetic L1 orthography (Persian, Spanish). Brown and Haynes (1985) showed that Japanese speakers were faster at making same-different judgments about pairs of English words than were Spanish and Arabic ones. However, they were the slowest group at integrating the sound-symbol information necessary for naming.

Similarly, in a study using the same language groups as the Brown and Haynes

(1985) study, Koda (1988) presented a phonological task in which participants were asked to identify which of two pseudo words was homophonic with a real English word (e.g., thare, theer), and an orthographic task in which they were asked to determine which of the two homophonic items was the correct spelling of an English word (e.g., room, rume). She found that Japanese participants were more severely impaired by the absence of orthographic information in the phonological task than were the participants from alphabetic groups. However, because of their L1 orthography, Japanese and Chinese readers make greater use of visual processing than do readers of English (Grabe & Stoller, 2002). There is evidence that these differences lead to variations in reading rates and fluency in lexical processing. Grabe and Stoller (2002) argue that differing orthographies are more or less transparent with respect to letter-sound relationships. Thus, readers will process words differently in different kinds of orthographies.

Reading Skills in L1 and L2

Different studies show that there is a strong relationship between a person's L1 and L2 reading abilities. Brown and Haynes (1985) examined the effects of L1 reading experience on L2 component skills development among Arabic, Spanish, and Japanese ESL learners. The data revealed that although Japanese subjects were superior to the other groups in terms of visual discrimination, this advantage was not sustained in a visual–to-sound translation task. This confirms that L1 reading is a significant force in modeling processing mechanisms.

Some other studies have pointed to the need for efficient lower-order processes for proficient L2 reading comprehension (Koda, 2005). Researchers regard the efficiency

of lower-order processes, such as word identification and syntactic parsing, as an important condition for the development of L1 reading comprehension (Stanovich, 1991; Perfetti, 1985). They also view it as important in the development of L2 reading comprehension (Koda, 2005).

It is obvious that L2 students, who have already experienced learning to read in an L1, come with the linguistic knowledge of it. This can either support the positive transfer of reading skills or become a source of interference. Students who are weak in L1 literacy abilities cannot be expected to transfer many supporting resources to L2 reading contexts. Furthermore, L2 learners who do not know how to read in L1 might miss some fundamental skills and L2 reading strategies. These include pre-reading skills of directionality, sequencing, the ability to distinguish shapes and sounds, and the knowledge that written symbols correspond to sounds and can be decoded in terms of order and direction. Other challenges LD learners might face include the inability to activate semantic and syntactic knowledge or to recognize some rhetorical devices and understand text structure. LD learners might not be able to learn to use cues to predict meaning or be aware of the variety of purposes for reading and strategies, such as experimenting, hypothesizing, creating, and constructing meaning. Perhaps, most importantly, finding self-confidence in reading may be difficult.

Moreover, illiterate L1 students lack the experience needed to transfer appropriate reading strategies. Since literate L2 students bring with them varying underlying attitudes toward L2 reading, they shape their own perceptions of how well they can perform tasks and, consequently, cement their success as readers.

The Relationship between Reading Strategies and Reading Ability

Honsefeld (1977) reported a study in which learners with high and low reading abilities were asked to self-report as they read unassigned texts. The study found that those with a high reading ability tended to keep the meaning of the passage in mind, read in broad phrases, skip words, and possess a positive self-concept. Low reading-ability students, however, lost the meaning of sentences as they decoded them. They read word-by-word or in short phrases, rarely skipped words, turned to the glossary for the meaning of new words, and had a poor self-concept as readers.

The Saudi context also bears evidence of the impact of target language proficiency on the type of reading strategies used by EFL learners. Al-Seweed (2000), for example, found that readers' level of language proficiency influenced the type of word-solving strategies used by Emmam University seniors in Saudi Arabia. Emphasizing the tendency of young and poor L1 readers to use different monitoring and compensatory strategies, Ryan, et al. (cited in Garner, 1987) maintained that "comprehension problems among poor readers … are due to their less strategic involvement in the process of reading" (p. 29). Garner's conclusion was that young children and poor readers lack the ability of adults and good readers to engage in activities leading to cognitive progress or to monitor it.

Since these findings were not consistent throughout the different groups of students (vocational, semi-academic, academic, and disabled), the researchers suggested that the examined factors seem to influence the reading ability of each group of students differently. Another study used native and ESL university students' self-rated

proficiency as the factor through which reading proficiency is assessed (Sheorey &

Mokhtari, 2001). There were significant differences between students with high and low

abilities with regard to their use of cognitive and metacognitive strategies. However,

there were no significant differences observed in their use of support strategies. Anderson

(1991) also examined the reading strategies of Spanish-speaking students enrolled in

intensive ESL classes as they took a reading comprehension test and two other tests on a

pair of academic passages. A simple regression showed that a significant relationship

existed between the number of strategies used in the think-aloud protocol and the

participants' reading comprehension scores. Reporting the use of more reading strategies

was associated with higher reading comprehension scores. No specific strategies were

found to relate to successful reading comprehension. The study also showed that no

specific strategy or groups of strategies contributed more to their successful

comprehension of the texts (p. 468).

Although the above-reviewed studies show that better L2 readers tend to be more

strategic, there seems to be no simple or linear relationship between the use of reading

strategies and reading comprehension. After enumerating several early case studies

showing differences in the strategy used by high- and low-ability readers, Carrell, et al.

(1998) maintained that these differences are not fixed. Brantmeier (2002) has also found

no relationship between the types of strategies that second-language learners use and their

level of reading comprehension. This view entails using or reporting good reading

strategies which do not always result in successful comprehension. It also indicates that

when it comes to comprehension, what matters most is how effectively readers use these strategies rather whether they actually do.

Finally, one might hypothesize that learners' not knowing how to read in L1 might miss some fundamental reading skills and L2 reading strategies. These include, but are not limited to, pre-reading skills of directionality, sequencing, the ability to distinguish shapes and sounds, and the knowledge that written symbols correspond to sounds and can be decoded in terms of order and direction.

<div align="center">Reading Strategies Studies in Saudi Arabia</div>

Over the past two decades, numerous studies have detailed the role of learners' strategies in a variety of L2 domains. Influenced by this trend in reading research, some Saudi researchers tried to probe this issue from different sides. In this section, I will briefly mention some of the recent studies on reading strategies that were done in Saudi Arabia. For each study, I will highlight the purpose, the methodologies, and the results.

Effects of training ESL Saudi female students on some reading strategies, by Madkhali, S., 2005.

This study investigates the effectiveness of teaching four reading strategies on EFL Saudi female students' reading comprehension and on their reported use of these strategies. The strategies taught were two "global" strategies: finding main ideas and prediction. Global strategies are those related to the general approach and comprehension of the reading passage. The other two strategies were problem-solving strategies: word analysis and guessing the meanings of words. The study aims at investigating the impact of teaching global and problem-solving strategies on

preparatory- level students' reading comprehension. It also measures how preparatory-level students' perception of use of strategies develops after teaching these strategies to the students.

There were three groups of beginning students representing two treatment groups and one control group. Each treatment group received training in different strategies. The number of students in the global strategy group was 24, and in the problem solving strategy group it was 22 students. Students in the control group numbered 21. Measurements consisted of reading comprehension tests and a questionnaire about reading strategies conducted over pre- and post-training stages.

The results obtained led to three findings. First, the two training groups (global and problem solving) experienced only non-significant improvement in their post-reading comprehension when compared with the control group. This suggests that reading strategy training did not significantly improve their reading comprehension. Second, there was no significant difference between the two treatment groups in their gain in reading comprehension. Third, there were various results regarding students' perception of using the strategies they were taught. Students mostly showed a decrease in their perception of using strategies either significantly or non-significantly except for two strategies which were using context clues and prediction.

EFL multiple-choice vocabulary test-taking strategies, and construct validity

by Addamegh, K., 2004

This study explores Test-Taking Strategies (TTS) and their impact on test construct validity. To accomplish its objectives, this research operated within the

sequence framework in which a number of variables represent *Presage* factors, which are likely to influence the test *Process* embodied in the TTS. These variables, in turn, may affect the test *Product*, that is, the test scores obtained (*PPP* model). The investigation also explored the influence on the dependent variable of two other independent variables: size of EFL lexicon as determined by Nation's vocabulary test and general level of EFL proficiency as measured by TOEFL. A process-oriented methodology via triangulated verbal data collection was utilized to gain insight into test takers' mental processes when tackling an EFL multiple-choice vocabulary test.

The analysis revealed 62 different TTS of six types: managing the test as a whole, reading the stem, handling the gap, examining the alternatives, selecting a response, and strategies after choosing an answer. It also revealed that test takers with lower L_2 proficiency were more active TTS users than the higher proficiency test takers. There was a clear difference between the two types of test stimuli, mainly in some of the TTS used to select a response. It was also found that there was a marked effect of the TTS on the test product.

The relationship of L1 reading and L2 language proficiency with the L2 reading comprehension and strategies of Saudi EFL university students, by Mushait, S., 2004

This thesis examined the relationship of L2 reading comprehension (L2RC) and L2 reading strategies (L2RS) with L1 reading ability (L1RA), L2 vocabulary (L2V) and L2 grammar (L2G) in the EFL context. It also examined whether the potential effects of L1RA, L2V, and L2G on L2RC were affected by the language difficulty of the texts being read in the L2, on the one hand, and students' L2 language proficiency (L2LP)

levels, on the other. The relationship between L2 reading strategies (L2RS) and L2RC was also investigated.

The participants in the study were studying English for their bachelors' degrees at King Khalid University in Saudi Arabia in the same department but at different levels of L2LP. Two hundred and twenty-two students were given four tests to measure their L1RA, L2RC, L2V, and L2G. In addition, a subgroup of 28 of this group participated in think-aloud reporting intended to identify L2 reading strategies.

Both quantitative and qualitative procedures were used for analyzing the data: descriptive statistics, multiple regression and repeated measures (ANOVA), as well as detailed qualitative analysis of the L2RS used by two subjects--one of a high level of L2LP and the other at a low level. The quantitative analyses revealed that L1RA, L2G, and L2V contribute significantly to L2RC. L2LP (L2V and/or L2G) was the best predictor of L2RC for subjects at a low level of L2LP. The analysis of the think-aloud protocols showed that the more proficient subjects, on the whole, tend to use more top-down than bottom-up strategies, whereas the reverse is true for the less proficient subjects. This result strongly suggests that L2LP does not only affect the product of L2 reading, but also the process. The result also demonstrated that top-down reading strategies positively affect L2RC, whereas bottom-up strategies negatively affect it.

The relationship between vocabulary size, reading strategies, and reading comprehension of EFL learners in Saudi Arabia, by Al-Nujaidi, A. 2003.

The main purpose of this study was to examine the relationship between EFL learners' perceived reading strategies, vocabulary size, and reading comprehension. The

study examined how certain learner variables, such as gender and the amount of extensive reading, may affect this relationship. The participants in the study were 226 (117 females and 109 males) first-year university students enrolled in seven different higher education institutions in Saudi Arabia. Participants completed a reading strategies survey and took a vocabulary size test (Schmitt, 2000) and a reading comprehension test.

In general, Saudi EFL first-year university students show a low reading ability and an estimated small vocabulary size (500-700 word families), which is far below the threshold level needed for reading un-simplified English texts. Except for a few strategies such as critical reading, summarizing, using typographical aids, and noting text characteristics, the participants reported using most of the reading strategies with high and moderate frequencies. They also reported a significantly higher use of problem-solving strategies. However, extensive reading was found to be an unpopular activity among EFL learners in Saudi Arabia. Significant gender differences favoring females were found in the participants' performance on the two tests and their reports of reading strategies use.

The effects of proficiency and training on the word-solving strategies of Arab EFL readers, by Al-Seweed, M., 2000.

In this study, the researcher used four different data-gathering methods: individual think aloud (ITA), pair think aloud (PTA), immediate interview (IIN), and later interview (LIN) to investigate the following: (1) word-solving strategies (WSS) used by native Arabic undergraduate students at the university level in Saudi Arabia before training on WSS, regardless of their proficiency levels, compared with their use after training while

reading an English text; (2) WSS used by high-proficiency level (HP) and low-proficiency level (LP) students before and after training on WSS when encountering an unknown word while reading; and (3) any differences between the four different data gathering methods (ITA, PTA, IIN and LIN) with respect to the data collected and use of WSS.

The findings suggest that the students used a range of word-solving strategies: contextual and morphological guessing, appealing for assistance (i.e. asking someone, using the dictionary and asking each other), and skipping, both before and after WSS instruction. There is an indication that training on WSS can increase the use of all observed WSS. The results also demonstrate that both high and low proficiency level students used only immediate contextual clues in guessing.

<div align="center">*Self-Regulation*</div>

What Is Self-Regulation?

Baumeister and Vohs, (2004) define "self-regulation" as "the exercise of control over oneself, especially with regard to bringing the self into line with preferred (thus, regular) standards"(p.2). The terms "self-regulation" and "self-control" are being used interchangeably, although some researchers make subtle distinctions between the two. Some researchers use "self-regulation" more broadly to refer to goal-directed behaviors, whereas "self-control" may be associated specifically with conscious impulse control (Baumeister & Vohs, 2004). According to Schmeichel and Baumeister (2004) "self-regulation" refers to both conscious and unconscious alteration of responses by the self, while "self-control" implies a more deliberate and conscious process of altering the self's

responses. Self-regulation involves the self acting on itself to alter its own responses. Regulation of the self's response is usually initiated with the goal of achieving a desired outcome, such as improving one's mood or avoiding an undesirable outcome.

Self-regulation has two sides: an applied side and a theoretical side. However, the study of self-regulation is influential only when it contributes to both theory and practice. Schmeichel and Baumeister (2004) claim that almost every major personal and social problem affecting large number of modern citizens involves some kind of failure of self-regulation. For example, underachievement in work and school may stem from a lack of regulation to make one self-study. Procrastination, which leads to increased stress and inferior performance quality, stems from a failure to keep one's work progressing on a proper schedule (Baumeister & Vohs, 2004). Self-regulation also may play a mediating role in some clinical phenomena such as attention-deficit/hyperactivity disorders.

The theoretical importance of self-regulation holds place in self-theory and, thus, is a key to understanding many different aspects of psychological functioning (Schmeichel & Baumeister, 2004). Psychologists have recently come to appreciate that no account of the self can be anywhere near complete without an understanding of how the self maintains control over itself and makes the adjustments that it deems best to maintain harmony with its social and physical environment.

Self-Regulatory Strength

"Self-regulatory strength" refers to the internal resources available to inhibit, override, or alter responses that may arise as a result of physiological processes, habit, learning, or the press of the situation (Schmeichel & Baumeister, 2004). The self-

regulatory strength model was first suggested by Baumeister, Heatherton, and Tice

(1994) and elaborated on in subsequent work. It proposes that faulty self-regulation

results from a lack of self-regulatory resources. The core of the self-regulatory strength

model is that the ability to regulate responses actively relies on a limited self-regulatory

resource. When regulatory resources have been depleted, self-regulation failure is more

likely (Schmeichel & Baumeister, 2004).

Language Learning Strategies and Self-Regulation

Researchers face a problem in distinguishing strategic learning from "ordinary"

learning (Tseng, et al., 2006). Weinstein et al. (2000) offer three critical characteristics of

strategic learning: it is goal-directed, intentionally invoked, and effortful. According to

Tseng, et al. (2006), these attributes could be true about motivated or difficult learning, in

general, without any "strategic" element. Therefore, Cohen (1990) highlights another

important element, the element of choice. He argues that it is a fundamental

characteristic of these strategies that they are voluntarily employed by the learner.

However, choice in itself is not enough to distinguish strategic from non-strategic learner

behaviors because students tend to make several choices concerning their learning

process that are obviously not strategic in nature (Tseng, et al., 2006).

Moreover, Riding and Rayrer (1998) argue that learners engage in strategic

learning if they exert purposeful effort to select, and then pursue, learning procedures that

they believe will increase their individual learning effectiveness. This argument reflects

what Tseng, et al. maintain, which is that it is not what the learners do that makes them

strategic learners but rather the fact that they put creative effort into trying to improve

their learning (Tseng, et al., 2006). These implications cause a shift from focusing on the product (actual techniques employed) to the self-regulatory process itself and the specific learner capacity underlying it.

Although the shift to self-regulation study resulted in the broadening of the learning strategies perspective, it did not solve the problem of what learning strategies are. Self-regulation is made up of a series of integrated and interrelated microprocesses of which learning strategies is only one. Other components include goal setting, strategic planning, action plans and action schemata, monitoring and metacognition, action control volitional control mechanisms, strategic tactics and operations, effective time management, self-motivational beliefs, evaluation and self-reflection, receiving and processing feedback, experiencing pride and satisfaction with one's efforts, and establishing a congenial environment (Kuhl & Goschke, 1994; Winne & Perry, 2000; Zeidner, Boekaerts, & Pintrich, 2000).

Summary

The previous discussion indicates that both language proficiency and reading strategies and skills are contributing factors to L2 reading. However, to understand the impact of the major contributing factors in the L2 reading process, L2 reading research needs to examine language proficiency and reading skills and strategies simultaneously. The major problem with examining the impact of language proficiency on L2 reading rests with the different types of language proficiencies, which often make it difficult to explore this relationship more closely. Given this difficulty, several researchers have examined the relationship between reading comprehension and vocabulary knowledge,

considering this to be the most relevant linguistic construct to L2 reading (Laufer, 1989; Qian, 1999, 2002). To examine the other contributing variable, that is , the reading factor, the reading strategies employed by L2 learners during the reading process are usually explored. Therefore, this study is a further step to gain more information on how Saudi EFL learners' use of reading strategies affects their comprehension.

Although the perceived reading strategies of the different reading proficiency groups are considered in this study, no significant differences in strategy use among these groups, or significant high correlations between strategy use and reading comprehension, are expected. However, given the homogeneity of the participants in this study, which reduces the chance of variation caused by unknown variables, tendencies to use certain strategies more or less frequently by the different reading proficiency groups may be indicative of a relationship between reading strategies and reading proficiency.

CHAPTER THREE

Methodology

Trochim and Land, (1982) define research design as an approach to integrate various elements of a research project in a consistent and coherent fashion in order to address a predefined set of study questions. A methodology is a set of techniques and procedures employed by the researcher to construct a systematic plan to achieve defined research objectives (Glatthorn, 1998). Therefore, this chapter aims to describe the design and methodology used in conducting the study. It seeks to justify the choice of research methods employed during the research project since there are various options for conducting research,.

Research Questions

The present study explored the use of reading strategies by Saudi EFL college-level students. The study also investigated the relationship between students' use of reading strategies and their reading comprehension achievement in English as a foreign language. Finally, the study explores the Saudi students' perception of other factors that might affect their EFL reading comprehension. This study focused on studying three types of reading strategies: Planning (before-reading), attending (while-reading), and evaluating (after- reading) strategies. Types of reading strategies were measured using the Reading Strategies Questionnaire (RSQ) that the researcher had designed and field-tested. The study attempted to answer the following research questions:

1. What reading strategies are mostly used by Saudi EFL learners in Saudi public universities? This research question sought to identify the most widely used strategies by Saudi learners to aid comprehension.

2. Do reading strategies (planning, attending, and evaluating) predict college-level Saudi students' achievement in English reading comprehension as a foreign language?

3. How does Saudi students' perception of reading for comprehension contribute to understanding their use of reading strategies?

Research Design

The researcher found that the most appropriate design for the study was mixed research methods, which involved using a survey to gather information for scientific purposes from a sample of a population (questions 1 & 2), and volunteer interviews to collect qualitative data in the study (question 3). A mixed-method research design is a procedure for collecting both quantitative and qualitative data in a single study, and for analyzing and reporting data based on a priority and sequence of information (Creswell, 2002).

One purpose of this study was to explore and then to examine the relationship between Saudi college-level students' use of reading strategies, and their comprehension in EFL. The researcher collected and analyzed quantitative data obtained from the survey and collected and analyzed qualitative data obtained from the interviews. Qualitative results help in interpreting the findings of a primarily quantitative study and explain any unexpected results that arise from the quantitative study. Qualitative data also helps in

answering the third question by gaining information about other intervening factors that Saudi students perceive as having great effect on their EFL reading comprehension.

Survey research has many advantages. It is helpful in describing the characteristics of a large population. One advantage of using a survey is the ability to reach a large number of respondents with little effort and resources (Dillman, 2000). No other method of observation is capable of providing such broad-spectrum insight. Surveys, especially self-administered, are relatively inexpensive as they can be administered from a distance using mail, e-mail, or telephone. Consequently, very large samples are feasible, and this increases the likelihood of statistically significant results even when multiple variables are investigated; standardized surveys ensure that uniform data from various groups can be collected, interpreted, and then compared in a precise method (Babbie, 1990; Fowler, 2002).

The nature of this study called for the use of a survey research method, which is considered an effective and professional way of gathering enough data to examine the present status of reading strategy use by Saudi EFL college-level students. A written questionnaire and interviews were used to collect the data in this study.

Operational Definition of the Variables

Independent variables: The study's main independent variable was the use of reading strategies. This variable consisted of three subscale variables: planning strategies (before reading), attending strategies (while reading), and evaluating strategies (after reading). These variables were measured by using a six-point Likert scale ranging from 6 (strongly agree), 5 (agree), 4 (partly agree), 3 (slightly disagree), 2 (disagree) to 1 (strongly

disagree). The questionnaire consisted of 34 items. Respondents were instructed to select only one answer to each item. Questionnaire items that measured planning strategies were 1, 2, 3, 4, 5, 6, 29, and 30. Items that measured attending strategies were 7, 8, 9, 10, 11, 12,13,14,15,16,17,18, 31, 32, 33, and 34; items that measured evaluating strategies were 19, 20, 21, 22, 23, 24, 25, 26, 27, and 28. See appendix D: Reading Strategies Questionnaire (RSQ).

Within the same 34 items five facets of self-regulation: commitment, emotional, metacognitive, satiation, and environmental control were measured. Commitment control items were 1, 2, 13, 16, and 17. Emotional control items were 11, 14, 19, and 20. Metacognitive control items were 7, 8, 9, and 10. Satiation control items were 12, 16, 33, and 34. Finally, environmental control items were 3, 29, 30, and 31.

Dependent variable: The only dependent variable in this study was students' reading comprehension in English as a foreign language. To measure this variable, the researcher used a standardized reading test (a retired version of the TOEFL reading section). TOEFL's reading section is a standardized test that measures the ability of foreign learners to read and comprehend a text in a specific time. The test used in this study consisted of two comprehension passages followed by seven multiple-choice reading comprehension questions on each one (See appendix A: Reading Comprehension Test). The maximum value for the score that can be obtained from the reading comprehension test was 14 points and the minimum score was zero.

The Setting of the Study

Population

The target population of this study was Saudi college-level students studying English as a foreign language in Saudi universities. Subjects of the study were selected from four major universities and teachers' colleges in the Kingdom: King Abdul-Aziz University in Jeddah, King Faisal in Dammam, Teachers' Colleges in Jeddah and Teachers' College in Al-Ahsa. The researcher contacted chairpersons in these universities and colleges beforehand and obtained permission to include their students as subjects of this study (See appendix E: Permission Request Letter).

The researcher used a mixture of different levels to make sure that he had a convenient and representative sample. One hundred and forty students of different academic levels were included in the study. There were 35 freshmen, 35 sophomores, 35 juniors, and 35 seniors from King Faisal University, Teachers' College in Al-Ahsa, King Abdul-Aziz University, and Teachers' College in Jeddah, respectively. Faculty members of each department helped decide which class was going to be used according to their level.

Sample

This study was conducted in four major universities and colleges in Saudi Arabia. King Abdul-Aziz University, King Faisal University, Teachers' College in Jeddah, and Teachers' College in Al-Ahsa. Stevens (1996) points out that the sample size is determined by several factors: the desired power, alpha level for controlling Type I error (the probability of rejecting the null hypotheses when it is true), effect size, and the

number of variables used in the analysis (regression model). Since the major design of this study has one independent variable with three sub-variables, and only one dependent variable, a desired power of 0.8, medium effect size ($f^2 = 0.15$), and an alpha level 0.05 was maintained for this study. Using Faul, Bucher, Erdfelder, and Lang (2008), the desired sample for this study maintaining these criteria is 77 students. However, the researcher decided to have a sample of 140 students to ensure more adequate and reasonable effects; the power with N = 140 is .98.

Teaching English Language in Saudi Arabia

English is taught in Saudi schools as a foreign language, mostly for instructional purposes. All the Saudi schools use the same syllabus and the same textbooks assigned and distributed freely by the Ministry of Education. The Ministry of Education In Saudi Arabia is responsible for revising textbooks, evaluating them and approving changes in them. Changes made in the textbooks usually rely on research conducted by the ministry itself. The textbook is the main teaching material on which the students, as well as the teachers, rely. It usually contains dialogues and variety of passages, which often include expository, narrative, and descriptive subjects.

Current Classroom Reading Practices in Saudi Arabia

From personal experience as a former teacher and supervisor of EFL, I can attest that a typical English reading lesson in Saudi schools includes the following procedures:

1. The teacher presents new vocabulary, structure, and language functions through a variety of techniques. Some teachers drill these functions

extensively before students encounter them in the reading passage, and some do that after students read the text and ask about those structures.

2. The students read the text silently for a few minutes and try to remember as much as they can. Some teachers write guided questions on the board, asking students to keep these questions in mind when they read silently and try to find their answers (reading for purpose).

3. The teacher asks questions. Sometimes these questions are written on the board, as mentioned above, and sometimes they are not. Most of the answers for these questions can be taken directly from the text the students already read. It is unusual for teachers to ask high-level questions such as critical and analytical ones.

4. The teacher then reads the text aloud while the students listen. A tape recorder is sometimes used instead. Students follow in their books and in lower levels, the whole class, or individual groups read out loud after the teacher.

5. The teacher goes back to the comprehension questions to make sure that every one's answer is clear. Sometimes, the teacher might ask more questions about the text.

6. If there is any time left in the teaching period, the teacher may ask individual students to read aloud two or three lines of the reading text. The teacher usually selects only the best students for this practice.

One of the principal merits of this classroom procedure is that the students are coping with a familiar text that helps them understand what they read. However, there is

little here to help students become efficient readers or to give them effective training in

the process and its cognitive and metacognitive strategies.

Instrumentation

Reading Strategies Questionnaire (RSQ)

Learning strategy use has typically been measured by self-report questionnaires,

since strategic learning is driven by mental processes that are not often directly

observable. In the L2 field, the Strategy Inventory for Language Learning (SILL),

developed by Oxford (1990), is the most frequently used instrument for assessing

language-learning strategy use. The SILL instrument measures frequencies of strategy

use (ranging between "never" to "always"); thus, these items measured are behavioral

ones. According to Tseng, et al. (2006), since scale items are behavioral ones, we cannot

assume that there is a linear relationship between the individual item scores and the total

scale scores. For example, EFL readers might generally have a good memorizing

strategy, yet, they have low scores for some of the items in the memory scale. Oxford and

her colleagues recognized this problem. In her words:

> Low reported strategy use is not always a sign of ineffective
>
> learning. Also, reportedly high-frequency use of strategies does
>
> not guarantee that the learning is successful. In a casual class
>
> observation, one might see some learners working eagerly and
>
> using many strategies, but . . . do not employ those strategies
>
> effectively. Studies relying solely on frequency data may miss
>
> this point. Because frequency results alone do not explain

everything about strategy use, it is necessary to include other

indices of learners' behaviors that reflect their decision-making.

'The more, the better' is not always the case in strategy use

(Cited in Tseng, et al., 2006 p. 84).

Thus, the scales in the SILL are not cumulative, and computing mean scale scores

is not justifiable psychometrically. In the SILL scale, achieving a high score is made

possible by using many different strategies, which means that quantity matters. This

assumption contradicts the results of Ehrman, Leaver, and Oxford (2003), which

indicated less able learners often use strategies in a random, unconnected, and

uncontrolled manner. It also contradicts the learning strategy theory, which indicated that

in strategy use, it is not the quantity but the quality of the strategies that is important

(Tseng, et al., 2006).

Therefore, the structure and content of the current instrument is based on Tseng,

et al.'s (2006) Self-Regulating Capacity in Vocabulary Learning Scale (SRCvoc). The

researcher developed the new instrument using the same theoretical construct that Tseng

et al. (2006) used. This is a system of self-regulatory strategies from the area of

educational psychology developed by Do¨rnyei (2001). This system consists of five

facets. These are:

Commitment control: Which helps to preserve or increase the learners' original goal

commitment.

Metacognitive control: Which involves the monitoring and controlling of concentration.

Satiation control: Which helps to eliminate boredom and to add extra attraction or interest to the task.

Environmental control: Which helps to eliminate negative environmental influences and to exploit positive environmental influences by making the environment an ally in the pursuit of a difficult goal (Tseng, et al., 2006).

Emotional control: Which concerns the management of disruptive emotional states or moods, and the generation of emotions that will be conducive to implementing one's intentions (self-encouragement; using relaxation and meditation techniques).

The Reading Strategies Questionnaire (RSQ) was used as a major instrument in this study. This questionnaire was used to gain insights into Saudi students' use of reading strategies. The RSQ was designed by the researcher and was reviewed by a panel of judges that included college professors, teachers, and graduate students. The researcher also pilot-tested the questionnaire to ensure its validity and reliability. The questionnaire uses a six-point Likert scale. Subjects were asked to respond to each statement by choosing from among six answers: (strongly agree), (agree), (partly agree), (slightly disagree), (disagree) or (strongly disagree). The RSQ consists of 34 statements related to the three types of reading strategies and the five measures of self-regulation capacity. Strategy types are planning, attending, and evaluating, while the self-regulating components are commitment, emotional, metacognitive, satiation, and environmental control.

Design of the Questionnaire Instrument (RSQ)

Information for this study was gathered through written questionnaire (appendix D) with follow-up interviews. A comprehensive survey design addresses four main components: target population, sampling, survey instrument, and data collection (Fowler, 2002). The researcher placed the demographic data section towards the end of the questionnaire. Dillman (2000) asserted that although demographic questions are easy to answer, they are not particularly interesting. Questionnaires rarely begin with demographic questions. Babbie (1990) also maintained that requests for boring demographic data (age, sex, and the like) should generally be placed at the end of the self-administered questionnaire.

In addition, personal information within the demographic section of the questionnaire was reduced. Dillman (2000) asserted that obtaining personal information from participants in a survey, such as questions regarding annual income or sexual behavior, may deter respondents from answering or completing the survey and thereby affect the response rate. The questionnaire consisted of 34 items. All items were six-point Likert scale ones, where participants had to select only one answer.

Piloting of the Questionnaire

Dillman (2000) indicated that piloting has always been an important part of questionnaire design. Piloting and evaluation of the content and format of the questionnaire is an essential step to identify the problematic issues in the questionnaire. The piloting process enables the researcher to determine whether he or she is asking the

right questions in the most effective way and whether the participants are able to answer the questions properly.

The survey instrument was tested for both validity and reliability. In early November 2007, a pilot study was conducted to determine the reliability, validity, and usability of the instrument. The questionnaire was distributed to 30 EFL students at Ohio University. They were told that they would not be part of the original study. The participants were given sufficient time to complete the questionnaire and return it along with their comments and feedback. From their responses, unclear questions were identified and corrected. Twenty-eight out of thirty participants returned the completed questionnaire with a response rate of 93%. The demographic characteristics of the respondents of the pilot study were comparable to the intended population of this study. More details are shown in Table 1

Table 1

Demographic Characteristics of the Participants in the Pilot Study.

Countries	Respondents	Gender
Saudi Arabia	10	M
Jordan	6	M
Palestine	4	F
Sudan	2	F
Morocco	1	F
Kuwait	2	M
Egypt	3	F
Total	28	

Validity of the Instrument

A number of measures were taken to ensure instrument validity, which is defined

as, "[the] degree to which a study accurately reflects or assess the specific concept that

the researcher is attempting to measure" (Sudman & Bradburn, 1982). The idea of

validity to questionnaire design refers to the steps taken by the researcher to insure

clarity, wording, and ordering of the questions. After receiving the comments and

corrections, the questionnaire was edited to meet their expectations. One measure of

validity as described by Smith and Glass (1987) is that of face validity. In describing

face validity, they stated that "researchers attempting to support the interpretation of the

measurement and its connection to the construct will seek professional judgment that there is a plausible connection between the surface features of the measure's content and the construct as theoretically defined" (p.107).

To ensure face validity, the researcher presented the RSQ to a group of 10 Saudi EFL teachers, 10 EFL OU graduates, and three OU faculty members. They were given the first version of the instrument to comment on the clarity of items and suggest changes. Some changes regarding the wording of statements, their order, and clarity were made to the final draft (see appendix D). Content validity was achieved by submitting the questionnaire to experts in the field of educational research and the field of teaching English as a second/foreign language to examine and evaluate the content and the format of the questionnaire before the final version was sent out to the participants.

Reliability of the Instrument

Reliability refers to the degree to which the instrument measures phenomena in a consistent manner. According to Oppenheim (1966),"reliability refers to consistency; obtaining the same results again" (p.69). This consistency can itself be measured in the form of a statistical coefficient of reproducibility, often Cronbach's alpha, which is similar to a correlation coefficient.

Cronbach's alpha test was run to measure the internal consistency and the reliability of the questionnaire. The alpha coefficient for the overall questionnaire (34 items) was at 0.87, which is considered a high level of reliability. According to Mueller (1986), a well-constructed scale should have a reliability coefficient of 0.80 or higher. Cronbach's alpha was also run for the subscales of the questionnaire (types of reading

strategies). The alpha coefficient was 0.71 for planning strategies (8 items), 0.81 for attending strategies (16 items), and 0.79 for evaluating strategies (10 items). Alpha coefficients, calculated by deleting each item from the scale, were also examined, but none of the increases in the alpha coefficients was significant enough to justify the removal of any of the items.

The Reading Comprehension Test

The reading comprehension test was the second major instrument that was used in this study. The reading comprehension test consisted of two reading comprehension passages followed by seven multiple-choice reading comprehension questions on each. This reading test was part of the TOEFL test, a standardized test for ESL/EFL students who intend to study in the United States and Canada. Throughout the time being used TOEFL tests show high reliability and validity (Pierce, 1994). The two reading passages were about rainforests and human memory (see appendix B: Model Answers). The maximum point for the test was 14 (one point for each correct answer).

Interview

The last procedure utilized in this study was a qualitative interview of volunteering participants. This procedure was mainly utilized to address the third research question (How does Saudi students' perception of reading for comprehension contribute to understanding their use of reading strategies?). By interviewing a sample of Saudi students (10 students), the researcher wanted to check to what extent Saudi students are aware of the different types of reading strategies (planning, attending, and evaluating); how often they use these strategies; how aware they are of the five facets of

self-regulations; and finally what other factors they perceive as having great impact on their comprehension.

Each interview lasted for 30 minutes and was conducted after collecting quantitative data. Interviewees were not part of the quantitative data sample. Interviews took place in different places (cafes, houses, schools) based on students' preferences. During each interview, the researcher allowed the interviewee to talk about how he/she approaches reading a text in English. During this time, the researcher tape-recorded the interviews which he then transcribed (see appendix C for a sample of interview transcription). When the interviewee indicates that he/she is done and has no more to say, the researcher followed-up with some questions to check the students' awareness of the reading strategies types, their use, and the self-regulation facets.

Since the main purpose of collecting qualitative data was to learn more about students' perceptions of reading strategies that might affect their achievement, a final question in each interview was: "What activities do you think are most important in aiding your comprehension?" Again, follow up questions were used to bring up some of the types and facets so the interviewee could talk about them.

Data Collection

The design of this study was an explanatory mixed-method design, perhaps the most popular form of mixed-method designs in educational research. An explanatory mixed-method design--also called a two-phase model (Creswell, 2002)-- consists of first collecting quantitative data and then collecting qualitative data to help explain or elaborate on the quantitative results. The rationale for this approach is that the

quantitative data and results provide a general picture of the research problem; more analysis, specifically through qualitative data collection, is needed to refine, extend, or explain the general picture (Creswell, 2002) in this design:

1. The mixed method researcher places a priority on quantitative data collection and analysis. This is by introducing it first in the study and having it represent a major aspect of data collection.

2. The mixed method researcher collects quantitative data first in the sequence. This is followed by the secondary qualitative data collection. Researchers often present these studies in two phases, with each phase clearly identified in headings in the report.

3. The mixed method researcher uses the qualitative data to refine the results from the quantitative data. This refinement results in exploring a few typical cases, probing a key result in more detail, or following up with outlier or extreme cases (p. 566).

The design has the advantage of clearly identified quantitative and qualitative parts, an advantage for readers as well as for those designing and conducting the study. The design also captures the best of both quantitative and qualitative data to obtain quantitative results from a population in the first phase, and then refine or elaborate these findings through an in-depth qualitative exploration in the second phase. The difficulty in using this design, however, is that the researcher needs to determine what aspect of the quantitative results to use in the follow-up. In addition, this design is labor intensive, and it requires both expertise and time to collect both quantitative and qualitative data.

Mixed- method studies require extensive data collection (Bryman, 1988), more than the amount required to conduct a study that is either quantitative or qualitative (cited by Creswell, 2002, p. 568). The costs and amount of time needed may be prohibitive for a single researcher.

After obtaining the IRB approval (appendix F), chairpersons in the departments of English Language and Literature in the four universities and colleges involved in the study were contacted by fax to obtain permission for using students in their departments as subjects in this study (see appendix E for a sample of permission request letter). After obtaining the permission involved in this research, study completion and data collection were obtained through the following procedures:

1. Faculty members in each department helped in assigning participants of the study according to their academic levels. Forty students from each department represented an academic level: 40 freshmen were assigned from King Faisal University, 40 sophomores were assigned from Teachers' College in Al-Ahsa, 40 juniors were assigned from King Abul-Aziz University, and finally 40 seniors were selected from Teachers' College in Jeddah. After excluding the incomplete answers, the desired sample number of 140 students was obtained.

2. Each subject involved in the study had a copy of both instruments for the study: The reading strategies questionnaire (RSQ), and the reading comprehension test.

3. Directions and procedures of the study were explained to the subjects very thoroughly by the researcher. Instructions included number of items, purpose of

the test, and format of the test. The researcher also answered students' questions

before they began.

4. The researcher ensured that each subject was willing to participate in this research

voluntarily and assured subjects that all the information and data obtained from

participation in this research were confidential, and would only be used for

research purposes.

5. Subjects were asked to read the reading passages and respond to the reading

comprehension tests.

6. After finishing the reading comprehension test, subjects were asked to respond to

the reading strategies questionnaire (RSQ). The researcher ensured that all

subjects had the appropriate time to respond to the items in the questionnaire.

7. Study conduction took between 50 and 60 minutes.

8. Finally, subjects' responses on the reading strategies questionnaire and the reading

comprehension test were scored.

Missing Data

Because the researcher administered the collection of data in all four universities,

there was no major problem with missing data in this study. Only 10 students reported

that they were not ready to complete the reading test and the questionnaire, after they had

started working on them. These respondents were excluded from the data. Another 10

respondents were excluded because their materials were either incomplete or more than

one answer was checked for same items.

Participants' Demographic Data

Demographics of the respondents revealed that 45% of them were females (63) and 55% were males (77). Ages of the respondents ranged from 18 to 24. Respondents represented equal percentage from each academic level: 25% freshmen, 25% sophomores, 25% juniors, and 25% seniors. All participants were majoring in English language and literature.

Data Analysis Procedures

Before answering each of the research questions, normality tests were run on all the relevant variables. This procedure was done to make sure that parametric tests were the most appropriate for this analysis. In addition, correlations among different variables in the study were run. When doing so, the researcher adopted Cohen (1988), who specifies correlation coefficients below 0.30 to have weak effect, coefficients above 0.30 to have moderate effect, and coefficients of 0.50 and above to have large effect size.

After making sure of the normality of data and deciding which tests to use, the researcher analyzed the data to address the two research questions posed in the beginning of this chapter. Means and standard deviations were run to answer the first research question ("What reading strategies are mostly used by Saudi EFL learners in Saudi public universities?"). Moreover, a one-way repeated measures ANOVA was used to check if the difference among the subjects' reported use of the three different types of reading strategies, if any, was significant. When addressing the second question, "Do reading strategies (planning, attending, and evaluating) predict Saudi EFL learners' reading comprehension?" the researcher used standard multiple regression analysis to find out if

there was a correlation between the use of certain reading strategies and reading

comprehension level.

   In the following chapter, I will present the results of the current study. The

analysis of the data follows the order of the two research questions stated in this chapter.

CHAPTER FOUR

Results

The current study seeks to explore Saudi EFL students' use of reading strategies; how Saudi students' agreement on the importance of using reading strategies affects their reading comprehension scores; and what other factors they perceive as having great effect on their EFL reading comprehension. The study utilizes both qualitative (RSQ and reading comprehension test) and quantitative (interviews) methods to gain information about students' perception of reading strategies and their comprehension level. The three main research questions were:

1. What reading strategies are mostly used by Saudi EFL learners in Saudi public universities?

2. Do reading strategies (planning, attending, and evaluating) predict Saudi EFL learners' reading comprehension?

3. How does Saudi students' perception of reading for comprehension contribute to understanding their use of reading strategies?

Reliability of the Instrument

Cronbach's alpha test was rerun to measure the internal consistency and the reliability of the questionnaire after collecting the data. The alpha coefficient for the overall questionnaire (34 items) was at 0.89, which is considered a high level of reliability (Mueller, 1986). Cronbach's alpha was also run for the subscales of the questionnaire (types of reading strategies). The alpha coefficient was 0.75 for planning

strategies (8 items), 0.82 for attending strategies (16 items), and 0.83 for evaluating

strategies (10 items).

<center>*Validity of the Instrument*</center>

The 34 items of the Reading Strategies Questionnaire scale (RSQ) were subjected

to principal components analysis (PCA) using SPSS Version 15. Parallel analysis

(Watkins, 2000) was used to determine the number of factors to extract. It showed that

there were four factors explaining 24.5%, 6.3%, 5.7%, and 5.2% of the variance

respectively. An inspection of the scree plot (appendix G) revealed a break after the

fourth component. By looking at the loadings (appendix H), it seems that the first

(largest) factor is 'evaluative'. The second factor is 'attending' (portion); 10 of the

sixteen attending items load heavily at this dimension. After looking back at these items,

it was found that unlike the fourth factor items, all of these items start with the phrase

'while I am reading'. The third factor is 'planning'; 5 of the 8 planning items load at this

factor.

The fourth factor is 'attending' (portion); four of the attending items and one

planning item load heavily at this dimension. What makes this factor different is the fact

that the wording of its statements is different from all other items; any item the previous

29 ones includes either 'before I start reading', 'while I am reading', or ' after I finish

reading'. In the contrary, item number 30, which is supposed to be planning item, could

be interpreted as attending item. It reads: "When I am reading and the learning

environment becomes unsuitable, I try to sort out the problem." Besides, three of the

other four items did not start with the phrase 'while I am reading'. Difference in wording

might have contributed to the loading of these five items in a separate factor. Therefore, factor analysis suggests that there is some evidence of the construct validity of the scale.

Descriptive Statistics for Factors

The descriptive statistics for the three types of reading strategies consisted of the mean scores and standard deviations of items related to each factor. These aggregate scores on factors were used in the multiple regression analysis to answer the second research question. The aggregate scores of self-regulation items were also used to answer the question about the predictability of these factors of students' comprehension level. Table 2 displays the descriptive means and standard deviations of the three types of reading strategies.

Table 2

Descriptive Statistics for Reading Strategies Types.

Variables	M	SD
Planning strategies (before reading)	4.68	.62
Attending strategies (while reading)	4.48	.70
Evaluating strategies (after reading)	4.54	.74

In addition to the descriptive statistics of the three types of reading strategies, correlations among these variables and the overall strategy use were run. Table 3 shows these correlations.

Table 3

Bivariate Correlation Among the Three Types of Reading Strategies and Overall Strategy Use

Variables	1	2	3	4
Planning strategies (before reading)	1	.52*	.49*	.71*
Attending strategies (while reading)		1	.68*	.92*
Evaluating strategies (after reading)			1	.86*
Overall Strategy Use				1

*Correlation is significant at the 0.01 level (2-tailed).

All subparts of the reading strategy show a significantly strong correlation with the overall mean of perceived strategy use: planning $r = 0.71$, $p<.001$, attending $r = 0.92$, $p<.001$, evaluating $r = 0.86$, $p<.001$. The three types of reading strategies have also shown fair correlations among themselves. The planning strategies had a significant correlation with both the attending strategies $r = 0.52$, $p<.001$ and the evaluating strategies $r = 0.49$, $p<.001$. The attending strategies also had a significant correlation with the evaluating strategies $r = 0.68$, $p<.001$. This means that there was a moderate relationship among the different types of reading strategies reported by EFL Saudi learners in the current study. These correlations among the three independent variables were conducted to make sure that each variable is reasonably independent of the other.

To learn more about the Saudi students' reading comprehension test scores, *visual banner* feature in SPSS was used to classify participants based on their raw scores (Table

4). Students who scored between 2 and 6 were considered low, between 7 and 10 were considered medium level, and between 11 and 14 were considered high level of comprehension. The overall mean of the reading test was 8.5, which means that the average student got 8 out of 14 questions correct. In general, 31 students were classified as having a low level of comprehension (22.15%), 77 others were classified as having a medium level of comprehension (55%), and 32 students were found to have a high level of comprehension (22.85%).

Table 4

Distribution of the Sample According to Their Reading Comprehension Test Scores

Level of Comprehension	Frequency	Percent	Cumulative Percent
Low ($\leftarrow 6$)	31	22.1	22.1
Medium (7 – 10)	77	55.0	77.1
High (11→)	32	22.9	100
Total	140	100	

Assumptions of Multiple Regression Analysis

Before running the multiple regression, all assumptions were tested. These assumptions were sample size, multicollinearity and singularity, outliers, normality, linearity, homoscedasticity, and independence of residuals.

Sample Size

The assumption of sample size is central to the generalizability of results. Results based on a small sample size may not generalize with other samples. Stevens (1996) recommended a ratio of 15 cases per factor for a reliable regression equation. With a sample size of 140 and three factors, this ratio for the study was approximately 46.6:1. Tabachnick and Fidell (2007) also gave a formula for calculating sample size requirements that take into account the number of independent factors that we wish to use. They advise that $N > 50 + 8m$, where m = number of independent factors. With $m = 3$ in this study, we have $N = 50 + 8* 3 = 74$. Thus, with a sample size of 140, this condition is met.

Test for Multicollinearity Assumption

The second assumption of multiple regression refers to the relationship among the independent factors (multicollinearity). Tabachnick and Fidell (2007) explain that multicollinearity exists when the factors are highly correlated ($r \geq .9$). Singularity occurs when one factor is actually a combination of other factors. Therefore, multiple regression is sensitive to both multicollinearity and singularity. Stevens (1996) assumes that in multiple regression, a high multiple correlation coefficient, R, requires that independent factors correlate highly with the dependent factor while simultaneously have low multicollinearity among themselves. Multicollinearity is important because the violation of this assumption limits size of the multiple correlation coefficient, R, because of shared variance among overlapping factors. It also makes the determination of the importance of independent factors difficult, because of the overlaps, and, finally, it increases the variance of the regression.

The assumption of multicollinearity was checked from the Collinearity Diagnostics table in the SPSS output, using Tolerance and VIF. Tolerance gives an indication of how much the variability of a specified factor is not explained by the other factors in the model, and it is given by TOL = 1-R^2 for each factor, where R is the multiple correlation, which is also called coefficient of determination, and R^2 is an estimate of the effect size. If TOL < 0.1, it implies that the multiple correlation with other factors is high. The corresponding condition for VIF is that VIF scores are required to be less than 10 for the multicollinearity assumption to be valid. From Table 5, the Tolerance scores for all the three factors (reading strategies types) range from 0.48 to 0.69, while the range of VIF values is from 1.44 to 2.05. These Tolerance and VIF values showed that there were no violations of the multicollinearity assumption, since TOL > .10 and VIF < 10 for all factors.

Table 5

Tolerance and VIF for Regression Factors

Model	Tolerance	VIF
Planning	.69	1.44
Attending	.48	2.05
Evaluating	.50	1.96

Test for Normality, Linearity, Homoscedasticity, and Independence of Residuals

Normality, linearity, homoscedasticity and independence of residuals all refer to different aspects of the distribution of scores and the nature of the underlying relationships between factors (Pallant, 2005). Residuals are differences between the obtained and predicted dependent variable scores (students' comprehension scores). The normality assumption is met when the residuals are normally distributed about the predicted dependent variable scores (reading comprehension). The linearity assumption is met when the residuals have a straight-line relationship with the predicted variable scores.

Finally, homoscedasticity is satisfied when the variance of the residuals about the predicted dependent variable scores are the same for all predicted scores (Pallant, 2005).

The scatter plot (Figure 1) of the standardized residuals shows that the residuals are roughly rectangularly distributed, with most of the scores concentrated in the center (along the horizontal line y = 0). This distribution means that the assumptions of linearity and homoscedasticity are met. The normal probability plot (Figure 2) confirmed this result. It is clear that the scores lie in a reasonably straight diagonal line from bottom left to top right.

Scatterplot

Dependent Variable: CS
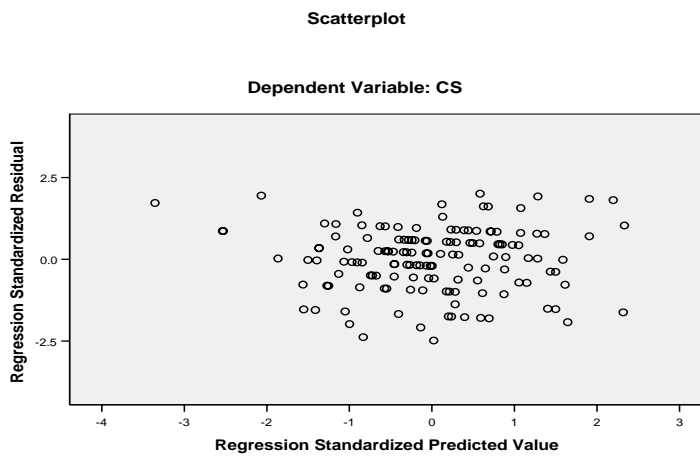
Figure 1 : Scatter Plot of Regression Standardized Predicted Values against Regression Standardized Residuals (Reading Strategies Types).

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: CS
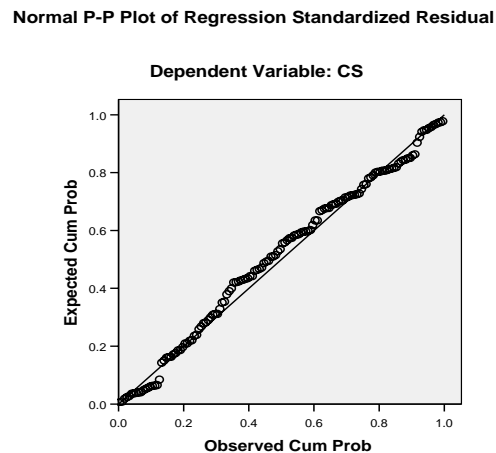
Figure 2 : Normal P-P Plot

Checking Outliers, Extreme and Influential Points

As defined by Tabachnick and Fidell (2007), outliers are cases that have a standardized residual of more than 3.3 or less than -3.3. From the scatter plot (figure 1), it is evident that there is no serious concern with outliers. Outliers were also checked by

inspecting the Mahalanobis distances that are produced by the multiple regression program. To identify which cases were outliers, the critical chi-square was determined first using the number of independent variables as the degrees of freedom. Tabachnick and Fidell (2007) suggest that the critical value for three independent variables is 16.27. The Malhalanobis distance value was 16.61, which is not too far from the critical value. After going back to the data, cases 78 and 86 had observed distances greater that the critical value of 16.27. Looking back into the data set, it was found that case 78 scored the lowest value (mean = 2.53) for factor 2 (attending); however, the case was retained since the value was within the acceptable range (1,6). Case 86 scored the lowest value (mean = 2.88) on factor 1 (planning). This case was also retained since the value was within the acceptable range.

From the scatter plot (Figure 1), it is evident that there were no cases that had standardized residuals values above 3.0 or below -3.0. The Residual Statistics table (appendix I) also confirmed that there were no cases with standardized residual greater than 3.3 or less than -3.3. From these various tests, it is clear that outliers are not a concern in this study.

Finally, influential points were checked using Cook's Distances. According to Tabachnick and Fidell (2007), cases with values larger than 1 are a potential problem. From the table of Residual Statistics (appendix I), it is clear that no case had a Cook's distance greater than 1 (Max = 0.14). Therefore, influential points are not a serious concern in this study.

First Research Question

The first research question was "What reading strategies are most often used by Saudi EFL learners in Saudi public universities?" This research question sought to identify the most widely used strategies by Saudi learners to aid comprehension. To answer this question, descriptive statistics were calculated to determine the means of use for each strategy. Strategy use was determined based on the degree of agreement of each participant on the importance of each statement in affecting his/her reading comprehension. A mean of 4 and above was considered a high level of use, since it indicates that a student largely agreed on the importance of the strategy. A score of 3.00- 3.99 was considered a low level of use, since this implies that a student almost disagreed on the importance of using certain reading strategies that may affect his/her comprehension. Means of students' agreement on each item are shown in appendix J.

All but two of the item results fall into the high level (appendix J). The high category encompassed 32 strategies. Only two attending strategies fall in the low level; however, even these two items have means above 3.5. This result means that EFL Saudi learners perceive all reading strategies reported in the questionnaire as important in improving their comprehension. It also implies that they may be inclined to use these strategies when reading English texts. When the overall mean of reading strategy use was examined, the highest overall mean was 5.88 while the lowest was 2.88. The majority of the participants were high strategy users, which means that EFL Saudi learners almost always use a variety of reading strategies (planning, attending, and

evaluating) while reading English text. The overall mean of the sample (the mean of the means) was 4.41 with a standard deviation of 0.58.

In addition, the means and standard deviations were calculated for the reading strategy types. The means and standard deviations of the subjects' reported use of planning, attending, and evaluating strategies are reported in Table 2. In general, the subjects showed more use of planning strategies than the other two. They also seem to use evaluating strategies more frequently than attending strategies.

Moreover, a one-way repeated measures ANOVA was used to check if this difference among the subjects' reported use of the three different types of reading strategies is significant. The Multivariate test (as part of ANOVA output) indicated a significant difference between the means of the three categories with large effect size, Wilks' Lambda = 0.574, F= 51.245, p = 0.000, η^2 = .426. When run as a post-hoc test, the paired-sample t-test showed significant differences among the three means. It showed that there is a significant difference between planning strategies and the other two categories; between planning and attending t = 9.107, p = 0.000, η^2 = 0.373; between planning and evaluating t = -2.385, p = 0.018, η^2 = 0.039; and between attending strategies and evaluating strategies t = -7.186 p = 0.000, η^2 = 0.270.

In conclusion, the analysis conducted to answer the first research question showed that EFL Saudi learners use almost all the reading strategies (planning, attending, and evaluating). In more specific, paired-sample t-tests, it was shown that Saudi learners use planning strategies more than attending strategies and evaluating strategies. It is also very noticeable, from the descriptive statistics in appendix J, that EFL Saudi learners

perceived the reading environment as the most important factor in their reading process. In addition, evaluating strategies were more widely used by Saudi students than attending strategies.

<center>*Second Research Question*</center>

The second research question was "Do reading strategies (planning, attending, and evaluating) predict college-level Saudi students' achievement in English reading comprehension as a foreign language?" To answer this question, the relationship between these strategies and comprehension level were examined using standard multiple regression analysis. Standard multiple regression analysis helps in deciding which one of the predictors (independent variables), if any, has the ability to predict the dependent variable (predicted). Independent variables were planning strategies, attending strategies, and evaluating strategies. The dependent variable was students' reading comprehension scores. Students' comprehension level was measured using a retired version of the TOEFL reading section. The maximum score expected was 14 and the lowest one was 0. Only four students got the full mark (14) in the test, while three others received the lowest score (2).

Test of significance of the combined factors.

A standard regression analysis was conducted to determine the relationship of a linear combination of Factors 1 through 3 with students' reading comprehension scores. The standard regression model summary table (Table 6) indicated that the test was not statistically significant ($F_{(3.136)} = 0.783$, $p = 0.506$ (>0.0005); $R^2 = 0.017$; Adjusted (R^2) = 0.005 at α =0.05. The value of the multiple correlation, R, which indicates how

well the independent factors combined relate with the dependent factor (comprehension

score), was R = 0.13. The adjusted R^2 = 0.005 means that all the factors combined

accounted for 0.5% of the variance in the dependent factor, reading comprehension score.

Table 6

Standard Regression Model Summary

Model	R	R^2	Adjusted R^2	Std. Error	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	.13	.01	.005	2.67	.01	.783	3	136	.506

Predictors: (Constant), Planning, Attending, Evaluating

Dependent Variable: CS

To make sure that the correlations among the three types of reading strategies did

not affect the regression model, correlations between each reading strategy type and

reading comprehension scores were obtained individually. No significant correlation was

found between the use of any type of reading strategies or the general use of reading

strategies and the reading comprehension level. Therefore, none of the three independent

variables (predictors) has the ability to predict Saudi students' level of comprehension.

Therefore, the researcher concluded that in addressing the second question, Saudi

students' perceived use of reading strategies did not predict their reading comprehension

score.

Third Research Question

The third research question was "How does Saudi students' perception of reading for comprehension contribute to understanding their use of reading strategies?" To address this question, qualitative data were obtained by interviewing 10 Saudi students. In addition to gaining more information about other factors that might affect students' comprehension, the researcher aimed at checking the awareness of Saudi students of the three types of reading strategies as well as the five facets of self-regulation. All interviews were conducted after collecting the quantitative data using different samples; interviewees did not participate in the quantitative data collection. The sample consisted of 10 EFL Saudi learners, 5 males, and 5 females. Faculty members at each college helped nominate students to contact based on their academic level: 3 freshmen, 3 juniors, 2 sophomores, and 2 seniors. The aim was to obtain a representative sample so the information obtained from them could be representative of the population.

After contacting each person and asking about the appropriate way to do the interview, the researcher specified a day for each interviewee. Female students were interviewed on the phone due to religious and cultural barriers. Each interview lasted for 30 minutes, during which the researcher spent most of the time listening and tape-recording. The researcher tried to put the interviewees in a situation of a reading task. The interviewer made each interviewee assume that he/she had a reading assignment (reading a book, chapter), after which someone would discuss his/her understanding of the materials he/she had just read. The aim was that the interviewee understood that he/she would be reading for comprehension, not just for finishing the task. The

researcher made sure that every interviewee was clear on the two questions before he/she began talking. The interviewer avoided using the words "strategies", "before reading", "while reading", and "after reading" so as not to influence interviewees' responses. The two main questions were:

1. Tell me about ALL you will do once you decide that it is time to read until you feel that you are ready for your discussion.

2. According to your own judgment, which of the practices that you do in order to understand the English text affect your comprehension?

Follow-up questions were used to make sure that students were aware of other types of reading strategies that they did not mention the first time. Follow-up questions were also used to check the students' awareness of self-regulation components and to learn more about how they developed these reading strategies; did they learn them in school while learning English, or did they transfer them from their L1? Finally, the researcher was looking for some other intervening factors that EFL Saudi learners might perceive as affecting their comprehension.

Qualitative results showed that Saudi college-level students seem to be aware of all types of reading strategies (planning, attending, and evaluating). When talking freely, with no guidance from the interviewer, 50% of the students reported using all three types of strategies (planning, attending, and evaluating). This suggests that half of Saudi students were aware of the importance of these strategies in facilitating their comprehension; otherwise, they probably would not perceive them as important. The other 50% of students mentioned different combinations of strategies: 30% mentioned

using only attending strategies, 10% mentioned planning and attending, and 10%

mentioned planning and evaluating. After the follow-up questions were given, 60% of the

students concurred on the importance of using planning strategies, 30% mentioned

attending strategies, and 40% mentioned evaluating strategies. These results suggest that

Saudi students might perceive other factors as affecting their comprehension more than

reading strategies.

When the interviewer asked the second question ("According to your own

judgment, which of the practices that you do in order to comprehend the English text

affect your comprehension?"), 80% of the students reported attending strategies as

having the most effective impact on their comprehension. This result is consistent with

the students' awareness of the importance of reading strategies; 30% of the interviewees

reported using attending strategies from the first time with no guidance from the part of

the researcher. Ten percent of the students perceived planning as the most important

strategy type affecting their comprehension. In contrast, the quantitative data showed that

Saudi students reported using planning strategies more often than the other two. This

inconsistency might be explained by the overlap between these two reading strategy types

(planning and attending). For example, some students might consider skimming and

scanning as attending strategies, while others might perceive them as planning strategies.

This inconsistency might also be due to the fact, which I will discuss later in this

chapter, that 50% of Saudi students hate reading; their excessive use of planning

strategies might be to eliminate their boredom and get into the task. The last 10% of

students perceived evaluating strategies as the most important factor to affect their comprehension.

In different situations, 50% of students mentioned that the techniques they used after finishing reading helped them build mental structures (Schemata) of the new information. Another 30% of students believed that summarization was the most important factor in their final comprehension; in fact, 20% of them mentioned that they used these summaries for their future revision of the text. Other factors that students mentioned during the interviews as possibly having an impact on their comprehension can be categorized into six themes: enthusiasm for reading, prior knowledge, role of transfer, having a purpose for reading, time on task, and vocabulary size. A discussion of these factors will be presented in chapter 5.

Additional Findings

Although the main focus of this study was to examine the relationship between reading strategies and EFL Saudi learners' comprehension level, the researcher decided to do some additional analyses that might open windows for more future research. Gender differences among EFL Saudi students in terms of comprehension level, as well as strategy use, were investigated. Since the questionnaire was designed based on the five facets of self-regulation (commitment, emotional, meta-cognitive, satiation, and environmental control), the researcher decided to examine to what extent self-regulation capacity affects reading comprehension level.

In order to do so, the researcher reused the data to generate five new variables: commitment control, emotional control, metacognitive control, satiation control, and

environmental control. The same statements of the questionnaire reflected these five facets of self-regulation. Commitment control statements were items 1, 2, 13, 16, and 17. Emotional control statements were 11, 14, 19, and 20. Metacognitive control statements were 7, 8, 9, and 10. Satiation control statements were 12, 16, 33, and 34. The environmental control statements were 3, 29, 30, and 31. Finally, the researcher examined the relationship between gender, self-regulation, and comprehension level.

Before doing further analysis to obtain additional findings, descriptive statistics of the new five variables and correlations among them were obtained. Tables 8 and 9 show the means and standard deviations of these factors and the correlations among them respectively.

Table 7

Descriptive Statistics for Self-Regulation Facets.

Variables	M	SD
Commitment Control	3.50	.62
Metacognitive Control	4.38	.74
Satiation Control	4.13	.81
Environmental Control	4.72	.82
Emotional Control	4.32	.88

Table 8

Bivariate Correlation Among the Five Facets of Self-Regulation and Overall Strategy

Use

Variables	1	2	3	4	5	6
Commitment Control	1	.20[*]	.55[*]	.56[*]	.64[*]	.68[*]
Environmental Control		1	.35[*]	.36[*]	.28[*]	.61[*]
Metacognitive Control			1	.52[*]	.56[*]	.71[*]
Satiation Control				1	.64[*]	.73[*]
Emotional Control					1	.79[*]
Overall Strategy Use						1

[*]Correlation is significant at the 0.01 level (2-tailed).

In addition, all the assumptions of regression analysis were rechecked to make sure that there was no serious violation. Normality, linearity, homoscedasticity, and independence of residuals were checked using the scatter plot (appendix K) and the probability plot (appendix L).

The scatter plot of the standardized residuals shows that the residuals are roughly rectangularly distributed, with most of the scores concentrated in the center (along the horizontal line y = 0). This distribution means that the assumptions of linearity and homoscedasticity are met. The normal probability plot (appendix L) confirmed this result.

It is clear that the scores lie in a reasonably straight diagonal line from bottom left to top right.

Outliers were also checked by inspecting the Mahalanobis distances in the residual statistics table (appendix M). These tables confirmed that there were no cases with standardized residual greater than 3.3 or less than -3.3, which means that outliers are not a big concern. Finally, the assumption of multicollinearity was checked from appendix N using Tolerance and VIF. These Tolerance and VIF values showed that there were no violations of the multicollinearity assumption, since TOL >0.10 and VIF < 10 for all factors.

Gender and Comprehension Level

To investigate the gender differences in comprehension level among EFL Saudi students, a third question was posed: "Is there a gender difference in comprehension level among Saudi college-level students?" An independent-sample *t*-test was conducted to explore the impact of gender on comprehension level. There was a significant difference in scores favoring female (*M* = 9.38, *SD* = 2.30) over male students (*M* = 7.79, *SD* = 2.55); *t* (138) = -3.66, *p*=.000, eta squared = 0.006. Descriptive statistics of both males and females are reported in Table 11.

Table 9

Gender Differences in Means of Reading Comprehension

Variable	Gender	N	*M*	*SD*
Comprehension Score	M	77	7.79	2.55
	F	63	9.38	2.30

Gender and Reading Strategies

To investigate the gender differences among Saudi EFL learners in reading strategy use, a fourth question was posed: "Is there a gender difference in strategy use (use of planning, attending, and evaluating) among Saudi college-level students?" To answer this question, a one-way between groups multivariate analysis of variance (MANOVA) was performed to investigate gender differences in strategy use. Three dependent variables were used: planning strategies, attending strategies, and evaluating strategies. The independent variable was gender.

The results revealed that there was a statistically significant difference between males and females on the combined dependent variables, $F(3,136) = 2.39$, $p = 0.04$; Wilks' lambda = 0.95; $\eta^2 = 0.03$. When the results for the dependent variables were considered separately, the only difference to reach statistical significance was reached by evaluating strategies, $F(1,138) = 7,185$, $p = 0.008$, $\eta^2 = 0.04$. An inspection of the mean scores indicated that females reported higher levels of evaluating strategies (*M* = 4.72, *SD*

= 0.56) than males (*M* = 4.40, *SD* = 0.83). Table 12 shows the descriptive statistics of reading strategies types for both male and female students.

Table10

Gender Differences in Means of Strategy Use

Variable	Gender	N	*M*	*SD*
Planning Strategies	M	77	4.61	.59
	F	63	4.76	.64
Attending Strategies	M	77	4.37	.72
	F	63	4.60	.66
Evaluating Strategies	M	77	4.39	.83
	F	63	4.72	.56

Gender and Self-Regulation

To investigate the differences in self-regulation capacity among EFL Saudi learners, a fifth question was posed: "Are there any gender differences in self-regulation capacity among EFL Saudi learners?" To answer this question, a one-way between groups multivariate analysis of variance (MANOVA) was performed to investigate gender differences in self-regulation. Five dependent variables (components of self-regulation) were used: commitment, metacognitive, emotional, satiation, and

environmental control. The independent variable was gender. Preliminary assumption

testing was conducted to check for normality, linearity, univariate, and multivariate

outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no

serious violation noted.

There was a statistically significant difference between males and females on the

combined dependent variables, F (3,136   ) = 2.39, p = 0.04; Wilks' lambda = 0.95; η^2 =

0.03. When the results for the dependent variables were considered separately, the only

difference to reach statistical significance was reached by emotional factors. F (4.772) =,

p =0.031, η^2= 0.033. An inspection of the mean scores indicated that females reported

higher levels of emotional components of self-regulation (M = 4.50, SD =0.80) than

males (M = 4.17, SD = 0.93).

Qualitative Data on Self-regulation

When talking about self-regulation capacity, only 20% of the students mentioned

environmental factors as having effects on their comprehension. None of the students

mentioned anything about the other four components: metacognitive, satiation,

commitment, and emotional. To make sure that students were given a chance to comment

on their perception of these factors, the interviewer followed up by asking about each one

individually. Sixty percent of the students agreed that emotional factors play a role in

their comprehension. Fifty percent of this percentage was female students, meaning that

ALL female students perceived emotional factors as very important in their

comprehension. One female student said that she would never read if she were not in the

right mood: "One can do any physical activities while under emotional pressure, but

never do any mental activities" and "I consider emotional factors very important in my

enthusiasm to reading." These statements show that female readers appreciate emotional

factors more than males do.

When asked about metacognitive factors, 50% of students concurred that they try

to keep in control of their comprehension while reading. Others said they do not usually

do this until the end. Thirty percent of the students also agreed that they keep their goal in

mind when reading a text in English (commitment). Another 20% of students emphasized

the importance of environmental factors, raising the percentage to 40% of the Saudi

students who perceived the environment as an important factor affecting their

comprehension. No person in the sample mentioned satiation factors, not even after

following up. This might be due to the interrelation between satiation and emotional

factors.

Summary of Major Findings

In this chapter, I have attempted to analyze all the available evidence needed to

answer the two main research questions. Some major findings emerged from the different

analyses. To conclude this chapter, I will list some of the major results.

1. EFL learners in Saudi Arabia are aware of almost all the reading strategies

    examined in the current study and perceived using most of them. Quantitative

    data as well as qualitative data confirmed this finding.

2. EFL learners in Saudi Arabia showed significantly more perceived use of

    planning strategies than attending strategies and evaluating strategies.

3. Saudi EFL learners perceived the environment as the most important factor affecting their reading comprehension. Both quantitative and qualitative data confirmed this finding.

4. The reading comprehension level of Saudi EFL college-level students was medium. The average participant was able to answer 8 of the 14 questions on the reading comprehension test correctly.

5. No significant relationship was found between the perceived use of reading strategies in general or any type of reading strategies (planning, attending, evaluating) and comprehension level.

6. Enthusiasm for reading and time spent voluntarily reading both affect students' approaches to the reading task. The qualitative data revealed that Saudi students do not spend time on free reading outside of class.

7. A good percentage of Saudi students (40%) reported using the same reading strategies when reading English texts as well Arabic ones.

8. The qualitative data revealed the importance of prior knowledge (schemata) on students' attitudes toward reading and on their comprehension.

9. The qualitative data revealed that EFL Saudi learners use a lot of supporting reading strategies, such as asking questions and translation, to aid their comprehension.

10. The qualitative data revealed that EFL Saudi learners greatly appreciate the importance of having a purpose in mind before start reading.

11. The qualitative data suggest that EFL Saudi learners lack time management strategies. They tend to read slowly to gain comprehension, which affects their scores on the TOEFL.

12. Saudi students are not aware of the importance of self-regulation capacity in their reading comprehension. Environmental factors were the only factors mentioned by both female and male students as having a great effect on students' comprehension.

13. Emotional factors seem to have a great impact on female students' ways of approaching the reading task, their commitment to accomplishing it, and their reading comprehension.

CHAPTER FIVE

Discussion, Conclusion, and Recommendations

Reading is a process that requires effort on the readers' part if they want to understand what they are reading. A considerable amount of research has been devoted to understanding the processes that contribute to reading comprehension. This study was conducted to explore Saudi students' use of reading strategies and the effect of these strategies on their comprehension.

Chapter five begins with an overview of the study followed by a discussion of the findings. The chapter then presents additional findings obtained in the study. Finally, the chapter provides some implications for reading instruction in Saudi Arabia, the conclusion of the study, and recommendations for further research.

Summary of the Study and Discussion of Findings

The purpose of this study was to examine and determine how often EFL Saudi learners in public universities use reading strategies to aid their comprehension when reading English texts. It also aimed at investigating the relationship between the use of reading strategies and level of reading comprehension. Finally, the study aimed at exploring other factors that might affect Saudi students' EFL reading comprehension.

Both quantitative and qualitative research methodologies were employed to collect the data for this study. The quantitative data were collected through a Reading Strategies Questionnaire (RSQ) that was completed by 140 Saudi students in four Saudi public universities and colleges. Qualitative data were collected through structured interviews consisting of two open-ended questions. Finally, students' comprehension was

measured by using a retired version of the TOEFL reading test, which consisted of two passages; 14 comprehension questions were asked on both passages.

The study was conducted in four major Saudi universities and teachers' colleges: King Abdul-Aziz University, King Faisal University, Jeddah Teachers' College, and Al-Ahsa Teachers' College. The entire sample of the study was 160, and 140 respondents completed the questionnaire and the test. The overall response rate was 87.5%. The results of the study suggest that EFL Saudi learners are strategic readers. They almost always use every type of reading strategies included in the questionnaire (planning, attending, evaluating). This result was obtained after answering the first research question ("What reading strategies are mostly used by Saudi EFL learners in Saudi public universities?"). Further, it was found that Saudi students showed a greater disposition to use planning strategies than attending and evaluating strategies. However, the qualitative data, obtained to answer the third question, revealed that Saudi students perceive strategies that they employ while reading (attending strategies) as having the greatest impact on their comprehension.

These findings confirm those of Al-Nujaidi (2003) and Al-Seweed (2000). Al-Nujaidi (2002) found that EFL Saudi learners reported using most reading strategies with high and moderate frequencies. He also concluded that Saudi learners reported a significantly more frequent use of problem-solving strategies. To read: Al-Seweed's (2000) findings suggested that both high and low proficiency Saudi students used a range of reading strategies: word-solving strategies, contextual and morphological guessing, appealing for assistance (asking someone and using the dictionary,), and skipping. These

findings imply that more attention on the part of EFL teachers should be given to improve these strategies to enhance students' ability to utilize them in different reading contexts.

With regard to research question two ("Do reading strategies (planning, attending, and evaluating) predict Saudi EFL learners' reading comprehension?"), the results of the multiple regression analysis showed that none of the reading strategies types had the ability to predict students' comprehension level. This finding does not mean that high-comprehension level students are not strategic readers, however; it implies that the opposite is not always true. The use of reading strategies does not guarantee a high level of comprehension because some other factors may be considered as well.

As noted above, this finding from question two implies that there seems to be no simple or linear relationship between the use of reading strategies and reading comprehension. This goes along with the findings of Carrell, et al. (1998), Brantmeier (2000), Anderson (1991), and Madkhali (2005). After enumerating several early case studies on differences in the strategies used by high- and low-ability readers, Carrell, et al. (1998) maintained that these differences are not fixed. Brantmeier (2000) also found no relationship between the types of strategies that second-language learners' use and their level of reading comprehension. In addition, Anderson (1991) found that no specific strategies were related to successful reading comprehension. His study also showed that no specific strategy, or groups of strategies, contributed more to students' successful comprehension of the texts. Finally and more recently, Shaikah, (2005) has found that even training Saudi students on the use of reading strategies does not significantly

improve their reading comprehension. All these findings indicate that the use of reading strategies (as reported by learners) does not always result in successful reading comprehension.

The qualitative results obtained to answer the third question "How does Saudi students' perception of reading for comprehension contribute to understanding their use of reading strategies?" revealed that Saudi students perceived other factors as having a greater effect on their reading comprehension. Factors such as prior knowledge (schemata), enthusiasm for reading, time on task, purpose for reading, and vocabulary size were mentioned during interviews as having crucial effects on students' comprehension.

Fifty percent of the Saudi students mentioned that they do not read unless it is required; "We are a nation that does not read," one of the interviewees said at the end of the interview. This finding reflects Al-Nujaidi (2003) finding on reading among Saudi students that extensive reading was an unpopular activity among EFL learners in Saudi Arabia. He asserts that the majority of Saudi students do not voluntarily read English materials outside of class.

This is a serious problem because enthusiasm for reading is a very important characteristic of good readers. Cheng's (1998) findings indicated that sociocultural factors influence participants' reading purposes and their use of different reading strategies. Students who do not develop enthusiasm for reading in both L1 and L2 might face serious challenges. They might lack the ability to activate semantic and syntactic knowledge, recognize some rhetorical devices, obtain knowledge of text structure, learn

to use cues to predict meaning, and become aware of the variety of purposes for reading, and reading strategies, such as experimenting, hypothesizing, creating, and constructing meaning. Perhaps, most importantly, finding confidence in oneself as a reader may be difficult for those readers.

Prior knowledge (schemata) was the second factor Saudi students mentioned as affecting their comprehension. Sixty percent of the students referred to prior knowledge of the topic as an important factor affecting their comprehension. Some students mentioned that when they read they build structures (schemata) for the information to help them understand it. Others compare and contrast what they are reading with their previous knowledge. All 60% of the students reported that their knowledge of the topic determines how they approach reading it. Thirty percent of the students reported that they would quit reading if the topic was not interesting to them. This fact might affect students' scores on the TOEFL. Most of the passages on the TOEFL reading section are on different topics: scientific, political, technical, social, and academic. Saudi students, because they do not spend much time in free reading, find most of these topics boring and difficult to understand simply because they have no prior knowledge of them.

Another theme obtained from the qualitative data is the role of transfer. Forty percent of the students reported that they were familiar with reading strategies they use to read English texts, even before they started learning English. They mentioned that in the beginning it was difficult for them to transfer these strategies; however, with time and practice it became easier. Examples of strategies Saudi students found feasible to transfer were taking summaries, skimming, scanning, discussing with others, writing main ideas,

and asking questions. Some of the students mentioned that the only thing they adapted to when learning English was the orthographic system. These findings go along with Pritchard's (1990) and Tang's (2001). Both researchers indicated that bilingual students used the same reading strategies across languages.

Having a purpose for reading was also perceived as having a great effect on EFL Saudi learners' comprehension. Fifty percent of Saudi students reported that they usually do not start reading unless they have a purpose for the reading. They defined the reading purpose as to answer comprehension questions about the topic they are approaching. One female student said that she always anticipates and then writes the main idea of the reading based on her prior knowledge of the topic, skimming the content, and scanning of each reading section. She then writes some questions on the topic and starts reading, looking for answers. Other students mentioned that they continually ask questions while they are reading and write them in the margins.

These findings confirm Alsheikh's (2002) and Feng's and Mokhtari's conclusions. Al-Sheikh (2002) found that Saudi learners use more support reading strategies such as asking questions and translation. Feng and Mokhtari (1998) found that these supporting reading strategies are very popular among EFL learners. Finally, 40% of the Saudi students reported that the strategies they use depend on the information they are looking for; in fact, some of them said that they would tend to read paragraph by paragraph (slow reading) in order to get what they are looking for.

Additionally, Saudi students seem to value the time given for the task. Fifty percent of the Saudi students emphasized the importance of time given to finish the task

for achieving their comprehension goals. They insisted that they tend to take their time to understand and comprehend what they read despite how much time it takes. This point might also explain why Saudi students have scored the lowest on the TOEFL for the last four years (Educational Testing Services, 2007). Reading test scores on the TOEFL do not depend solely on students' comprehension; a major part depends on the students' ability to manage their time, with comprehension, to finish the task. Therefore, Saudi students might not lack the knowledge and use of reading strategies, but they do lack time- management strategies. Although no items on the questionnaire ask about this strategy, it seems to be very important for educators to take this issue into consideration when teaching reading.

Finally, vocabulary size was also found to have a substantial perceived relationship with students' comprehension. Sixty percent of the Saudi students mentioned that their level of vocabulary affects their comprehension. They reported that they tend to translate words that they don't know because they feel anxious when reading something they don't understand. Only 10% said they would translate word by word, while 90% of the students reported that they translate what they think of as important for the overall understanding of the text.

What is interesting is the gender difference among students regarding using the internet for translation. Forty percent of female students reported that they frequently use the internet and online dictionaries to translate what they do not understand. One student mentioned that she translates a whole sentence or text to get its general idea before she returns to continue reading. On the other hand, 30% of male students perceived the

internet as a distraction that they would avoid. Differences in attitudes towards the role

of the internet in reading were not limited to translation but extended to evaluating

strategies. For example, 40% of female students would use the internet to find other

reviewers of the same topics and share their reviews with them. In contrast, 30% of male

students would avoid that for the fear that it would confuse them.

Lack of vocabulary size also affects students' eagerness about completing the

task. They noted: "I always worry if I do not understand many words" and "One day I

was reading an article on Political Science and I started crying in the middle of the task,

because it was full of terminologies that I did not understand" These statements revealed

the perceived importance of vocabulary size on reading comprehension, which also

confirms Al-Nujaidi's (2003) finding that there is a strong and significant relationship

between vocabulary size and comprehension level.

In conclusion, the findings of this study suggest that the use of reading strategies

does not help Saudi students improve their EFL reading comprehension. However, there

is mounting evidence that certain strategies are effective for improving L1/L2 reading

comprehension. The National Reading Panel report (2000) identified seven categories of

comprehension instruction that have solid evidence for their effectiveness on reading

comprehension. These seven include procedures that draw the reader into a deeper

engagement with the texts, such as comprehension monitoring, question generation and

question answering, the use of semantic organizers (students make graphic

representations of texts), summarizations, and understanding story structures. These

procedures, that the National Reading Panel report suggests are effective, are to some

extent consistent with the comprehension methods Saudi students reported during the interviews. These findings imply that EFL teachers should not solely focus on teaching reading strategies to enhance students' comprehension. Other intervening factors, mentioned in this study, need their attention as well.

Discussion of Additional Findings

Gender differences favoring female learners were evident in almost all analyses conducted in the current study. Significant differences were found favoring female students in overall strategy use, comprehension level, the use of evaluating strategies, self-regulation capacity, and emotional control ability. The average Saudi female student answered at least 9 questions correctly out of the 14 questions posed on the two passages.

Although there was no significant relationship between female students' high use of reading strategies and their high level of comprehension (compared with male students), qualitative data showed that female students used more additional diverse strategies to aid their comprehension than male students did. Saudi female students employed modern technologies, such as the internet and online dictionaries, to help them minimize time spent on translation and to discuss their understandings with a wide range of people around the world. In contrast, male students perceived using the internet while reading any English text as a distraction and a waste of time.

In addition, Saudi female students' self-regulatory capacity surpassed male students'. Female students seem to have better control of their emotional factors. This means that, in addition to being superior in using a variety of reading strategies types (question three), female students focused on the quality of these strategies. These findings

imply that EFL educators in Saudi Arabia must consider these gender differences when planning for reading curriculum and instruction.

Implications for Reading Instruction in Saudi Arabia

Although the findings of this study suggested that strategy use does not help in improving comprehension, EFL teachers can still help students improve the effectiveness of reading strategies use. They can develop exercises that elicit information using some targeted strategies. These exercises can be divided by the stage of reading at which they occur (before, during, after).

In before-reading activities, teachers introduce students to a particular text, elicit or provide appropriate background knowledge, and activate necessary schemata. During these activities, students can discuss text type, brainstorm, review familiar stories, skim and scan (for structure, main points, and future directions). EFL teachers should also provide EFL learners with instruction opportunities to use essential reading strategies such as purposeful reading. They need to make the purpose of reading clear to their students. Whenever possible, using task-based instruction, this purpose should be informational (Long & Crookes, 1992); students read to do something with the information in the text. EFL teachers may also use online reading materials and electronic texts that may emphasize the concept of purpose for the readers.

During-reading activities might include guessing word meanings by using context clues, word formation clues, or cognate practice. Finally, after-reading activities help check students' comprehension and then lead students to a deeper analysis of the text.

In addition, EF'L teachers should emphasize vocabulary learning at all levels. This does not mean that vocabulary should be the only focus of language instruction; however, given the impact of vocabulary knowledge on other language skills, vocabulary instruction should warrant more attention, especially at early stages. All possible vocabulary-learning techniques and materials, including graded readers, wordlists, vocabulary cards, definitions, and all pedagogically sound vocabulary activities, should be efficiently utilized to expand Saudi EFL learners' vocabulary size as early as possible in their education.

Finally, extensive reading is recognized for its role in expanding readers' vocabulary and developing appropriate reading strategies and skills (Al-Nujaidi, 2003). Research findings suggest that successful extensive reading programs should have the following characteristics: students read large amount of material (Renandya, Rajan, & Jacob, 1999); students usually choose what they want to read (Richards, Thatcher, Shreeves, Timmons, & Barker, 1999); reading materials vary in terms of topic and genre (Renandya & Jacobs, 2002); the material students read is within their level of comprehension (Renandya & Jacobs, 2002); students usually take part in post-reading activities; teachers read with their students, thus modeling enthusiasm for reading (Campbell, 1989); and teachers and students keep track of students progress. Extensive reading is found to offer many advantages such as: enhanced language learning in spelling, vocabulary, grammar, and text structure; increased knowledge of the world; improved reading and writing skills; greater enjoyment of reading; more positive attitude toward reading; and higher possibility of developing a reading habit (Day & Bamford,

1998; Krashen, 1993; Nation, 1997). However, this important language activity seems neglected among EF'L learners admitted to English programs in Saudi Arabia..

Therefore, EFL reading teachers at every level should encourage their students to do extensive reading by assigning balanced amounts of outside readings. Using academic incentives like extra credits, reading teachers can make sure that assigned materials are read in whole. Apart from instructing EFL learners on important vocabulary items and the use of certain reading strategies, reading classes should only be spent on intensive reading activities and discussion of extensive reading assignments. Extensive reading is believed to provide students with opportunities to apply the skills and strategies they usually learn from intensive reading instruction (Carrel1 & Carson, 1997).

Developing reading skill should be the objective of all EFL programs in Saudi Arabia. Reading materials, using graded readers that have a vocabulary and reading fluency focus, such as Scholastic ELT and Oxford Bookworms, help in building students' vocabulary and reading fluency (Nation, 2001). They could be used as serious supplements to the EFL curriculum.

Conclusion

The current study aimed at exploring the use of reading strategies among Saudi EFL learners; investigating to what extent the use of these strategies affects students' reading comprehension; and exploring other intervening factors that might affect Saudi students' EFL reading comprehension. The study employed both quantitative and qualitative methods to gain information about Saudi students' perceived use of reading strategies as well as their comprehension level. Although they seem to be potentially

strategic readers, Saudi EFL learners' comprehension level does not depend solely on the use of reading strategies. Prior knowledge (appropriate schemata), enthusiasm for reading, time on task, purpose for reading, and vocabulary are significant factors that contribute much to the final comprehension. Therefore, the study suggests that EFL educators in Saudi Arabia focus more on these factors in planning their reading curriculum and instruction. The study also recommends that reading instruction should supplement students with sufficient and balanced extensive reading activities.

Limitations of the study

The major limitations of the current research are as follows:

1. This study obtained data from four major Saudi universities and teachers' colleges. Although the researcher tried to obtain a representative sample by assigning the same number of students from different academic levels, much caution should be exercised when generalizing its results without considering the sample characteristics.

2. The fact that universities and teachers' colleges did not provide equal number of participants from each academic level prevented the researcher from being able to see if the strategy use makes difference by grade level. Future studies might seek a sample that contains participants from each academic level at each institution.

3. The participants' comprehension level was measured by using a TOEFL reading test. This test might not be an accurate indicator of students' comprehension level.

Other studies might employ oral recall techniques and oral comprehension questions to gain more and accurate knowledge of students' comprehension.

4. This study employed a new strategy questionnaire which was designed based on the five components of self-regulation. To the researcher's knowledge, this study was the first one to use such a questionnaire to test the relationship between strategy use and EFL reading comprehension. Although the instrument turned out to be highly reliable in this study, it might need more investigation and improvement to strengthen its reliability and validity. Like any other strategy survey, this questionnaire did not measure actual use of strategies; it only measures perceived importance of strategy use.

Recommendations for Further Study

The following are suggested for further study:

1. The high perceived use of reading strategies shown in this study by EFL learners in Saudi Arabia should be subjected to more qualitative investigations. An awareness of reading strategies may not necessarily mean that Saudi EFL learners know how and when to use these strategies. A replication of the current study using think-aloud protocols in examining the reading strategies of EFL learners and recall tasks to measure students' comprehension will provide important and accurate details about the different aspects of EFL reading in Saudi Arabia.

2. The significant gender differences revealed by the current study in different reading aspects call for more investigations of the reasons behind the superiority of females' reading comprehension scores, strategy use, and self-regulation

capacity. Such investigations may also help educators understand some of the major causes behind the low reading comprehension scores of Saudi EFL male learners, compared with females.

3. The existing instrument indicates significant reliability. It is recommended that this study be extended to include students from the other Saudi universities.

4. Studies are recommended that will investigate the role of the internet and online reading in EFL reading comprehension.

5. More studies are recommended to investigate the effects of extensive free reading, prior knowledge of the topic, vocabulary size, and other factors on EFL Saudi learners' comprehension.

6. The topic of self-regulation and its effect on SL/FL acquisition should be explored in more studies.

7. Studies of self-regulation might focus on some of its components and their effects on the acquisition of the language four skills (listening, speaking, reading and writing).

REFERENCES

Abisamra, N. (2001). Teaching second language reading from an interactive perspective. Retrieved October 4, 2007, from http://nadabs11.tripod.com/reading/#1.

Addamegh, K. (2004). *EFL multiple-choice vocabulary test-taking strategies, and construct validity*. Unpublished doctoral dissertation, University of Essex, UK.

Aebersold, J., & Field, M. (1997). *From reader to reading teacher: Issues and strategies for second language classrooms.* Cambridge: Cambridge University Press.

Al-Akloby, S. (2001). *Teaching and learning English vocabulary in Saudi Arabian public schools: An exploratory study of some possible reasons behind students' failure to learn English vocabulary.* Unpublished doctoral dissertation, University of Essex, UK.

Al-Arfaj, N. (1996). *Factors causing reading difficulties for Saudi beginning students of English as a foreign language.* Unpublished doctoral dissertation. Michigan State University─East Lansing.

Alderson, J. C. (1984). Reading in a foreign language: A reading problem or a language problem? In J.C. Alderson & A.H. Urquhart (Eds.), *Reading in a foreign language* (pp.1-27). New York: Longman.

Al-Nujaidi, A. (2003). *The relationship between vocabulary size, reading strategies, and reading comprehension of EFL learners in Saudi Arabia.* Unpublished doctoral dissertation, Oklahoma State University─Stillwater.

Al-Samani, A. (1999). *Factors related to the reading difficulties of Saudi senior high school students in English as a foreign language.* Unpublished doctoral dissertation, University of Kansas─Lawrence.

Al-Seweed, M. (2000). *The effects of proficiency and training on the word-solving strategies of Arab EFL readers.* Unpublished doctoral dissertation, University of Essex, UK.

Al-Sheikh, N. (2002). *An examination of the metacognitive reading strategies used by native speakers of Arabic when reading academic texts in Arabic and English.* Unpublished doctoral dissertation, Oklahoma State University─Stillwater.

Anderson, N. (1991). Individual differences in strategy use in second language reading and testing. *Modem Language Journal, 75,* 460-72.

Anderson, R. C., & Pearson, P. D. (1984). A schema-theoretic view of basic processes in reading comprehension. In M. L. Karnil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research (*pp. 255-291). Mahwah: NJ, Ehrlbaum Associates.

Babbie, E. (1990). *Survey research methods.* Belmont, CA: Wadsworth Publishing.

Baker, L., & Brown, A. (1984). Metacognitive skills and reading. In M. L. Kamil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (pp. 353-394). Mahwah, NJ:Ehrlbaum Associates.

Barnett, M. (1988). *More than meets the eye: Foreign language reading: Theory and practice.* Tappan, NJ: Language in Education. (ERIC Document Reproduction Service No. ED305829).

Baumeister, R., & Vohs, K. (2004). *Handbook of self-regulation: Research, theory, and applications*. New York: Guilford Press.

Baumeister, R., Heatherton, T. , & Tice, D.(1994). *Losing Control: How and Why People Fail at Self-Regulation.* San Diego, CA: Academic Press.

Bensoussan, M. (1998). Schema effects in EFT, reading comprehension. *Journal of Research in Reading,* 21, 213-227.

Bernhardt, E. (1991). *Reading development in a second language: Theoretical, empirical, & classroom perspectives*. Norwood, NJ: Ablex Publishing Corporation.

Block, E. (1992). See how they read: Comprehension monitoring of L1 and L2 readers. *TESOL Quarterly, 26*, 319-343.

Brantmeier, C. (2002). Second language reading strategy research at the secondary and university levels: Variations, disparities and generalizability. *The Reading Matrix: An International Online Journal, 3* (2) (pp.1-14). Retrieved October, 20, 2007 from http://www.readingmatrix.com/current.html.

Braunger, J., & Lewis, J. (2006). *Building Knowledge Base in Reading*. Newark,DE: International Reading Association.

Breznitz, Z. (1997). Effects of accelerated reading rate on memory for text among dyslexic readers. *Journal of Educational Psychology, 89,* 289-297.

Brown, T., & Haynes, M. (1985). Literacy background and reading development in a second language. In H. Carr (Ed.), *The development of reading skills (*pp. 19–34). San Francisco: Jossey-Bass.

Bryman, A. (1988). *Quantity and quality in social research*. London; Boston: Unwin Hyman.

Campbell, R. (1989). The teacher as a role model during sustained silent reading

    (SSR). *Reading,* 23(3), 179-183.

Carrell, P. (1983a). Three components of background knowledge in reading

    comprehension. *Language Learning, 32,* 183-207.

Carrell, P. (1983b). Some Issues in studying the role of schemata, or background

    knowledge in second language comprehension. *Reading in a Foreign*

    Language, 1, 81-92.

Carrell, P. (1987). Content and formal schemata in ESL reading. *TESOL Quarterly, 21*

    (3), 461-481.

Carrell, P. (1989). Metacognitive awareness and second language reading. *Modern*

    Language Journal, 73, 121-13.

Carrell, P., Pharis, B., & Liberto, J. (1989). Metacognitive strategy training for ESL

    reading. *TESOL Quarterly, 23,* 647-678.

Carrell, P., & Carson, J. G. (1997). Extensive and Intensive Reading in an EAP Setting.

    English for Specific Purposes, 16, 47-60.

Carrell, P., Gajdusek, L., & Wise, T. (1998). Metacognition and EFL/ESL reading.

    Instructional Science, 26, 97- 1 12.

Carrell, P., Devine, J., & Eskey, D. (Eds.). (2000). *Interactive approaches to second*

    language reading. Cambridge: Cambridge University Press.

Cheng, C. (1998). *A descriptive study of reading strategies used by Chinese ESL*

    students from Taiwan, R. 0. C. Unpublished doctoral dissertation, University of

    Kansas─Lawrence.

Cheng, C. (2000). *The relationship between metacognitive factors and reading*

ability. Paper presented at the proceedings of the seventeenth conference on

English Teaching and Learning in the Republic of China, Taipei.

Chern, C. L. (1994). Chinese readers' metacognitive awareness in reading Chinese and

English. In N. Bird (Ed.), *Language and learning* (pp.401-421). Hong Kong:

Institute of Language in Education.

Clarke, M. (1979). Reading in Spanish and English. *Language Learning, 29,* 121-150.

Coady, J. & Huckin, T. (1997). *Second language vocabulary acquisition.* Cambridge:

Cambridge University Press.

Cohen, A. (1990). *Language learning: Insights for learners, teachers, and*

researchers. Boston: Heinle & Heinle Publishers.

Cohen, J. (1988). *Statistical power and analysis for the behavioral science .*

Hillsdale, NJ: Lawrence Erlbaum Associates.

Cook, V. (1992). Evidence for multi-competence. *Language Learning, 42,* 557-591.

Creswell, J. (2002). *Educational research: Planning, conducting, and evaluating*

quantitative and qualitative research. Upper Saddle River, NJ: Merrill/Pearson.

Cummins, J. (1980). The cross-lingual dimensions of language proficiency: Implications

for bilingual education and the optimal age issue. *TESOL Quarterly, 14*(2), 175-1

87.

Day, R., & Bamford, J. (1988). *Extensive reading in the second language classroom.*

Cambridge: Cambridge University Press.

Devine, J. (1983). ESL readers internalized models of the reading process. In J.

Handscombe, R. Orem, and B. Taylor (Eds.), *On TESOL '83 The Question of*

Control. Selected Papers from the Annual Convention of Teachers of English

to Speakers of Other Languages, Toronto. (ERIC Document Reproduction

Service No. ED275137).

Dillman, A. (2000). *Mail and internet surveys: The tailored design method.* New York:

Wiley & Sons, Inc.

Do¨rnyei, Z. 2001. *Motivational strategies in the language classroom.* Cambridge:

Cambridge University Press.

Ehrman, M. , Leaver, B., & Oxford, R. (2003). A brief overview of individual differences

in second language learning, *System 31*: 313–30.

Eskey, D. (1988). Holding in the bottom: An interactive approach to the language

 problems of second language readers. In P. Carrel, J. Devine, & D. Eskey

(Eds.) *Interactive approaches to second language reading* (pp.73-92). New

York: Cambridge University Press.

Educational Testing Services. (2007). *Test and score data summary for TOEFL internet-

based and paper-based tests*, Retrieved December 18, 2007 from

http://www.ets.org.

Faul, F., Buchner, A., Erdfelder, E., & Lang, A. (2008). G*Power. (Version 3.0.10)

[Computer software]. Germany: Keil University.

 Feng, X., & Mokhtari, K. (1998). Reading easy and difficulty text in English and

Chinese: Strategy use by native speakers of Chinese. *Asian Journal of English

language Teaching, 8,* 19-40.

Flavell, J. (1979). Metacognition and cognitive monitoring: A new era of cognitive

development inquiry. *American Psychologist, 34,* 906-911.

Fowler, F. (2002). *Survey research methods*. Thousands Oaks, CA: Sage

    Publications.

Garner, R. (1987). *Metacognition and reading comprehension.* Norwood, NJ: Ablex.

Glatthorn, A. (1998). *Writing the winning dissertation: A step-by-step guide*. Thousand

    Oaks, CA: Corwin Press.

Goodman, K. (1967). Reading: A psycholinguistic guessing game. *Journal of the*

    Reading Specialist, 6, 126- 135.

Goodman, K. (1971). Psycholinguistic universals in the reading process. In P. Pimsleur

    and T. Quinn (Eds.), *The psychology of second language learning* (pp.135-142).

    Cambridge: Cambridge University Press.

Goodman, K., (1994). Reading, Writing, and Written Texts: A Transactional

    Sociolinguistic View. In R.B. Ruddell, M.R. Ruddell, & H. Singer (eds.),

    Theoretical models and processes of reading. Newark, DE: International

    Reading Association.

Gough, P. (1972). One second of reading. In J. Kavanagh and I. Mattingly (Eds.),

    Language by ear and by eye (pp. 331-358). Cambridge, Mass.: MIT press.

Gough, P. (1984). Word recognition. In M. L. Karnil, P. Mosenthal, P. D. Pearson, & R.

    Barr (Eds.), *Handbook of Reading Research* (pp.225-253). Mahwah, NJ:

    Ehrlbaum.

Grabe, W. (1991). Current developments in second language reading research. *TESOL*

    Quarterly, *25*, (3), 375-406.

Grabe, W., Eskey, E., & Dubin, F. (1986). *Teaching second language reading for*

    academic purposes. Massachusetts: Addison-Wesley Publication Company.

Grabe, W., & Stoller, F. (2002). *Teaching and researching reading.* New York: Longman.

Haas, C., & Flower, L. (1988). Rhetorical reading strategies and the construction of meaning. *College Composition and Communication, 39,* 167-83.

Honsefeld, C. (1977). A preliminary investigation of the reading strategies of successful and non-successful second language learners. *System, 5*, 110-123.

Hosenfeld, C. (1979). Cindy: A learner in today's foreign language classroom. In: W.C. Born, (Ed.), *The foreign language learner in today's classroom environment*. Northeast Conference Reports (ERIC Document Reproduction Service No. ED 185 834).

Hsu, L. (2003). *A study of relationships between feeling of knowing about English reading strategy use and reading comprehension of Taiwanese college students.* National Changhua University of Education.

Johnson, P. (1 983). *Assessing reading comprehension.* Newark, DE: International Reading Association.

Kern, R. (1994). The role of mental translation in second language reading. *Studies in Second Language Acquisition*, *16*, 441-461.

Koda, K. (1988). Cognitive process in second language reading: Transfer of L1 reading skills and strategies. *Second Language Research*, *4*, 133–156.

Koda, K. (1990). The use of L1 reading strategies in L2 reading: Effects of L1 orthographic structures on L2 phonological recoding strategies. *Studies in Second Language Acquisition, 12,* 393–410.

Koda, K. (2005*). Insight into second language reading.* Cambridge: Cambridge University Press.

Krashen, S. (1993)*. The power of reading: Insights from the research*. Englewood, CO: Libraries Unlimited.

Kuhl, J., & T. Goschke. 1994. A theory of action control: Mental subsystems, modes of control, and volitional conflict-resolution strategies. In J. Kuhl and J. Beckmann (eds), *Volition and personality: Action versus state orientation.* Seattle, WA: Hogrefe & Huber.

Langer, J. (1982). The reading process. In A. Berger & H. A. Robinson (Eds.), *Secondary school reading: What research reveals for classroom practice* (pp. 39-52). New York: National Institute of Education.

Laufer, B. (1989). What percentage of text-lexis is essential for comprehension? In C. Lauren & M. Nordman (Eds.), *Special language: Form human thinking to thinking machines* (pp.316-323). Clevedon: Multilingual Matters.

Lightbown P., & Spada N. (1997). *How languages are learned*. New York: Oxford University Press.

Long, M. & Crookes, G. (1992). Three approaches to task-based syllabus design. *TESOL Quarterly, 26*, 27-56.

Madkhali, S. (2005). *Effects of training ESL Saudi female students on some reading strategies.* Unpublished dissertation, Ball State University─Muncie.

Martino, N. & Hoffman, P. (2002). An investigation of reading and language abilities of college freshmen. *Journal of Research in Reading, 25*, (3), 310-318

McDough, S. 1995. *Strategy and skill in learning a foreign language*. London:

Edward Arnold.

Mokhtari, K., & Reichard, C. (2002). Assessing students' metacognitive awareness of

reading strategies. *Journal of Educational Psychology, 94*, (2), 249–259.

Mueller, D. (1986). *Measuring social attitudes: A handbook for researchers and

practitioners*. New York: Teachers College Press.

Mushait, S. (2004). *The relationship of L1 reading and L2 language proficiency with the

L2 reading comprehension and strategies of Saudi EFL university students*.

Unpublished doctoral dissertation, University of Essex, UK.

Myers, M., & Paris, S. (1978). Children's metacognitive knowledge about reading.

Journal of Educational Psychology, 70, 680-690.

Nation, P. (1997). The language learning benefits of extensive reading. *Language

Teacher*, 21, 13-16.

Nation, P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge

University Press.

National Reading Panel. (2000). *Teaching children to read: An evidence-based

assessment of the scientific research literature on reading and its implications for

reading instruction*. Retrieved on 06, 2008 from:

http://www.nichd.nih.gov/publications/nrp/smallbook.cfm

Norris, J. & Hoffman, P. (2002). Phonemic Awareness: A complex developmental

process. *Topics in Language Disorders, 22,* 1-34.

Oppenheim, A. (1966). *Questionnaire design and attitude measurement*. New York:

Basic Books.

Oxford, R. 1990. *Language learning strategies: What every teacher should know.* New York: Newbury House.

Palincsar, A. , & Brown, A. (1989). Instruction for self-regulated reading. In L. B. Resnick & L. E. Klopfer (Eds.), *Toward the thinking curriculum: Current cognitive research* (pp. 19–39). Alexandria, VA: Association for Supervision and Curriculum Development Yearbook.

Pallant, J. (2005). *SPSS survival manual: A step by step guide to data analysis using SPSS.*, Milton Keynes, UK: Open University Press

Paran, A. (1996). Reading in EFL: Facts and fictions. *ELT journal, 50*, 25-34.

Paron, A. (1997). Bottom-up and top-down processing. In P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (pp.185-224). Mahwah, NJ: Ehrlbaum.

Perfetti, C. (1985). *Reading ability.* New York: Oxford University Press.

Pierce, B., 1994. The test of English as a foreign language: Developing items for reading comprehension. In C. Hill, & K. Parry (Eds.), *From testing to assessment: English as an international language* (pp. 39–60). New York: Longman.

Pressley, M. (2000). What should the comprehension instruction be the instruction of? In M. Karnil, P. Mosenthal, P. Pearson, & R. Barr (Eds.), *Handbook of reading research* (pp.269-284). Mahwah, NJ: Lawrence Erlbaum.

Pritchard, R. (1990). The effects of cultural schemata on reading processing strategies. *Reading Research Quarterly, 25*(4), 273-295.

Purcell-Gates, V. (1997). There's reading...and then there's reading . National Center for the Study of Adult Learning and Literacy, Retrieved November 20, 2007 from http://www. rdg. ac. uk/AcaDepts/cl/slals/buptdown. Htm.

Qian, D. (1999). Assessing the roles of depth and breadth of vocabulary knowledge in reading comprehension. *Canadian Modern Language Review, 56*, 282-238

Qian, D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective. *Language Learning, 52,* 513-536.

Rayner, K., & Pollatsek, A. (1989). *The psychology of reading*. Englewood Cliffs, NJ:Prentice-Hall.

Renandya, W. & Jacob, G. (2002). Extensive reading: Why aren't we all doing it? In Richards J.C. & Renandya W.A. (Eds.) *Methodology in language teaching: An anthropology of current practice* (pp. 295-302). Cambridge: Cambridge University Press.

Renandya, W., Rajan, B., & Jacobs, G. (1999). Extensive reading with adult learners of English as a second language. *RELC Journal*, 30(1), 39-61.

Richards, P., Thatcher, D., Shreeves, M., Timmons, P. & Barker, S.(1999). Don't let a good scare frighten you: Choosing and using quality chillers to promote reading. *Reading Teacher*, 52, 830-840.

Riding, R. and S. G. Rayner. 1998. *Cognitive styles and learning strategies: Understanding style differences in learning and behaviour.* London: David Fulton.

Rosenblatt, L. (1994). The transactional theory of reading and writing. In R.B.

Ruddell, M.R. Ruddell, & H. Singer (eds.), *Theoretical models and processes of*

reading. Newark, DE: International Reading Association.

Rumelhart, D. (1977). Towards an interactive model of reading. In S. Dornic (Ed.),

Attention and performance (pp. 573-603). Hillsdale, N.J.: Erlbaum.

Rumelhart, D. (1980). Schemata: The building blocks of cognition. In R. Spiro, B.

Bruce, and W. Brewer (Eds.), *Theoretical issues in reading comprehension* (pp.

33-58). Hillsdale, N.J.: Erlbaum.

Samuels, S. (1994). Toward a theory of automatic information processing in reading,

revisited. In R.B. Ruddell, M.R. Ruddell, & H. Singer (Eds.), *Theoretical models*

and processes of reading. Newark, DE: International Reading Association.

Samuels, S., (2002). Reading fluency: Its development and assessment. In Farstrup, E., &

Samuels, S. (Eds.), *What research has to say about reading instruction*.

Newark, DE: International Reading Association.

Samuels, S. , and Kamil, M. (1984). Models of the reading process. In M. L. Kamil, &

Stanovich, K. (Eds.), Towards an interactive-compensatory model of individual

differences in the development of reading fluency. *Reading Research Quarterly,*

16, 32-71.

Sarige, G. (1987). *Comprehension of academic texts in the mother tongue and in a*

foreign language. Unpublished doctoral dissertation, School of Education,

Hebrew University of Jerusalem.

Schmeichel, B. & Baumeister, R. (2004). Self-Regulatory strength. In R.

    Baumeister, & K. Vohs (eds.), *Handbook of self-regulation: Research, theory,*

    and applications (pp. 84-98). New York: Guilford Press.

Schmitt, N. (2000). *Vocabulary in language teaching.* Cambridge: Cambridge University

    Press.

Schunk, D. (1994). Self-Regulation of self-efficacy and attributions in academic settings.

    In D. Schunk, & B. Zimmerman (eds.), *Self-Regulation of learning and*

    performance: Issues and educational applications (pp. 75-96). Mahwah, NJ:

    Lawrence Erlbaum.

Sheorey, R., & Mokhtari., K. (2001). Differences in the metacognitive awareness of

    reading strategies among native and non-native readers. *System, 29,*431-449.

Smith, F. (1971). *Understanding reading: A psycholinguistic analysis of reading and*

    learning to read. New York: Holt, Rinehart and Winston.

Smith, M., & Glass, G. (1987). *Research and evaluation in education and the social*

    sciences. Englewood Cliffs, NJ: Prentice-Hall.

Stanovich, K. E. (1980). Towards an interactive-compensatory model of individual

    differences in the development of reading fluency. *Reading Research Quarterly,*

    16, 32-71.

Stanovich, K. (1991). Changing models of reading and reading acquisition. In L. Rieben

    & C. Perfetti (Eds.), *Learning to read: Basic research and its implications* (pp.

    19-31). Hillsdale, NJ: Lawrence Erlbaum.

Stevens, J. (1996). *Applied multivariate statistics for the social sciences*. Mahwah, NF:

    Lawrence Erlbaum Associates, Publishers.

Sudman, S., & Bradburn, N. (1982). *Asking questions*. San Francisco: Jossey-Bass.

Susser, B., & Robb, T. (1990). Extensive Reading Instruction: Research and

    Procedure. *JALT Journal, 12,* 161-185.

Tabachnick, B. and Fidell, L. (2007). *Using multivariate statistics*. Needham Heights,

    MA: Allyn & Bacon.

Taguchi, E, Gorsuch, G, & Sasamoto, E. (2006). Developing second and foreign

    language reading fluency and its effect on comprehension: A missing link. *The*

    Reading Matrix, 6, Retrieved December 12, 2007, from

    www.readingmatrix.com/articles/taguchi_gorsuch_sasamoto .

Tang, Y. (2001). *Self-reported strategy use while reading in English and Mandarin: A*

    study of four ESL students. Unpublished doctoral dissertation, University of

    Victoria, Canada.

Terry, P., Samuels, S., & Laberge, D. (1976). The effects of letter degradation and letter

    spacing on word recognition. *Journal of Verbal Learning and Verbal*

    Behavior,15(5), 577-585.

Trochim, W., & Land, D. (1982). Designing designs for research. *The Researcher, 1* (1),

    1-6.

Tseng,W., Dörnyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic

    learning: The case of self-regulation in vocabulary acquisition. *Applied*

    Linguistics, 27, (1), 78-102.

Upton, T. (1997). First and second language use in reading comprehension strategies of

    Japanese ESL students. *TESL-EJ,* 3 (A-3), 1-27.

Upton, T., & Thompson, L. (2001). The role of the first language in second language reading. *SSLA*, *23*, 469-495.

Van Duzer, C. (1999). Reading and the Adult English Language Learner. *ERIC Digest*. Washington, D.C.: National Center for ESL Literacy Education. Retrieved November 10, 2007 from http://findarticles.com/p/articles/mi_pric/is_199908/ai_1300289934.

Vygotsky, L. (1986). *Thought and language* (A. Kozulin, Ed.). Cambridge, MA: MIT Press.

Watkins, M. (2000). Monte Carlo PCA for parallel analysis. (computer software).

Weinstein,C. , Husman, J. and Dierking, D. (2000). Self-regulation interventions with a focus on learning strategies. In M. Boekaerts, P. R. Pintrich, and M. Zeidner (Eds), *Handbook of self-regulation*. San Diego: Academic Press.

Weir, C., & Urquhart S. (1998). *Reading in a second language: Process, product and practice*. UK: Addison Wesley Longman Limited.

Winne, P. and Perry, N.(2000). Measuring self-regulated learning. In M. Boekaerts, P. R. Pintrich, and M. Zeidner (eds*), Handbook of self-regulation*. San Diego, CA: Academic Press.

Wu, W. (2002). *Taiwanese junior high school students' metacognitive awareness in reading Chinese and English.* National Taiwan Normal University.

Yang, Y. (1996). *Comparison of reading strategies in L1 and L2*. Paper presented at the Fifth International Symposium on English Teaching, Taipei.

Young, D., & Oxford, R. (1997). A gender-related analysis of strategies used to process input in the native language and foreign language. *Applied Language Learning,*

8, 43-73.

Zeidner, M., Boekaerts M., and Pintrich P.(2000). Self-regulation: Directions and

challenges for future research. In M. Boekaerts, P. Pintrich, and M. Zeidner (eds),

Handbook of self-regulation. San Diego: Academic Press.

Zimmerman, B., & Schunk, D. (Eds.). (1989). *Self-Regulated learning and academic*

achievement: Theory, research, and practice. New York: Springer-Verlag.

APPENDIX A: READING COMPREHENSION TEST

Directions: In this section, you will read two passages. Each passage is followed by a number of questions about it. Choose the **best** answer: (A), (B), (C), or (D). Answer all questions about the information in a passage on the basis of what is <u>stated</u> or <u>implied</u> in that passage.

Passage 1

Rainforests circle the globe for twenty degrees of latitude on both sides of the equator. In that relatively narrow band of the planet, more than half of all the species of plants and animals in the world make their home. Several hundred different varieties of trees may grow in a single acre, and just one of those trees may be the habitat for more than ten thousand kinds of spiders, ants, and other insects. More species of amphibians, birds, insects, mammals, and reptiles live in rainforests than anywhere else on earth.

Unfortunately, half of the world's rainforests have already been destroyed. Scientists estimate that as many as fifty million acres are destroyed annually. In other words, every sixty seconds, one hundred acres of rainforests is being cleared. By the time you finish reading this passage, two hundred acres will have been destroyed! When this happens, constant rains erode the former forest floor, the thin layer of soil no longer supports plant life, and the ecology of the region is altered forever. Thousands of species of plants and animals are condemned to extinction and, since we aren't able to predict the ramifications of this loss to a delicate global ecology, we don't know what we may be doing to the future of the human species as well.

1. The word "relatively" in line 2 could best be replaced by
   (A) Temporarily
   (B) Typically
   (C) Comparatively
   (D) Extremely

2. According to the passage, more than half of all species of plants and animals
   (A) Live in twenty rainforests.
   (B) Live in several hundred different varieties of trees.
   (C) Live in areas where rainforest has been cleared.
   (D) Live in a forty-degree band of latitude.

3. What is the current rate of destruction?
   (A) One acre per minute.
   (B) One acre per second.

(C) One hundred acres per minute

(D) Two hundred acres per hour.

4. What is the meaning of the word "just" in line 4?

  (A) Fairly

  (B) Only

  (C) Correctly

  (D) Precisely

5. What will NOT happen if the rainforest continues to be cleared?

  (A) The land will be eroded by the rains.

  (B) Many species of plants and animals that depend on the rainforest will become extinct.

  (C) The future of the human species may be changed.

  (D) The rainforest will grow, but at a much slower rate.

6. The word "altered" in line 13 is closet in meaning to

  (A) Changed

  (B) Terminated

  (C) Harmed

  (D) Invaded

7. The word "this" in line 11 refers to

  (A) The destruction of the acres.

  (B) The reading of the passage.

  (C) The erosion of the forest floor

  (D) The constant rain.

Passage 2

Human memory, formerly believed to be rather inefficient, is really more sophisticated than that of a computer. Researchers approaching the problem from a variety of points of view have all concluded that there is a great deal more stored in our minds than has been generally supposed. Dr. Wilder Penfield, a Canadian neurosurgeon, proved that by stimulating their brains electrically, he could elicit the total recall of specific events in his subjects' lives. Even dreams and other minor events supposedly forgotten for many years suddenly emerged in detail.

The memory trace is the term for whatever is the internal representation of the specific information about the event stored in the memory. Assumed to have been made by structural changes in the brain, the memory trace is not subject to direct observation but is rather a theoretical construct that we use to speculate about how information presented at a particular time can cause performance at a later time. Most theories include the strength of the memory trace as a variable in the degree of learning, retention, and retrieval possible for a memory. One theory is that the fantastic capacity for storage in the brain is the result of an almost unlimited combination of interconnections between brain

cells, stimulated by patterns of activity. Repeated references to the same information support recall. To say that another way, improved performance is the result of strengthening the chemical bonds in the memory.

1. With what topic is the passage mainly concerned?
   (A) Wilder Penfield
   (B) Neurosurgery
   (C) Human memory
   (D) Chemical reactions

2. The word "formerly" in line1 could best be replaced by
   (A) In the past
   (B) From time to time
   (C) In general
   (D) By chance

3. Compared with a computer, human memory is
   (A) More complex
   (B) More limited
   (C) Less dependable
   (D) Less durable

4. The word "that" in line 2 refers to
   (A) The computer
   (B) The efficiency
   (C) The sophistication
   (D) The memory

5. According to the passage, researchers have concluded that
   (A) The mind has a much greater capacity for memory than was previously believed.
   (B) The physical basis for memory is clear.
   (C) Different points of view are valuable.
   (D) Human memory is inefficient.

6. According to the passage, the capacity for storage in the brain
   (A) Can be understood by examining the physiology.
   (B) Is stimulated by patterns of activity.
   (C) Has a limited combination of relationships.
   (D) Is not influenced by repetition.

7. All of the following are true of a memory trace EXCEPT that
   (A) It is probably made by structural changes in the brain.
   (B) It is able to be observed.
   (C) It is a theoretical construct.
   (D) It is related to the degree of recall.

APPENDIX B: MODEL ANSWERS

Passage 1

1. C
2. D
3. C
4. B
5. D
6. A
7. A

Passage 2

1. C
2. A
3. A
4. D
5. A
6. B
7. B

APPENDIX C : A SAMPLE OF INTERVIEW TRANSCRIPTION

Name:………….
Institution: King Abdul-Aziz University
Academic level: sophomore
Time: 5 p.m.
Date: Nov. 20, 2008
Place: King Abdul-Aziz University
………………………………………………………………………………………………

Interviewer: ……….., suppose that you have a reading task (a book, a chapter of a book, etc.) after which someone will examine your comprehension (understanding) of the materials you have read. I want you to tell me all what you will do since you decide that it is time to start reading, until you feel ready for your discussion.

Interviewee: *Usually When I get any chapter or book, first it depends on the topic. If the topic is familiar to me or if it is in my specialty, I find it easy and love to read it. But if the reading is not interesting, I find it boring! So, usually I read the title first and I try to know what does the title mean I discuss the title sometimes with my friends to guide me to the main idea, so after that I start having time, or I start reading the chapter page by, overview First I will overview all the chapter page by page by quick reading. The second I will start reading but it is slower than the first reading, it will be specific reading like scanning, … yeah I will start reading slowly and see the info. Sometimes I stop with some voc. because. I don't know what does it mean but I try to know the meaning from context of sentence it will help me sometimes to read it twice or third times to know what does this word mean. I give myself a lot of time to read it. Until I finish the reading like to discuss it with a lot of people all the people who I think they r intelligent or familiar with the topic everybody to know their reflection. I get their ideas and write them down in my notebook after that I try to be ready to discuss the book with my professor in my class or with anyone..I try to compare their understood with my understood. It is good because I prefer discussing with others to get the information deeper in mind not just memorizing and coping and pasting it. . Sometimes I read carefully or for specific information. Sometimes, I take much time on reading one or two pages, I try to read carefully so I do not go to other page if I do not understand the first. Also, sometimes I don't read some*

chapter if it is not related to my major but if I have to read or I have discussion in it I will read I t and understand it and be familiar with everything t... I think that's my way Sometimes I try to summery the article in one page or two page. *This is will help me in my discussion; this is first idea, second idea, etc. t focus It help me so much in my discussion and improve my reading... Next time when I read the same book or article I try to read my note and summaries. Thank you. That's it*

……………………………….. End of interviewee talking freely…………………

Interviewer: While you are reading, do you have some techniques to control your concentration and check your comprehension?

Usually when I'm reading something and   I finish reading, sometimes I understand the first part and try to understand the second part, I confuse the first part. Usually I will be skipped to the third part and then go back to the second part, Sometimes when I read I prefer to study alone. *this is my way in my whole life* because with ether people its distraction. *I prefer to study reading alone.*

………

Interviewer : So the environment plays a role in your comprehension?

 yes

Interviewer: Ok! how about factors. Do you feel bored while you are reading? Do you have ways of controlling these feelings?

Usually my feelings or my sympathy does not impact on my reading because I know I have to read this, I don't care about my living . I leave all things away . It does not impact on my education or reading because either y studying or nothing. But sometimes when people sit next to me its distraction.

………
…

Interviewer: From your answer, it's clear that u use some techniques before reading and some others while reading: Do u have some other specific things u do while reading

Usually I am using my pen to underline some voc and sentences I would like to memorize usually I like I said I'm using my pen, eyes because in Arabic language usually we read from right to left in English it's from left to right so I have to be familiar sometimes I use some snacks, drink juice yeah like this.

Interviewer : How about other factors that help you increase your original goal commitment, do you have a kind of control on them?

No! Only environment impacts me more.

Interviewer How about factors that control your mood, your self-encouragement: are you aware of them? Do you have such kinds of techniques to control and use these factors?

I think that my mood is OK since I read any book because if I have no good mood I will not read. But I don't think of my mood when I read because I ask myself either I read or nothing.

………

Second Main Question

Interviewer : From your own point of view, Which ones of the techniques you use : before reading, while reading or after reading have great effect on your comprehension?

I think the most impact….. The most impact is environment. I like to be in a nice place and the people around and in front you . And also the design of table if u sit in rest table chair it will fit my article ... Because sometimes I have quite area and it should be I have to have a lot of time to read and sometimes family issues is distraction if I have appointments.

Interviewer :let me clarify this: so do u say that what you do before reading affects your comprehension? In other words, is it the environment or other things u do while reading that have great effects on your comprehension?

I think the best impact on me is the language because during my reading the language sometimes because the last article was about case court or court case sorry because I am not familiar with the court and this is article is not related to me some times the language impact on me and also environment I put cell phone in silent mode to not distraction on. Yeah

Interviewer : So what you do during reading OR what you do before reading have great effect on your comprehension?

No, what I do during reading first, then the environment

…………………………………………………………………………………………………

Interviewer : OK! How about after you finish reading, do you have certain rituals or techniques to do ?

Yes! Sometimes I make summaries and outlines. I use these summaries and outlines to go back to the chapter or the book next time. So I don't have to read it again. I also ask some questions that I did not understand from my reading. I try to ask myself what else this book did not answer. Yeah ..so I can expand my learning and look for other books in my area.

Interviewer : Did you learn all these techniques in school ?

I think the methods that I use it when I read books because I was familiar with this b4 I did not get new way just a new way to read from left to write. Usually in Arabic I do the same.

Interviewer : Do you use the internet to help you in your reading?

NO, because I think the internet will waste my time. It is difficult. Usually when I read a book, I ask myself I'm the first person who read this book.

…………………………………………………………………………………………………

Color Guide
Green: Before reading strategies
Orange: While reading strategies
Dark Blue: After reading strategies
Red: lack of extensive reading
Olive Green: environment
Purple: Prior knowledge

Note

- Other direct questions were analyzed according to the specific answers the student gave for each question. There were no need to highlight these answers since they were very specific.
- When transcribing the interview, the researcher sometimes avoided transcribing some of the fillers such as 'ah', 'umm', 'Like', etc. Other than that, the researcher transcribed the interview exactly as it was (the reader might notice a lot of grammatical mistakes in the interviewee speech).

APPENDIX D : READING STRATEGIES QUESTIONNAIRE (RSQ)

Dear Saudi EFL student,

I am a doctoral student at Ohio University in the United States of America pursuing a degree in Reading and Language Arts. In partial fulfillment of the requirements of the degree Doctor of Philosophy of Education, I am conducting a study investigating the relationship between Saudi college-level students' use of reading strategies, their self-regulatory capacity, and their reading comprehension achievement in English as a foreign language. I would like to ask for your assistance in my study by taking the following reading test and filling out the questionnaire. The information obtained from this study is of vital interest and importance to educators and students and the teaching of English as a foreign language.

I appreciate your taking some of your valuable time to take the test and fill out the questionnaire, which will take 40-45 minutes to complete. Your responses will not be traced to you, and will remain completely confidential.

Tick (√) 1 if you STRONGLY AGREE with the statement.

Tick (√) 2 if you AGREE with the statement.

Tick (√) 3 if you PARTLY AGREE with the statement.

Tick (√) 4 if you SLIGHTLY DISAGREE with the statement.

Tick (√) 5 if you DISAGREE with the statement.

Tick (√) 6 if you STRONGLY DISAGREE with the statement.

STATEMENTS	6	5	4	3	2	1
	SA	A	PA	SLDA	DA	SDA
Before reading a text in English, I have special techniques to achieve my goals.						
Before I start reading, I believe I can overcome all comprehension difficulties.						
Before I start reading, I try to find a suitable environment.						
Before I start reading, I have special techniques to guess what the text will be about.						
Before I start reading, I know how to arrange the environment to make reading more enjoyable.						
I prefer to know what the text is about before I start reading it.						
While reading a text in English, I have special techniques to keep my concentration focused.						
While reading a text in English, I think						

my methods of controlling my concentration are effective.					
While reading a text in English, I have special techniques to prevent procrastination (delay of the task).					
I believe my methods of controlling procrastination are effective.					
When I feel stressed about reading, I know how to reduce this stress.					
During reading, I feel satisfied with the ways I eliminate boredom.					
While reading a text in English, I persist until I reach the goals that I make for myself.					
While reading a text in English, I never give up even when I feel stressed about the topic.					
While I am reading a text in English and I feel stressed about the topic, I cope with this problem immediately.					
When feeling bored with the topic while					

reading, I know how to regulate my mood in order to invigorate (stimulate) the process.					
While I am reading a text in English, I have special techniques to engage with the text.					
While I am reading, I have ways of judging how beneficial the new information is.					
After I finished reading, I feel satisfied with the methods I have used to reduce stress.					
After finishing reading, I feel satisfied about my comprehension of the text.					
After finishing reading, I can tell whether I comprehended the text or not.					
After finishing reading, I can easily judge the consistency of the new information.					
After finishing reading, I have special techniques to evaluate new learning.					
After finishing reading, I have special					

techniques to modify new learning.					
After finishing reading, I know how to check whether my reading strategies were effective.					
After finishing reading, I am able to discuss what I have learned from the reading with other people.					
After finishing reading, I believe that I know how to link new learning with my existing knowledge.					
After finishing reading, I believe that I can use new information to improve different aspects of my life (career, academic, etc.).					
I like to have a purpose in mind before I start reading.					
When I am reading and the learning environment becomes unsuitable, I try to sort out the problem.					
While I am reading, I am confident that I can overcome any sense of boredom.					
Once the pleasure of reading is gone, I					

easily become impatient with it.					
When I feel uncertain of my comprehension, I simply give up reading.					
I look for good environment before I start reading.					

Academic Level:

Age:

Gender:

Your participation is greatly appreciated.

Hashem A. Alsamadani

Ha233205@ohio.edu

Ohio University

APPENDIX E : A SAMPLE OF PERMISSION REQUEST LETTER

Dear English Department Chair at………,

I am a doctoral student in Reading and Language Arts program at the College of Education, Ohio University. Currently, I am working on my dissertation, which is on "The Relationship between Saudi EFL College-level Students' Use of Reading Strategies and their EFL Reading Comprehension. Therefore, I need to collect data using Saudi EFL college-level students.

I am writing this letter to ask for permission to use English Department students as subjects for my study. I do appreciate your help in my effort to fulfill my degree requirements.

Sincerely,

Hashem Ahmed Alsamadani

Ohio University

Athens, OH

Email: ha233205@ohio.edu
740-594419

APPENDIX F : IRB APPROVAL

OHIO
UNIVERSITY

Office of the Vice President
for Research

08E069

Office of Research Compliance
Research and Technology
Center 117
Athens OH 45701-2979

T: 740.593.0664
F: 740.593.9638
www.research.ohiou.edu

A determination has been made that the following research
study is exempt from IRB review because it involves:

Category   2   research involving the use of educational tests,
                      survey procedures, interview procedures or
                      observation of public behavior

Project Title: The Relationship between Saudi EFL College-Level Students' Use of
                Reading Strategies and their EFL Reading Comprehension

Project Director: Hashem A Alsamadani

Department: Teacher Education

Advisor: William Smith

Rebecca Cale   4/1/08
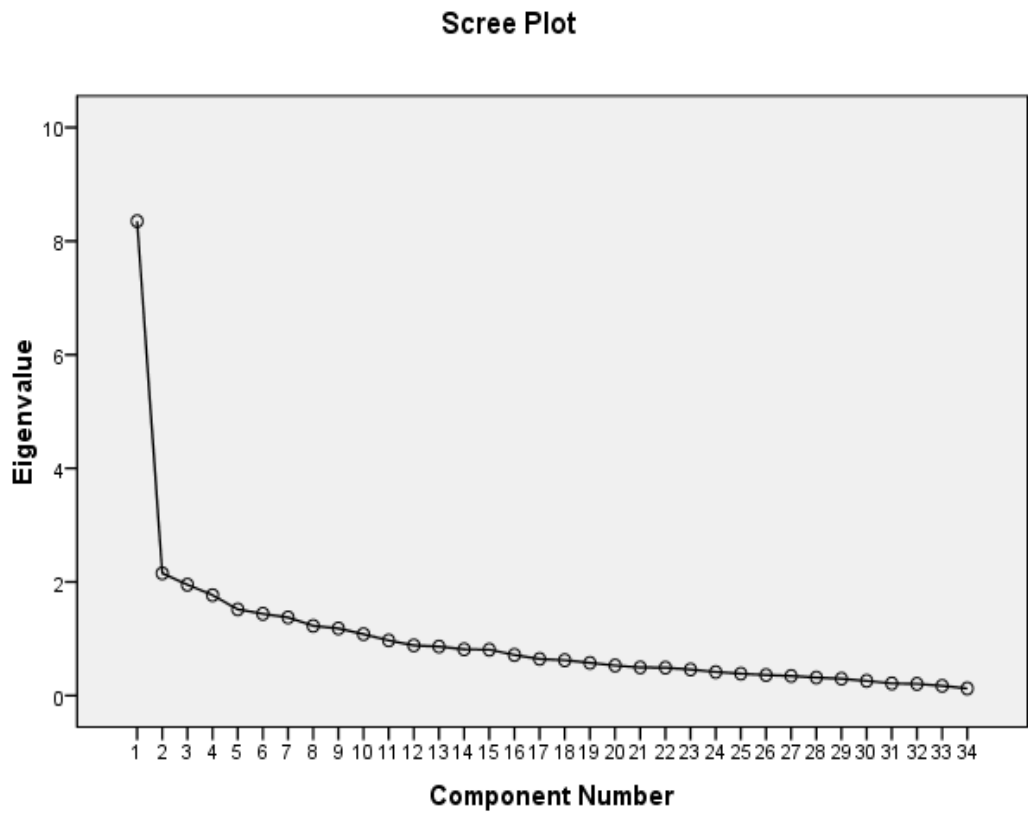
Rebecca Cale, Associate Director, Research Compliance   Date
Institutional Review Board

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any
additions or modifications to the project must be approved by the IRB (as an amendment) prior to implementation.

APPENDIX G : Screeplot

Scree Plot

APPENDIX H: ROTATED COMPONENT MATRIX

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Q025_E	.717			
Q023_E	.700			
Q024_E	.665			
Q022_E	.647			
Q026_E	.629			
Q020_E	.603			
Q018_A	.499	.411		
Q017_A	.484	.430		
Q027_E	.474			
Q015_A				
Q028_E				
Q02_P				
Q016_A	.436	.609		
Q011_A		.602		
Q05_P		.598	.435	
Q012_A		.587		
Q019_E	.482	.573		
Q08_A		.572		
Q09_A		.538		
Q010_A		.537		
Q013_A		.528		
Q07_A		.498	.473	
Q01_P		.489		
Q014_A				
Q03_P			.623	
Q029_P			.600	
Q04_P			.529	

Q06_P	.479	
Q021_E		
RQ033_A		.745
Q034_A		.650
Q031_A		.609
Q030_P		.571
RQ032_A		.497

Extraction Method: Principal Component Analysis.

 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

APPENDIX I : RESIDUAL STATISTICS (READING STRATEGIES TYPES)

Residuals Statistics(a)

	Min.	Max.	M	Std. Deviation	N
Predicted Value	7.46	9.27	8.53	.319	140
Std. Predicted Value	-3.35	2.33	.000	1.000	140
Standard Error of Predicted Value	.235	.937	.424	.134	140
Adjusted Predicted Value	6.80	9.47	8.52	.348	140
Residual	-6.535	5.286	.000	2.604	140
Std. Residual	-2.482	2.008	.000	.989	140
Stud. Residual	-2.536	2.039	.002	1.006	140
Deleted Residual	-6.820	5.617	.013	2.696	140
Stud. Deleted Residual	-2.588	2.063	.001	1.013	140
Mahal. Distance	.116	16.610	2.979	2.807	140
Cook's Distance	.000	.141	.009	.020	140
Centered Leverage Value	.001	.119	.021	.020	140

a Dependent Variable: CS

APPENDIX J : ITEMS DESCRIPTIVES

Means and Standard Deviations of Items (descending)

Items	M	SD
Before reading a text in English, I have special techniques to achieve my goals. (P*)	5.07	.902
Before I start reading, I try to find a suitable environment. (P*)	4.96	1.19
After finishing reading, I believe that I can use new information to improve different aspects of my life (career, academic, etc.). (A*)	4.91	1.08
After finishing reading, I can tell whether I comprehended the text or not. (E*)	4.82	1.00
Before I start reading, I have special techniques to guess what the text will be about. (P*)	4.80	1.27
I prefer to know what the text is about before I start reading it. (P*)	4.78	1.36
After finishing reading, I am able to discuss what I have learned from the reading with other people. (A*)	4.75	1.15
I believe that I know how to link new learning with my existing knowledge. (A*)	4.70	1.09
I like to have a purpose in mind before I read. (A*)	4.69	1.31
When I am reading and the learning environment becomes unsuitable, I try to sort out the problem. (A*)	4.67	1.36
After finishing reading, I feel satisfied about my comprehension of the text. (A*)	4.67	1.36
While I am reading, I am confident that I can overcome any sense of boredom. (A*)	4.65	1.18
After finishing reading, I can easily judge the consistency of the new information. (A*)	4.58	.981
After finishing reading, I know how to check		

whether my reading strategies were effective. (E*)   4.54   1.08

While I am reading, I have ways of judging how
beneficial the new information is. (P*)   4.53   1.18

I never give up even when I feel stressed about the topic. (A*)   4.52   1.12

While reading a text in English, I have special
techniques to keep my concentration focused. (A*)   4.52   1.12

After I finished reading, I feel satisfied with the
methods I have used to reduce stress. (P*)   4.50   1.26

Before I start reading, I know how to arrange the
environment to make reading more enjoyable.   (P*)   4.47   1.21

While reading a text in English, I think my methods
of controlling my concentration are effective. (A*)   4.40   1.10

While I am reading a text in English, I have special
techniques to engage with the text. (E*)   4.40   1.10

Before I start reading, I believe I can overcome
all comprehension difficulties. (P*)   4.34   1.15

While reading a text in English, I have special techniques
to prevent procrastination (delay of the task). (P*)   4.34   1.15

While reading a text in English, I persist until I reach
the goals that I make for myself. (E*)   4.34   1.15

After finishing reading, I have special techniques
to evaluate new learning. (P*)   4.32   1.19

When I feel uncertain of my comprehension, I simply
give up reading. (A*)   4.32   1.19

When I feel stressed about reading, I know how to reduce this stress. (A*)   4.27   1.12

While I am reading a text in English, I have special
techniques to engage with the text.   4.27   1.12

After finishing reading, I have special techniques
to modify new learning. (E*)   4.27   1.12

During reading, I feel satisfied with the ways I eliminate boredom. (E[*]) 4.19 1.21

When I feel stressed about the topic, I cope with
this problem immediately. (A[*]) 4.10 1.36

Once the pleasure of reading is gone, I easily
become impatient with it. (A[*]) 4.09 1.37

When feeling bored with the topic, I know how to regulate
my mood in order to invigorate (stimulate) the process. (A[*]) 4.01 1.28

I believe my methods of controlling procrastination are effective. (P[*]) 3.95 1.23

I look for good environment before I start reading. (A[*]) 3.62 1.55

P[*]: Planning Strategies　　　A[*]: Attending Strategies　　　E[*]: Evaluating Strategies

APPENDIX K : SCATTER PLOT OF REGRESSION STANDARDIZED PREDICTED

VALUES AGAINST REGRESSION STANDARDIZED RESIDUALS (SELF-

REGULATION FACETS) .

Scatterplot

Dependent Variable: CG
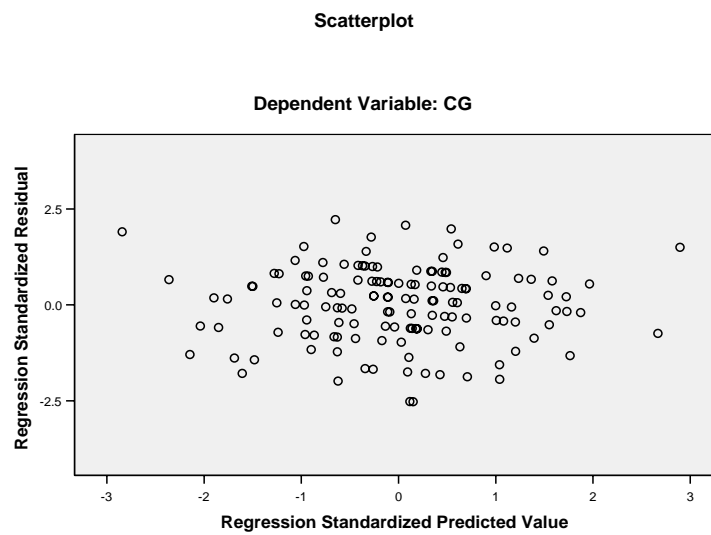
APPENDIX L : NORMAL P-P PLOT (SELF-REGULATION FACETS).

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: CG
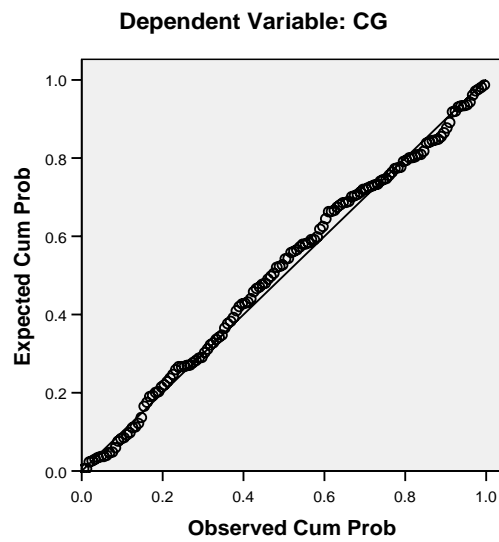
APPENDIX M : RESIDUAL STATISTICS (SELF-REULATION FACETS)

Residuals Statistics(a)

	Min.	Max.	M	Std. Deviation	N
Predicted Value	7.02	10.07	8.53	.532	140
Std. Predicted Value	-2.843	2.895	.000	1.000	140
Standard Error of Predicted Value	.241	1.133	.522	.144	140
Adjusted Predicted Value	5.87	10.17	8.52	.568	140
Residual	-6.608	5.817	.000	2.569	140
Std. Residual	-2.525	2.223	.000	.982	140
Stud. Residual	-2.588	2.265	.001	1.007	140
Deleted Residual	-6.940	6.132	.006	2.703	140
Stud. Deleted Residual	-2.645	2.301	.001	1.014	140
Mahal. Distance	.185	25.063	4.964	3.523	140
Cook's Distance	.000	.172	.009	.018	140
Centered Leverage Value	.001	.180	.036	.025	140

a Dependent Variable: CS

APPENDIX N : TOLERANCE AND VIF FOR REGRESSION FACTORS (SELF-

REGULATION)

Model	Tolerance	VIF
Environmental Control	.82	1.20
Commitment Control	.51	1.93
Satiation Control	.50	1.97
Metacognitive Control	.57	1.74
Emotional Control	.45	2.22