REPUBLIC OF TURKEY
DOKUZ EYLÜL UNIVERSITY EDUCATIONAL SCIENCES INSTITUTE
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DOCTORATE THESIS

EFFECTS OF A METACOGNITIVE READING PROGRAM ON THE READING ACHIEVEMENT AND METACOGNITIVE STRATEGIES

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Assoc. Prof. Dr. Feryal ÇUBUKÇU

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2010

YEMİN METNİ

Doktora tezi olarak sunduğum "Effects of a metacognitive reading program on the reading achievement and metacognitive strategies" adlı çalışmanın, tarafımdan bilimsel ahlak ve geleneklere aykırı düşecek bir yardıma başvurmaksızın yazıldığını ve yararlandığım eserlerin kaynakçada gösterilenlerden oluştuğunu, bunlara atıf yapılarak yararlanılmış olduğunu belirtir ve bunu onurumla doğrularım.

25/06/2010

Salim RAZI

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Tezin Tercümesi	Bilişüstü okuma stratejileri programının okumadaki başarı ve bilişüstü stratejiler üzerindeki etkisi
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Yayımlama İzni	☑ Tezimin yayımlanmasına izin veriyorum ☐ Ertelenmesini istiyorum

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LIST OF ABBREVIATIONS

4-S	Selecting, Skipping, Skimming, and Scanning
ACTIVE	Activating prior knowledge; Cultivating vocabulary; Teaching for comprehension; Increasing reading rate; Verifying reading strategies; and Evaluating progress
ANOVA	Analysis of Variances
CALL	Computer Assisted Language Learning
CALLA	the Cognitive Academic Language Learning Approach
CBI	Content-based instruction
CEF	Common European Framework
CPE	Certificate of Proficiency in English
CRI	Communicative Reading Instruction
EFL	English as a foreign language
ELL	English Language and Literature
ELT	English Language Teaching
ESL	English as a Second Language
ETR	the Experience-Text-Relationship method
FL	Foreign Language
FVR	Free Voluntary Reading
GED	General Educational Development
GPA	Grade Point Average
H	Hypothesis
L1	First Language
L2	Second Language
LAD	Language Acquisition Device
LASSI	the Learning Study Strategies Inventory
LEA	the Language Experience Approach
LLSs	Language Learning Strategies
LTM	Long-Term Memory
MARSI	the Metacognitive Awareness of Reading Strategies Inventory
MCQ	Multiple Choice Question
METRASTRAP	the Metacognitive Reading Strategy Training Programme
MRS	Metacognitive Reading Strategy
MRSQ	the Metacognitive Reading Strategy Questionnaire
MSLQ	the Motivated Strategies for Learning Questionnaire
MM	Multiple Matching
ÖSYM	Higher Education Council Students Selection and Placement Centre
RBI	the Reader Belief Inventory
RQ	Research Question
RSU	Reading Strategy Use
RT	Reciprocal Teaching
SCROL	Survey the headings; Connect; Read the text; Outline; and Look back
SILL	Strategy Inventory for Language Learning
SIOP	the Sheltered Instruction Observation Protocol

SMOG	Simple Measure of Gobbledygook
SORS	the Survey of Reading Strategies
SPSS	Statistical Package for Social Sciences
SQ3R	Survey, Question, Read, Recite, and Review
SSBI	Styles and Strategies-Based Instruction
STM	Short-Term Memory
TL	Target Language
TRI	Traditional Reading Instruction
UCLES	University of Cambridge Local Examinations Syndicate
wpm	Word Per Minute
YDS	Foreign Language Examination

ABSTRACT

Reading comprehension strategies which readers refer to make the process of reading easier gained specific attention by the late 1970s with the conclusion that readers who use effective reading comprehension strategies comprehend better than the others who do not. In this respect, the present study focused on metacognitive reading strategies which seem to be involved in a number of classroom cognitive activities such as planning, monitoring, and evaluating. Therefore, it aimed to investigate the impact of metacognitive reading strategy training programme (METARESTRAP) which was developed by the researcher of the present study, on the use of metacognitive reading strategies and reading comprehension.

A quasi-experimental pilot study was conducted at the Department of English Language Teaching (ELT) of Çanakkale Onsekiz Mart University (ÇOMU) with a number of 93 freshmen over the fall semester of the 2008-2009 academic year in Advanced Reading and Writing I Course. The quasi-experimental main study was conducted with a number of 46 preparatory class students at the departments of ELT and English Language and Literature of ÇOMU over the spring semester of the 2008-2009 academic year in Reading Comprehension Course. In both studies, pre and post tests of the reading test and Metacognitive Reading Strategy Questionnaire were administered and the six-week METARESTRAP was implemented.

The statistical data generated in this study demonstrated that METARESTRAP significantly improved learners' reading comprehension skills by outperforming the conventional reading instruction. Gaining awareness on metacognition along with declarative, procedural, and conditional knowledge about metacognitive reading strategies with the implementation of METARESTRAP turned out to be more efficient than the conventional reading instruction. It can be concluded that METARESTRAP worked well specifically for multiple matching type cohesion, coherence, text structure, and global meaning questions.

ÖZET

Bilişüstü okuma stratejileri programının okumadaki başarı ve bilişüstü stratejiler üzerindeki etkisi

Öğrencilerin okuma sürecini kolaylaştırmak için başvurdukları okuduğunu anlama stratejileri 1970'li yılların sonlarında, etkili okuduğunu anlama stratejilerini kullanan öğrencilerin bu stratejileri kullanmayan öğrencilere göre daha iyi anladıkları sonucuyla beraber dikkatleri üzerine toplamıştır. Bu bağlamda, bu çalışma, planlama, izleme ve değerlendirme gibi birçok sınıf içi bilişsel aktiviteyi içinde barındıran bilişüstü okuma stratejileri üzerine odaklanmaktadır. Bu doğrultuda, araştırmacı tarafından geliştirilmiş olan bilişüstü okuma stratejileri öğretim programının, bilişüstü okuma stratejileri ve okuduğunu anlama olan etkisi araştırılmıştır.

Çanakkale Onsekiz Mart Üniversitesi İngiliz Dili Eğitimi Anabilim Dalı 1. sınıfında öğrenim gören 93 öğrenci ile 2008-2009 akademik yılı güz yarıyılı boyunca İleri Okuma ve Yazma I Dersi'nde yarı deneysel bir çalışma yürütülmüştür. Aynı üniversitenin İngiliz Dili Eğitimi Anabilim Dalı ve İngiliz Dili ve Edebiyatı Bölümü'nde hazırlık sınıfı okuyan 46 öğrenciyle 2008-2009 akademik yılı bahar yarıyılı boyunca Okuduğunu Anlama Dersi'nde yarı deneysel bir çalışma yürütülmüştür. Her iki çalışmada da, ön ve son test olarak kullanılan bilişüstü okuma stratejileri anketi ve okuma testiyle birlikte, bilişüstü okuma stratejileri programı 6 hafta süreyle uygulanmıştır.

Bu çalışmadan elde edilen veri, uygulanan programın geleneksel okuma dersine oranla okuduğunu anlamayı önemli bir biçimde arttırdığını ortaya koymuştur. Stratejileri tanımanın, süreçleri ve koşullarıyla ilgili bilgi edinmenin yanı sıra, uygulanan programla üst biliş üzerine farkındalık kazanmak, yalnız başına okuduğunu anlama dersini takip etmekten daha etkili bulunmuştur. Buna göre, uygulanan program özellikle çoklu eşleştirme türündeki uyum, tutarlılık, metin yapısı ve genel anlamayı ölçen soruları çözmede başarılı olmuştur.

CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

This chapter starts with a brief discussion on basic principles of reading process and language learning strategies (LLSs) with a specific implication on metacognitive reading strategies (MRSs) which is followed by the purpose of the study, the research questions, and the hypotheses. The assumptions, delimitations, and limitations of the study are then given. Finally, this chapter outlines the organisation of the thesis.

1.1 BACKGROUND OF THE STUDY

A large variety of foreign language (for the purpose of the present study, the two terminologies 'foreign language', FL, and 'second language', L2, are used interchangeably) learners consider reading as a skill to be employed since it provides an access to written sources (Eskey, 2005). Besides, learners are supposed to learn more powerfully through reading than through listening to their teachers (McKeachie, 1999: 145). Moreover, learning to read is believed to be achieved more easily than the other three language skills (Chastain, 1988). Then, the question arises about the definition of reading and McKeachie indicates that for many people reading "is simply to pass one's eyes over the words"; however it is essential to be aware of the different aims between reading various types of texts. In this respect, it seems vital to refer to blind people who are unable to see but feel symbols kinaesthetically by using Braille. Although the term 'reading' covers the investigation of both seeing and blind people, it is beyond the scope of this present study to investigate blind people's reading process.

Although many varying definitions exist for reading, it may not be wrong to define it as an active cognitive system operating on printed material for comprehension (Chastain, 1988). As pointed out by Grabe and Stoller (2002), a single-sentence definition of reading is not always adequate to explain the complexity of the reading process; however their definition that accepts reading as the ability of drawing meaning from the printed page and interpreting this information appropriately gives a general idea about this complex process. As a result of this complex process, *discourse* is described as "the meaning which the reader constructs from the text during the reading process" (C. Wallace, 1992: 14). It should be noted that, a text may transmit different discourses at different times even to the same reader.

The skill of reading goes beyond the ability of simply recognizing letters and sounding them. The essential step in the skill of reading is the comprehension of the material. Relatively, Goodman (1988: 11) proposes two views on reading; with the first one he accepts it as "matching sounds to letters", and with the second one he indicates that it is a mystery, that "nobody knows how reading works". In a probable manner Goodman was under the sway of MacLeish (1968: 43) who asserted that "readers of all written languages are 'getting' sounds from the printed page". However, advances in recent reading research enable researchers to discover this mystery.

Barnett (1988) highlights the specific attention that reading comprehension strategies gained by the late 1970s and maintains that readers refer to some reading comprehension strategies to make the process of reading easier as readers who employ effective reading comprehension strategies comprehend better than the others who do not. M. L. Abbott (2006: 637) defines reading comprehension strategies "as the mental operations or comprehension processes that readers select and apply in order to make sense of what they read". In this respect, the present study will specifically focus on metacognitive strategies which seem to be involved in a number of classroom cognitive activities: comprehension, evaluation, reading, writing, and problem solving, among others.

However, the existence of metacognitive skills should not be taken for granted. As indicated by Berkowitz and Cicchelli (2004), they seem to be largely missing in very young learners. Nevertheless, this does not mean that they make no use of cognitive strategies. However, it simply indicates that they are not aware of them and do not apply them consciously. By the same token, they are far less able to monitor, evaluate, and direct their own learning. In most instances, they do not realize that there are strategies which make their learning process easier. As noted by Carrell, Pharis and Liberto (1989) it is possible for less component FL learners to improve their skills in the target language (TL) with the help of strategy training.

Hence, this study will implement the Metacognitive Reading Strategy Training Programme, hereafter will be called METARESTRAP, with advanced level English as a foreign language (EFL) readers to investigate whether the implementation makes any difference on their use of MRSs which would result in fostering their reading comprehension. In the shed of findings of this present study, it would be possible to explore whether it is possible to teach metacognitive reading strategies in classroom settings to EFL learners. The results will also indicate the probable impact of such strategy training programme on reading achievement. In case of contribution to the learners' reading achievement, then METARESTRAP may function as a model for reading teachers.

1.2 RESEARCH QUESTIONS AND HYPOTHESES OF THE STUDY

1.2.1 Research Questions

This study aims to answer the following main research question.

RQ Does METARESTRAP affect the use of metacognitive reading strategies and reading achievement?

The seven sub research questions are as follows with reference to the previous main research question.

RQ1 Is there a difference between reading comprehension scores of experimental and control group participants after the implementation of METARESTRAP?

RQ2 Is there a difference between metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ3 Is there a difference between analytic metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ4 Is there a difference between pragmatic metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ5 What are the most common metacognitive reading strategies employed by advanced EFL learners?

RQ6 Which metacognitive reading strategies are accelerated after the implementation of METARESTRAP?

RQ7 What is the impact of METARESTRAP on different types of reading comprehension questions?

1.2.2 Hypotheses

The study had the following main hypothesis related with the main research question. However, its pair as a null hypothesis is also provided.

H_a Experimental group participants will outperform control group participants in using metacognitive reading strategies and reading achievement after the implementation of METARESTRAP.

H_0 There will not be any significant differences in using metacognitive reading strategies and reading achievement of experimental and control group participants after the implementation of METARESTRAP.

The study also had four alternative hypotheses related with the first four research questions. However, their pairs as null hypotheses are also provided below.

$H1_a$ Experimental group participants will outperform control group participants in reading comprehension after the implementation of METARESTRAP.

$H1_0$ There will not be any significant differences between reading comprehension test scores of experimental and control group participants after the implementation of METARESTRAP.

$H2_a$ Experimental group participants will outperform control group participants in using metacognitive reading strategies after the implementation of METARESTRAP.

$H2_0$ There will not be any significant differences between metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H3_a$ Experimental group participants will outperform control group participants in using analytic metacognitive reading strategies after the implementation of METARESTRAP.

$H3_0$ There will not be any significant differences between analytic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H4_a$ Experimental group participants will outperform control group participants in using pragmatic metacognitive reading strategies after the implementation of METARESTRAP.

$H4_0$ There will not be any significant differences between pragmatic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

1.3 SIGNIFICANCE OF THE STUDY

The present study can be considered as reader-focused research since it regards reading as a process. Therefore, the aim is dealing with the strategies that readers employ in the process of reading. The first and the most important proponent of such studies can be indicated as Goodman (1967) who is known to be a

psycholinguist as he regards reading as a psychological process along with a language activity.

This study's chief objective is to reveal the impact of METARESTRAP on reading comprehension. However, this aim seems to depend on the other aim of the study which explores how the use of MRSs is affected by the implementation. Therefore, the present study will try to illustrate the interaction between the use of MRSs and reading comprehension.

This study aims to develop METARESTRAP; therefore the results may assist reading teachers whether to foster the use of MRSs or not in their classes. Moreover, the teachers may find it beneficial to implement METARESTRAP in their classes. Apart from METARESTRAP, the study will also provide detailed plans of reading classes appropriate to METARESTRAP. Along with the curriculum of METARESTRAP, the teachers will also be provided with sample texts by the help of which they may adapt their own reading materials.

One of the main objects of this present study is assisting reading teachers in their courses, specifically with poor readers. However, the findings of the study will contribute to the awareness of academicians who train English or other FL teachers on the subject matter of the interaction of MRSs and reading comprehension.

One of the other important subjects that the study deals with is the 'reading process' since the results of the study may help to understand it. The literature review of the study discusses this complex process in detail and the results of the study may assist to understand the process of reading better.

The present study intends to fill the gap in the field by not only developing METARESTRAP but also administering it to readers and reporting the results on the impact of it. This will contribute to the field of English Language Teaching (ELT) as reading teachers will be able to follow a specific metacognitive reading strategy training programme.

1.4 DELIMITATIONS AND LIMITATIONS OF THE STUDY

1.4.1 Delimitations of the study

This study includes the following delimitations.

1. Participants in this study were delimited to advanced level young adult undergraduate EFL learners of Çanakkale Onsekiz Mart University, in the western part of Turkey.
2. The number of participants in the pilot and main studies were different because of differences in the number of students in intact classes.
3. A number of 93 students participated in the pilot study whereas a number of 46 students participated in the main one. In addition to this, to check the reliability of the instruments, the reading comprehension test was administered to a number of 100 participants and the MRSQ was administered to a number of 205 participants who did not involve either in pilot or main study.
4. Participants in the study were volunteers.
5. METARESTRAP, the reading comprehension test, and the MRSQ were all administered in English which is not the first language (L1) of the participants.
6. METARESTRAP lasted for six weeks.

1.4.2 Limitations of the study

This study includes the following limitations.

1. Regarding the age of the participants, the results of the present study may not necessarily generalize to young, middle-aged, or elderly learners.

2. Regarding the proficiency of the participants in English, the results of the present study may not necessarily generalize to beginners, pre-intermediates, and intermediates.

3. Regarding the setting and the participants of the present study, the results may not necessarily generalize to students in different contexts of various countries with divergent cultures.

4. Regarding the language of the implementation, the results of the present study may not necessarily generalize to learners of other FLs.

1.5 ASSUMPTIONS OF THE STUDY

The assumptions of this study are:

1. The participants were native Turkish speakers who did not use English as a communicative tool and pursued BA degrees related with the content area of English either in ELT or English Language and Literature (ELL) departments.

2. The participants honestly responded to the MRSQ.

3. The participants answered the questions in the reading comprehension test faithfully and sincerely.

4. Experimental group participants were eager to follow METARESTRAP.

5. Participants' proficiency in English improves as they move from English preparatory class to freshman class.

6. The variables which cannot be controlled affected experimental and control groups in the same way.

1.6 ORGANISATION OF THE THESIS

This thesis has been organized into six chapters. 'Chapter One' provides some basic literature on both *the process of reading* and *metacognitive reading strategies*. It then presents the research questions of the study along with their alternative and null hypotheses. The first chapter also proposes delimitations, limitations, and the assumptions of the study. It finally describes the organisation of the thesis.

'Chapter Two' discusses *the skill of reading* in detail by summarizing the relevant literature on it. It first describes the language skill of reading and examines the complex process of reading with examples of different reading aims. The interaction between memory and reading is scrutinized and then it discusses the differences between intensive and extensive reading. Characteristics of efficient and inefficient readers are also examined. Metaphorical models of reading such as *top-down*, *bottom-up*, and *interactive* approaches are presented along with specific reading models. Also reading pedagogy will be considered on a variety of sources of psycholinguistic theories. The impact of background knowledge on reading comprehension is discussed with reference to schema theory. The chapter regards reading as a dynamic and interactive process where learners are expected to refer to their relevant schemata along with their goals in reading.

'Chapter Three' mainly aims to indicate how MRSs are related with the skill of reading. Therefore, after defining and categorizing LLSs, it describes reading strategies. Before, moving to MRSs, metalinguistic knowledge and metacognition are taken into consideration. Afterwards, MRSs are defined, categorised, and supported with relevant literature. Besides, the chapter also aims to explore instructing reading strategies; therefore, either single or multiple reading strategy instruction studies are presented along with MRS instruction studies. Finally, reading activities are taken into consideration in three categories namely pre, while, and post.

'Chapter Four' reports the methodology of the study by starting with a brief overview of the methodology that is generally used in the field of applied linguistics

research. Then it describes the methodology of the present study. It first deals with the pilot study where the aim is obtaining validity and reliability for the instruments to be used in the present study. Implications about the main study are drawn before presenting the methodology of the main study.

'Chapter Five' points out the findings of the experiments, aiming to seek answers for the five research questions of the study. It first introduces the research questions and the hypotheses of the study and then aims to answer these questions and check hypotheses in relevance with the collected data both through the pilot study and the main study.

'Chapter Six' discusses the findings of the study with reference to the findings in the previous chapter and aims to draw conclusions through these findings. Implications and suggestions for further research are also proposed.

1.7 SUMMARY

This chapter briefly discussed some basic literature on the receptive language skill of reading and the notion of MRSs. The basic definition of reading skill was presented along with an introduction into the process of reading. This was followed by LLSs where the focus was on MRSs. The purpose of the study was pointed out and followed by the research questions and hypotheses of the present study. The assumptions, delimitations, and limitations of the study were discussed in separate sections. Finally, the organisation of the thesis was submitted.

CHAPTER TWO

THE LANGUAGE SKILL OF READING

2.0 INTRODUCTION

This chapter aims to summarize the literature on the notion of *reading*. It first aims to deal with *literacy* by examining different types of it. Then the sophisticated language skill of reading is defined with examples of different reading aims. Afterwards, the interaction between human memory and reading will be taken into consideration in relevance to working memory as well as the short- and the long-term memories. The distinctions between intensive and extensive reading will be explained and followed by how reading skill is praised in various teaching approaches. The impact of lexis on reading comprehension will be addressed in relevance to corpus linguistics studies. This will be followed by the investigation of the Cognitive Academic Language Learning Approach (CALLA). Subskills of reading will be taken into consideration with reference to the characteristics of efficient and inefficient readers. Thereafter, metaphorical models of reading such as *top-down*, *bottom-up*, and *interactive* approaches are presented along with eight of the specific reading models with an emphasis on psycholinguistic guessing game model. The impact of background knowledge on reading comprehension is discussed with reference to top-down and interactive models. The differences and also similarities between reading in L1 and FL are presented. The characteristics of advanced readers are compared to the characteristics of novice ones. Not being able to receive the intended meaning is taken into consideration as short circuit in reading. Finally, the chapter aims to present ways of estimating the difficulty of texts by administering readability analysis.

2.1 LITERACY

The skill of *reading* is classified as a receptive skill along with *listening*; where their productive counterparts are listed as *writing* and *speaking* (Scrivener, 2005). Undisputedly, there are both similarities and differences between these two receptive skills of language which are examined under the headings of 'permanence', 'processing time', 'distance', 'orthography', 'complexity', 'vocabulary', and 'formality' by H. D. Brown (2001: 303-305). Moxley and Taylor (2006) indicate that along with listening; viewing, thinking, and multiple symbol systems assist someone to develop speaking skills. It is only after practising oral skills that sound patterns can be matched with print symbols.

For the purposes of this study, the term *reading* includes not only recognizing and decoding the letters and then producing the words that is called 'phonics' (Krashen, 2004: ix), but also comprehending them is regarded to be essential. Therefore, FL readers referred in this present study are required to be capable of reading comprehension. However, it is important to indicate that until 1980s reading classes involved reading aloud activities more than reading comprehension activities due to the fact that reading was a family entertainment after dinner (Fry, 1977a). Then it was very important to be able to read aloud correctly and frequently before the invention of radio and also television. Despite its popularity, reading a text aloud limited the time for readers. For instance, Fry exemplifies that it is possible to read 250 words per minute silently, however this ratio reduces to 150 in an oral-reading session for the same reader. Also reading aloud requires concentration on pronunciation of vocabulary which in turn prevents reading comprehension (Bartram & Parry, 1989; Lewis & Hill, 1985; C. Wallace, 1992).

Weinstein (2001) defines *literacy* as being proficient with the print of any language therefore readers who are able to develop literacy skills in their language are called *literate*. It should be noted that apart from the process of reading, literacy also covers the processes of writing, speaking, listening, viewing, and thinking (Moxley & Taylor, 2006) which are beyond the scope of this present study. Additionally, *biliterate* readers are proficient with print in two languages that differ

in their alphabet and Pickett (1986) maintains that their number is much less than bilinguals'. For example, any advanced Chinese learner of English is biliterate since Chinese and English use different alphabets. On the other hand, *nonliterate* or *illiterate* accounts for uneducated people who are unable to read. Noda (2003b) designates that such illiterate people are able to speak the language even though they cannot read it and concludes that reading is a learned skill. In this respect, Noda also highlights the impact of *functional literacy* which assumes that being a member of a literate society requires the ability of reading at some degree to perform main social communicative activities. Similarly, C. Wallace (1992) also discusses 'reading for survival' in which she indicates that for some instances reading might be considered as a matter of life and death such as signs on the road. Alternatively, Wells (1991) points out to *epistemic literacy* in which less proficient readers refer to their background knowledge, relate it with the text and interpret to make connections. Finally, the term *preliterate* refers to those whose society does not have a tradition with print. Nevertheless, Alderson (2000) reveals that being *literate* may have a tendency of differentiating from culture to culture. Then becoming literate can be regarded as either being introduced to a new culture, or expanding the existing one. Therefore, being literate in cultures may result in cultural learning.

2.2 DEFINITION OF READING

Reading was once considered the most essential language skill in language classes (N. J. Anderson, 1999a; Carrell, 1988a; Chastain, 1988; Grabe & Stoller, 2001; Rivers, 1981) since many English as a foreign language (EFL) learners rarely had the chance to speak English in their daily lives due to difficulties in travelling. Therefore, access to written sources functioned as such learners' basic skill for many years as there was no emphasis on oral communication skills. When the history of research on reading is considered, reading is originally encountered as a passive process which moves to an active one later on, and recently to an interactive one (C. Wallace, 2001). Moreover, it is not considered as a single-factor process (Nassaji, 2003), but also an active and fluent process by N. J. Anderson.

Due to the complexity of the process of reading, many single sentence definitions are unable to give a full account of it. However, there are, of course, some which deserve appreciation. A selection of these single-sentence definitions will be provided below along with multiple-sentence definitions.

C. Wallace (2001) regards reading as *practice*, *product* or *process* with reference to the field of study. She points out that when the skill of reading was studied in terms of *practice*, researchers regarded it as part of language behaviour and they refused to pay attention to the specific strategies used by readers. C. Wallace explains that *practice* has been taken into consideration by anthropologists and social psychologists where the aim is studying reading in daily life without dealing with education. On the other hand, *product* which is defined as the result of reading process by Alderson (2000) is interested in the structure and the message of the text. Finally *process* requires a detailed examination of readers in this continuing process where it is also necessary to reveal the reading strategies that they use to achieve meaning. Similar to this, Chastain (1988: 222) also examines *process* and defines it as "a system of operations in the production of something". In Chastain's definition, 'operation' points out the activities involved in reading. These activities help readers produce the language, in other words comprehend the text. He indicates that writer's intended meaning can be achieved by the activation of background and linguistic knowledge in readers' minds which enables them to recreate the meaning. In the next step, readers are expected to exceed the boundaries of the text by interpreting new information derived from the text. As opposed to such discussions, it might be interesting to note that reading is also regarded both as process and product by Badrawi (1992).

By defining reading as "the process of getting meaning from written language", Fry (1977a: 4) highlights the essential part of reading process. In another definition, Grabe and Stoller (2001) indicate that readers are thought to draw information from the printed page and combine it with the information and expectations that they already have. That is quite similar to their subsequent definition regarding reading as "the ability to draw meaning from the printed page and interpret this information appropriately" (Grabe & Stoller, 2002: 9). Although

Grabe and Stoller's definitions add the feature of 'interpretation' to Fry's, they indicate the inadequacies of their single-sentence definition due to four important reasons.

> First, it does not convey the idea that there are a number of ways to engage in reading. A reader has several possible purposes for reading, and each purpose emphasises a somewhat different combination of skills and strategies.
> Second, it does not emphasise the many criteria that define the nature of fluent reading abilities; it does not reveal the many skills, processes and knowledge bases that act in combination, and often in parallel, to create the overall reading comprehension abilities that we commonly think of as reading.
> Third, it does not explain how reading is carried out as a cognitive process that operates under intense time constraints; yet, these very rapid time-processing constraints are essential to understanding how reading comprehension works for the fluent reader.
> Fourth, it does not highlight how the ability to draw meaning from a text and interpret this meaning varies in line with the second language (L2) proficiency of the reader.
>
> (Grabe & Stoller, 2002: 9-10)

As Grabe and Stoller (2002) explain in the above quotation, the process of reading involves a variety of different tasks employed in human mind. To understand this complex process, one needs to visualize the interaction between the author of the text and its reader. To McKay (1986: 192), this interaction originates in two levels, namely 'linguistic' and 'conceptual'. She explains that readers' interaction with the text to decode its language is represented by the former one and the comprehension of the ideas presented in the text is represented by the latter one. McKay perpetuates to call attention to the interaction also between these two levels.

The skill of reading requires achieving either *literal* or *implied* meaning. H. D. Brown (2001: 310) points out that it is not possible to interpret all language properly with reference to its literal and surface structure. Therefore, this requires some specific demands from the reader. On the other hand, he indicates that implied meaning is believed to be derived from processing pragmatic information.

Fry (1977a) implies that the process of reading exists in the process of idea transfer between minds and there might be comprehension problems due to the author or the readers of the text. According to him, the author might be responsible for comprehension problems in case of ill-formed ideas; and the readers might be responsible for comprehension problems if they are experiencing difficulties in interpreting the ideas in the text due to their different thinking styles from the author. Although Fry does not refer to Bartlett's (1932) Schema Theory, it is possible to regard this as the mismatch of the author's and the readers' background knowledge.

In order to understand what kind of knowledge may cause such a mismatch, it might be efficacious to refer to Goodman's (1988) definition of reading. As he regards reading as a psycholinguistic process which starts with the writer's encoding of linguistic surface representation, only at the last step is the reader able to construct meaning intended by the writer. He indicates that whether productive or receptive there are three kinds of information in any language skill. Therefore, reading process is required to account for this information. The first information is indicated as the distinction between spoken and written languages in terms of continuum. The second one refers to the visual input in the process of reading where it is necessary for readers to adapt themselves a left-to-right, right-to-left, top-to-bottom or other characteristics of written language. Lastly, the third one highlights the interaction between memory and the process of reading in which it is essential to combine existing and new information.

Apart from Goodman's discrimination of knowledge, Hedge (2000) also identifies six types of knowledge which assist readers to achieve the meaning in a text. She first mentions *syntactic* and *morphological knowledge* which are related with the knowledge of English language. Then, she deals with *general world knowledge*, *sociocultural knowledge*, *topic knowledge*, and *genre knowledge* which are considered to be schematic knowledge. Hedge implies that such knowledge assists readers to constitute the dialogue with the text or the author (See 'Background knowledge' for more on schematic knowledge).

As reading is indicated to be a complex process (Goodman, 1988; Nassaji, 2003), Grabe (2003) points out the essential six steps which are necessary to extract the intended meaning from a text. His first step starts with the identification of the words powerfully. In the second step, it is essential to refer to a broad recognition of vocabulary. Readers comprehend by processing words and sentences in the third step and then associate strategic processes in the fourth one. The fifth stage provides readers to interpret reading with reference to their background knowledge. Finally, in the sixth stage readers evaluate the text by considering their aims in reading it.

2.3 PURPOSES OF READING

Among the others, reading is being defined as the most considerable academic language skill (Carrell, 1988a; Grabe & Stoller, 2001) as "[l]earning to read is foundation for literacy and a gateway to education" (Paris, Wixson & Palincsar, 1986: 91). The reason for the language skill of reading receiving a great deal of attention in FL classes is not a mystery. What makes it different from the other receptive language skill of listening is, the possibility of transmitting the ideas without requiring a face-to-face interaction even to overseas and even after centuries (Fry, 1977a). Rivers (1981) explains that many EFL learners do not have the chance of practising their oral skills with native speakers of English; on the contrary any EFL learner has the opportunity of finding a publication in the TL effortlessly. Similar to this, Richards and Renandya (2002) draw attention to the importance of reading in FL classes by highlighting two major reasons. Their first reason indicates that FL learners' most essential aim is fostering reading comprehension whereas their second reason points out that several pedagogical purposes served by written texts help reading receive this specific attention. Besides when learners are exposed to a great amount of TL through reading, it results in overall proficiency in the TL (N. J. Anderson, 1999b). Therefore, this serves to realise the goals of most FL learners. That is why N. J. Anderson (1999a) defines reading as the most important skill to master. In his 'pleasure hypothesis' Krashen (2004: 28) points out that "[i]f an activity promotes language acquisition, it is enjoyable. But enjoyment does not guarantee language acquisition". The application of this hypothesis into the process of reading may imply that reading is an enjoyable activity which results in

development in the TL. However, this is not a surprising result since learning is considered to be a matter of input not output by Krashen that comes from comprehension, not production. Nevertheless, despite its popularity, reading is considered to be the most troublesome way of gathering information for young learners (Quintrell, 1997).

At a glance, when the definition of reading is taken into consideration, the main reason to read can be considered simply as to receive information. However, Noda (2003a) maintains the insufficiency of this response and mentions people who read the same story for several times. Therefore, their reason in reading the same story for multiple times might be more than gathering information. According to her, in each reading, readers integrate the story with their experiences; and since experiences have a tendency to change, readers' interpretation of the text in different times can be different. That is what Mori (1995) calls as 'social dialog' where readers interact with the text individually by taking their background knowledge into consideration. It is in parallel with C. Wallace's (1992: 39) notions of reading as she points out that "[t]exts do not 'contain' meaning; rather they 'have potential for' meaning".

The first attempt of examining the reasons of reading mostly probably dates back to Rivers and Temperly's (1978) efforts on reading in daily life, with an implication on seven different categories. To them, the reason in reading a text might be firstly, gathering information or fulfilling curiosity; secondly, receiving instructions for executing some duties; thirdly, taking part in a game; fourthly, corresponding either in a formal or an informal style; fifthly, getting information about when and where an activity is taking place; sixthly, learning what is happening; and seventhly, just for pleasure. Although their first and sixth items in the list seem to overlap, their attempt deserves appreciation since they account for several different real life reading situations.

Real life reading might be different from classroom reading due to various text types; however, this does not prevent the possibility of turning any real life text to reading material for intensive reading classes under the guidance of a teacher. If

there is no difference between the original text and the one used in the class, then such texts are identified as *authentic* (Simenson, 1987). In a wider view, authentic texts are supposed to be written to convey a message as it is in authentic language use (Chastain, 1988). Apart from authentic texts, Simenson also mentions two other types namely *pedagogic* and *adapted*. The former refers to texts which are particularly developed to explore the language where the latter refers to real life texts which are adapted to control specific functions of the TL. In case of selecting pedagogic and adapted reading materials, care needs to be given since it is quite common to encounter unnatural samples of the TL in them (Hedge, 2000). Therefore, H. D. Brown (2001) recommends protecting the natural verbose style of authentic texts in simplification.

However, Harmer (2001) indicates two main reasons for reading as *instrumental* and *pleasurable* where the former represents reading to achieve some clear aim, and the latter refers to reading that takes place just for pleasure which is also called as *recreational reading* (Kottmeyer, 1947). Csikszentmihalyi (1991: 117) introduces the notion of 'flow' which he defines as the state human beings arrive in during the deep but effortless activities. When flow appears, there is a move from the real-life into the activity which may for example result in, forgetting the troubles in daily life while reading an interesting book. In this respect, Csikszentmihalyi identifies reading as "perhaps the most often mentioned flow activity". That is why selecting interesting texts is regarded as an essential component in reading classes (Chastain, 1988; R. Williams, 1986) either in instrumental or pleasurable reading.

To illustrate the differences among various types of readers, C. Wallace (1992: 3-4) gives examples of four different types of reading. The first one is "[a]n adult having a sight test at an optician's and asked to read a list of words" where reading implies simply identifying the words. The second one is "[a] child in class is shown a flash card with the word 'here' on it by the teacher" where reading is associated with decoding the text. In the third situation "[a]n Islamic religious leader asks a congregation of boys to read aloud the Koran" and C. Wallace entitles such reading as 'recitation' where readers decode the text with reference to some features on the page; however, this does not guarantee recognizing the same features in other

unfamiliar contexts. Finally, C. Wallace's fourth example is "[t]he owner of a new computer asks an experienced friend about the instructions in the manual" where reading can be regarded as interpreting meaning from the text. When the previous three examples are taken into consideration it can be concluded that they do not require extracting meaning from the text; however achieving meaning is essential in the fourth one.

2.4 READING PROCESS

Grabe and Stoller (2002) demonstrate the process of reading by indicating the basic steps involved in it. They examine reading comprehension under four subcategories namely as 'purposes for reading', 'definitional processes involved in reading', 'processing components of reading', and 'models of reading'. Although readers' purposes may differ for reading, each reader is required to have at least one purpose to get involved in reading. The title of *definitional processes* lists the characteristics of reading accounting for comprehension. The processing components of reading constitute two processes of *lower-level* and *higher-level* where the former deals with components such as *working memory activation*, whereas the latter deals with components such as *background knowledge* use. Reading models are displayed under two subcategories of *metaphorical* and *specific* models. Readers need to go through a process of understanding information in a text and interpreting this information appropriately. However, the ability of comprehending a text is not so simple. According to Grabe and Stoller, any process on its own is able to account for fluent reading which appears as a result of their combination altogether.

Background knowledge – also called as *schema* (plural *schemata*) – enables readers to make predictions for more successful interactions with the text and plays an essential role in that interpretation as successful interpretation depends to a large extent on shared schemata (Alderson, 2000). Chastain (1988) reveals that readers recreate the writer's intended meaning by activating their background and linguistic knowledge. This enables them to go beyond the text with the help of a variety of clues; therefore, they are able to see beyond the literal meaning of the words (Harmer, 2001).

As indicated by Nuttall (1996: 21), even a single sentence may have at least four kinds of meaning; such as *conceptual* that "a word can have on its own", *propositional* that "a sentence can have on its own", *contextual* that "a sentence can have only when in a context", and *pragmatic* that "a sentence has only as part of the interaction between writer and reader". Besides, to comprehend texts, readers are also expected to achieve either *literal* or *implied* meaning in texts. Implied meaning is supposed to be derived from processing pragmatic information (H. D. Brown, 2001). However, when texts are taken into consideration rather than simple sentences, C. Wallace (1992: 11) proposes three different ways on their examination namely *formal features*, *propositional meaning*, and *communicative function*. The first one refers to grammatical functions that connect sentences; the second one refers to the connection of ideas in a text; and finally the third one refers to the interpretation of the text both partly and as a whole.

Carver (1997) introduces five basic processes involved in reading and calls them as *reading gears*. Gear 5 starts with *scanning* and moves to *skimming*, *rauding, learning,* and finally ends with *memorising* in Gear 1. Readers are expected to administer one of the five basically different processes during reading. Carver identifies *rauding* as the most typical adult type of reading with comfortable texts such as magazines. He indicates that in such a natural reading process, readers comprehend at least %75 of the material they are reading where their reading speed is considered to be 300 wpm (word per minute). The average reading speed is regarded as a number between 200 and 300 wpm by Grabe (1999). Carver's average reading speed is slightly above Pickett's (1986) who identified the average reading rate for an adult as 250 wpm which is also identified as the lowest ratio for an educated native speaker by Mosback and Mosback (1976). In case of a slower or faster reading than Carver's 300 wpm, readers are supposed to employ various strategies such as scanning, skimming, learning, or memorizing as identified in Table 1. In this respect, Carver's reading gears can also be regarded as reading strategies. Table 1 below identifies the typical rates in each gear.

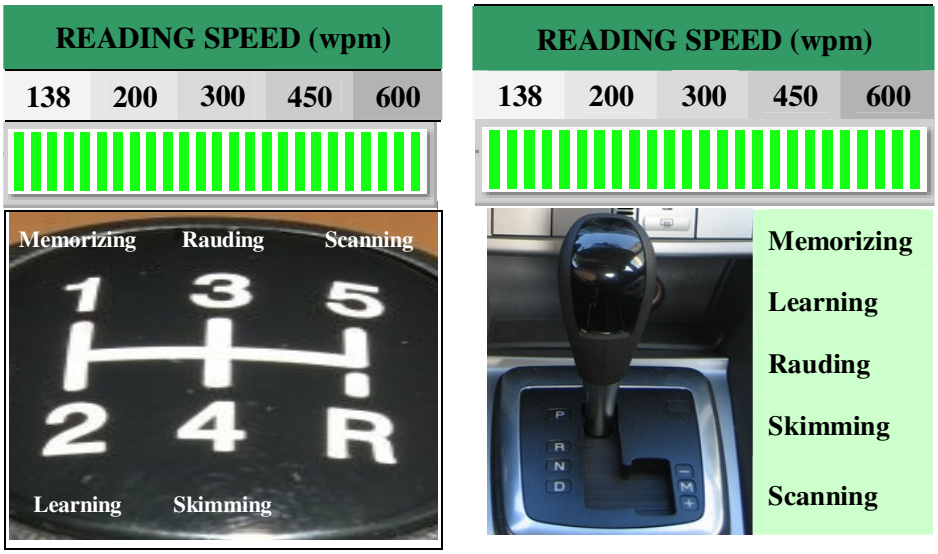
Table 1

Typical Rates of Each Gear (Source original, Adapted from Carver, 1990: 14)

Reading gears	Reading process	Processing components	Target wpm
Gear 5	Scanning	Lexical assessing	600
Gear 4	Skimming	Semantic encoding	450
Gear 3	Rauding	Sentence integrating	300
Gear 2	Learning	Idea remembering	200
Gear 1	Memorizing	Fact rehearsing	138

Figure 1

Illustration of Reading Gears (Source original, Based on Carver, 1990 & 1997)



Carver (1990 & 1997) indicates that readers maintain the process of reading by engaging in one of the strategies presented in Table 1. As Carver calls these strategies as gears, it would be reasonable to illustrate them associating with cars. The illustration that appears on the left hand column of Figure 1 reflects principles of a manual transmission car in which the driver is required to adjust the gears in accordance with the speed. On the other hand, the illustration on the right reflects the principles of an automatic transmission car in which the gears are adjusted automatically in accordance with the speed.

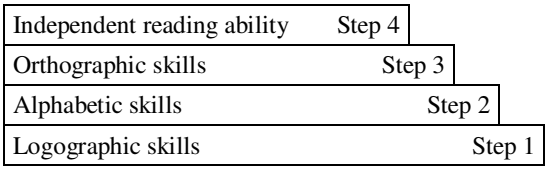
B. McLaughlin's (1987) *information processing* indicates *controlled* and *automatic processes* (See 'Memory and reading' for more on information

processing). The former appears when readers are unfamiliar with the forthcoming information whereas the latter appears when readers are maintaining in familiar situations which require less mental effort. When B. McLaughlin's information processing is applied to Carver's (1990 & 1997) reading gears, it will not be inaccurate to resemble controlled readers to manual transmission cars and automatic readers to automatic transmission cars. Controlled readers need to adjust their gears in accordance with their needs in reading the text. As they are conscious their process is rather slow. However, when automaticity develops, unconscious processes emerge allowing automatic adjustment of gears. Nara (2003a: 82) indicates that the notions of "attention, short-term memory, long-term memory, and consciousness constitute the core for automaticity". He explains that sensory registers detect crude information; decide whether it is important or not; and identify its type. Crude information is prone to be lost in case of delinquency. Moreover, if the information in the short-term memory (STM) is not transmitted to the long-term memory (LTM) it also disappears.

Commenting on Carver's (1997) gears in reading, N. J. Anderson (1999a) points out that a 200 wpm reading rate would be a realistic aim in FL reading classes. Similar to this, Frith's (1985) four-stage acquisition process involves essential steps in reading gradually. S. Razı (2004: 18) illustrates Frith's four-stage acquisition process in Figure 2.

Figure 2

Four-Stage Acquisition Process (S. Razı, 2004: 18 based on Frith, 1985)



According to Frith's (1985) four-stage acquisition process, first logographic skills are developed which allow readers to recognize familiar words as a whole. Secondly, alphabetic skills are acquired by recognizing individual phonemes with individual letters. The acquisition of orthographic skills is materialized thirdly by

identifying higher-level clusters of letters. Obler and Gjerlow (1999) refer to stage four and remark that it is not achieved by all readers. They maintain that reading appears as a distinctive skill different from oral language in this stage. In case of a failure in one of these steps, readers cannot jump to the next one.

2.4.1 MEMORY AND READING

The relationship between the concept of memory and the process of reading is demonstrated by Grabe and Stoller (2002: 18) in two ways. They first refer to various processes carried out simultaneously during reading which involve recognising words very rapidly, keeping them active in their working memories, and also analysing the structure of sentences. In this respect, analysing skills are identified as assembling "the most logical clause-level meanings, building a main-idea model of text comprehension in our heads, monitoring comprehension and so on". In case of slow decoding, readers' STMs are overloaded (Binkley, 1981). Grabe and Stoller secondly refer to the interaction between readers' activated background knowledge and linguistic information from the text. As background knowledge exists in the LTM, the interpretation of the text fundamentally requires both linguistic and background knowledge. In this respect, Chastain (1988) calls attention to the significance of converting information from the STM to the LTM; otherwise the information in the STM vanishes in a maximum of twenty-second period. Then such information needs to be processed to make the transfer possible (Pressley & Woloshyn et al., 1995). Taking all into account, general comprehension is considered to be taking a long time to master.

V. Cook (1991: 49) defines the STM as "the memory used for keeping information for periods of time up to a few seconds" and working memory as "the memory system used for holding and manipulating information while various mental tasks are carried out". However, Grabe and Stoller (2002: 18) point out that recently *working memory* and *the STM* are used interchangeably and they identify that the STM is integrated with the activated information "which involves the active use of cognitive processes such as recognising and storing word information, using

syntactic information, connecting pronoun references, building overall text structure, integrating and restructuring information, assessing inferences and adapting reader goals". Therefore, FL reading has been accused of overstraining the limited capacity of the STM (Kern, 1989). D. W. Carroll (1994) introduces *chunking*, a way of reducing the strain on the STM in which separate pieces of information are grouped into larger units that results in easiness in remembering. In the STM, the new information is analysed and then integrated with the existing one (Erten, 1998). Erten maintains that the duration of information in the STM depends on the way of presenting information as either visual or aural and demonstrates that visual information stays in the STM for two seconds where aural one stays for a longer period up to five seconds. Apart from the LTM, the STM is limited in its capacity and against time (G. A. Miller, 1956) and considered to be dynamic (D. W. Carroll, 1994). In this respect, repetition prevents the rapid fade of information as the mind works on various tasks while the STM processes information.

To understand the interaction between the STM and the LTM, it might be helpful to refer to B. McLaughlin's (1987) *information processing* in which *controlled* and *automatic* processes appear. Erten (1998) indicates that the former represents the processes in which learners are not familiar with the forthcoming information; however, the latter represents familiar situations which require less mental effort. B. McLaughlin indicates that once learned, it is not easy to alter automatic processing since it occurs quickly. However, he also implies that controlled processing is not a learned response. McDonough (2002: 70) maintains that "information processing is independent of the issue of conscious awareness".

Reading processes constitute of *lower-level* and *higher-level processes* (Grabe & Stoller, 2002: 20). The former deals with more automatic linguistic processes that are more skills-oriented; and the latter deals with the processes based on comprehension that make more use of readers' background knowledge and inferencing skills. To Grabe and Stoller, lower-level processes are supposed to include 'lexical access', 'syntactic parsing', 'semantic proposition formation', and 'working memory activation' whereas higher-level processes include 'text model of

comprehension', 'situation model of reader interpretation', 'background knowledge use and inferencing', and 'executive control processes'.

2.5 INTENSIVE AND EXTENSIVE READING

Classroom reading performance is classified in two groups of *oral* and *silent* reading (H. D. Brown, 2001: 312) and the latter is separated into two subcategories of *intensive* and *extensive*. In this subcategorization, the former constitutes of *linguistic* and *content*; whereas the latter constitutes of *skimming*, *scanning*, and *global*.

Chastain (1988) points out that the difference between bottom-up and top-down models of reading is actually attributed to the difference between *extensive* – also called *fluent* or *gist* (Rivers, 1981; Scrivener, 2005) and *analytic* (Pickett, 1986) – and *intensive* – also called *cumulative* by Pickett – reading. The former refers to an overall understanding of a longer piece of text without being concerned about the details in it; however the latter refers to understanding the details in a shorter piece of text (Rivers, 1981; Scrivener, 2005). Aebersold and Field (1997) maintain that through extensive reading it is possible to read large amounts of own-chosen texts for general comprehension; whereas intensive reading requires the assistance of a reading teacher as detailed comprehension is essential. Then, tasks such as keeping records and making summaries can be related with the former while the tasks identifying the facts and focusing on form and style are appropriate for the latter (Cross, 1999).

Munby's (1979) perception of intensive reading requires four types of understanding namely the literal comprehension of the text; inferring meaning; awareness of the idea relationship; and relating the text to prior knowledge. More importantly, Krashen (2004) calls extensive reading as *free voluntary reading* (FVR) and identifies it as extremely beneficial. Lewis and Hill (1985) indicate that if reading texts are used only with the aim of presenting the language intensively, this does not enable them to achieve their goals. However, for effective reading classes, they recommend teachers to refer to a variety of techniques extensively to improve

their students' reading skills. Nevertheless, Hedge (2000) points out that there is a misusage of the term as scanning and skimming are also called extensive reading and she presents the characteristics of ideal extensive reading as:

> - reading large quantities of material, whether short stories and novels, newspaper and magazine articles, or professional reading
> - reading consistently over time on a frequent and regular basis
> - reading longer texts (more than a few paragraphs in length) of the types listed in the first point above
> - reading for general meaning, primarily for pleasure, curiosity, or professional interest
> - reading longer texts during class time but also engaging in individual, independent reading at home, ideally of self-selected material.
>
> (Hedge, 2000: 202)

As identified in the above quotation, extensive reading aims to develop avid readers. Therefore, encouraging readers to read lengthy texts after school might be considered as a good idea. This is also in parallel with Chastain's (1988) ideas on reading lengthy texts as she considers them much easier to read than the shorter ones. To support extensive reading, Hedge (2000: 219) firstly recommends reading teachers to allocate short interview sessions in which they can discuss the books that their students are reading. Hedge indicates that such sessions can be conducted also in L1 with beginner learners; yet with more proficient readers it is essential to verify the use of English in order to stimulate the amount of exposure to the TL. Hedge's second proposal to reading teachers for the promotion of extensive reading is 'the reading syndicate' where a group of readers introduce the books they are reading which are different from the books that their class-mates read.

Hedge's characteristics are in parallel with Day and Bamford's (1998: 7-8) ten characteristics of ideal extensive reading programmes.

> 1. Students read as much as possible, perhaps in and definitely out of the classroom.
> 2. A variety of materials on a wide range of topics is available so as to encourage reading for different reasons in different ways.
> 3. Students select what they want to read and have the freedom to stop reading material that fails to interest them.

4. The purposes of reading are usually related to pleasure, information, and general understanding. These purposes are determined by the nature of the material and the interests of the students.
5. Reading is its own reward. These are few or no follow-up exercises after reading.
6. Reading materials are well within the linguistic competence of the students in terms of vocabulary and grammar. Dictionaries are rarely used while reading because the constant stopping to look up words makes fluent reading difficult.
7. Reading is individual and silent, at the student's own pace, and, outside class, done when and where the student chooses.
8. Reading speed is usually faster rather than slower as students read books and other material they find easily understandable.
9. Teachers orient students to the goals of the program, explain the methodology, keep track of what each student reads, and guide students in getting the most out of the program.
10. The teacher is a role model of a reader for students–an active member of the classroom reading community, demonstrating what it means to be a reader and the rewards of being a reader.

Both Hedge (2000) and Day and Bamford (1998) succeed to draw a general picture about extensive reading. However, extensive reading classes require employing some reading strategies by readers to overcome the problems they encounter during reading. Hedge points out that intensive reading may assist extensive reading since readers are able to familiarize themselves with reading strategies under the guidance of a teacher in the classroom. She also notes that such strategies can become operational only through practice which can be provided by extensive reading.

2.6 THE ROLE OF READING IN TEACHING APPROACHES

As teaching reading is under strong influence of 'scholarship, technology, and humanistic concerns', there are various approaches in teaching reading namely 'the whole language movement', 'the interactive view of reading', 'critical reading', and 'literature-based reading' (McNeil, 2006). *The whole language movement* expects readers to develop their reading skill with the integration of other language skills while *the interactive view of reading* forces them to integrate their background knowledge to understand the text. However, in *critical reading* readers struggle to identify the author's inconsistencies, whereas *literature-based reading* considers

literature as the core. McNeil (2006) points out that the current trend in teaching reading is considered to be firstly, 'word recognition and reading comprehension'; secondly, administering various 'reading skills' in different situations; thirdly, 'conceptual development' with reference to readers' background knowledge, and fourthly, 'critical reading'.

Apart from the above mentioned specific approaches of teaching reading, it might be interesting to scrutinize approaches of language teaching to evaluate how they appraise teaching the skill of reading. For example, although readers meet with difficult texts early in Grammar-Translation Approach (Celce-Murcia, 2001), little attention is paid to the skill of reading as the contents of texts are disregarded. Contrary to this, Celce-Murcia point out that Direct Approach allows proficient readers to read literary texts for comprehension and pleasure. However, she indicates that Reading Approach is different from all other approaches since it encourages reading from the beginning with specifically adapted texts and considered to be mostly beneficial for those with practical and academic aims. The most essential aim in this approach is regarded to be reading comprehension.

Nevertheless, it is important to note that some teaching approaches neglect reading activities in FL classes as their major focus is developing oral skills (Birjandi, Mosallanejad & Bagheridoust, 2006). Audio-Lingual – also called Oral-Situational – Approach, Community Language Learning, Suggestopedia, The Silent Way, Total Physical Response, The Natural Way, Communicative Language Teaching, and Functional-Notional Approach are the ones in which teaching reading is not highly appreciated. For example, although Audiolingualism attaches importance to reading at the beginning of the course (Richards & Rodgers, 2001), there is no specific emphasis on reading in the rest of the course. Finocchiaro and Bonomo (1973: 119) for instance, place the skill of reading to the third place after listening and speaking and prohibit the practice of reading before achieving proficiency in oral skills. They claim that "[l]istening and speaking should always precede reading. It is only after students can say material with reasonable fluency that they should be permitted to see it". Another interesting example related to the 1970s might be Alexander's (1967: viii) categorization of language skills as

"*understanding, speaking, reading* and *writing*". It is clear that Alexander did not consider reading as a skill which required comprehension of the texts; otherwise he would not have proposed the use of the activities such as 'oral practice', 'reading aloud', 'oral composition', and 'dictation' to the readers.

2.6.1 CORPUS LINGUISTICS

Although definition of a corpus regards any collection which includes more than one text, in relation to modern linguistics the four characteristics of 'sampling and representatives', 'finite size', 'machine-readable form' and 'a standard reference' should also be incorporated in corpus studies (McEnery & Wilson, 1996). Conrad (2005: 394) reveals that the corpus is constituted of both written texts and transcriptions of speeches. She calls attention to the importance of authenticity of the materials in the corpus as it is a "collection of naturally occurring texts that is stored in electronic form" rather than the materials which are prepared for teaching language. Conrad maintains that technological advances enabled to achieve large scale corpora consisting of hundreds of millions of words compared to one-million word corpora in the 1970s. Such advances encourage dictionary writers to give frequency of words. It was Firth (1957) who first introduces the term of collocation; however, his proposal is materialized by the advances in corpus linguistics. Such advances undoubtedly assist Lewis (1993) to give birth to *the lexical approach* where the emphasis is on building lexical units. Richards and Rodgers (2001) indicate that apart from collocations, binomials, trinomials, idioms, similes, connectives, and conversational gambits also appear in language.

2.6.2 CALLA

Content-based instruction (CBI) which is identified as a convenient strategy-training programme in FL classes aims to move "readers away from intensive reading to more extensive reading" with the presumption of learning a FL is not an end since it opens doors to other fields of study such as mastering social sciences skills by the help of English (N. J. Anderson, 1999a: 43). In this respect, CALLA – the Cognitive Academic Language Learning Approach – which is developed by

Chamot and O'Malley (1987) is appreciated by N. J. Anderson (1999a & 2005). CALLA is an instructional model either for L2 or FL learners in which cognitive theory plays an essential role. The initial aim in designing CALLA is assisting intermediate and advanced students at upper elementary and secondary schools who are not proficient users of English. A cognitive model of learning generates the basis of this approach since students are expected to use strategies to foster their comprehension and retention. Chamot and O'Malley (1994) explain the three principles of CALLA as the selection of content topics; the development of academic language skills; and the instruction of learning strategies for both language learning and content learning. Chamot and O'Malley aim to develop independent and self-regulated learners by the help of CALLA.

2.7 SKILLS OF READING

Reading skills have long been of interest to researchers who deliver texts with a set of questions to test various levels of understanding. Administering factor analysis to the readers' responses measures reading skills or in other words 'subskills'. In spite of the existence of a great number of subskills lists, Davis' (1944) efforts deserve appreciation. Although he proposes nine subskills in 1944, with the assistance of posterior analyses Davis (1968) breaks reading comprehension into eight essential skills as 'recalling word meanings'; 'drawing inferences about the meaning of a word from context'; 'finding answers to questions answered explicitly or in paraphrase'; 'weaving together ideas in the content'; 'drawing inferences from the content'; 'recognizing a writer's purpose, attitude, tone and mood'; 'identifying a writer's technique'; and 'following the structure of a passage'.

In spite of Davis' assertions of reading subskills, his categorization has long been criticised as being claimed that factor analysis does not yield in persuasive results to distinguish eight subskills from each other (See J. B. Carroll, 1969 & 1971; Spearitt, 1972). Apart from Davis' list, Munby's (1978) also has an immense impact. In his list, Munby calls reading subskills as 'microskills' and they are not a result of an empirical study where readers are asked comprehension questions on a text as in

Davis'. Below are the nineteen skill-components of reading comprehension proposed by Munby (1978 in Alderson & Lukmani, 1989: 256; Alderson, 2000: 9-10):

- recognizing the script of a language
- deducing the meaning and use of unfamiliar lexical items
- understanding explicitly stated information
- understanding information when not explicitly stated
- understanding conceptual meaning
- understanding the communicative value of sentences
- understanding relations within the sentence
- understanding relations between parts of text through lexical cohesion devices
- understanding cohesion between parts of a text through grammatical cohesion devices
- interpreting text by going outside it
- recognizing indicators in discourse
- identifying the main point or important information in discourse
- distinguishing the main idea from supporting details
- extracting salient points to summarize (the text, an idea)
- selective extraction of relevant points from a text
- basic reference skills
- skimming
- scanning to locate specifically required information
- transcoding information to diagrammatic display

Apart from subskills in Davis' (1944) list and microskills in Munby's (1978) list, Grabe (1991: 379-383) withal aims to identify elements of reading. To him, six component elements in fluent reading are 'automatic recognition skills', 'vocabulary and structural knowledge', 'formal discourse structure knowledge', 'content/world background knowledge', 'synthesis and evaluation skills/strategies', and 'metacognitive knowledge and skills monitoring'. Firstly, if readers are unaware of the reading process or if they control the reading process unconsciously by referring to little processing capacity then *automaticity* occurs (LaBerge & Samuels, 1974). As young readers' memory capacity is limited, decoding consumes almost all their cognitive capacity. Secondly, becoming a fluent reader requires both knowledge of language structure and a large recognition of vocabulary in the TL. Thirdly, reading comprehension is in parallel with the organization of the text. Fourthly, reading comprehension is affected by both background and cultural knowledge relevant to

the text-related information. Fifthly, the evaluation of information gained from the text, its comparison with other sources, and the prediction of the forthcoming information in the text all have an impact on comprehension. Sixthly, metacognition is considered to be knowledge about cognition and the self-regulation of cognition is recognised as a critical component of skilled reading.

2.7.1 EFFICIENT AND INEFFICIENT READING

Dating back to late 1940s, Kottmeyer (1947) points out that "efficient readers do not make one fixation at every word nor recognize one word at a time"; instead they recognize them in larger units. After five decades from Kottmeyer, Dechant (1991) also establishes reasons for the impact of instant word recognition. Besides, efficient readers are supposed not to struggle for receiving the meaning of any word or a sentence in a text (Bartram & Parry, 1989); however, this does not imply that they are familiar with any lexical item in it. Yet Chastain (1988) highlights that they are able to overcome any lexical or grammatical unfamiliarity without getting lost in the text. Alderson (2000) points out that 'fixation' differentiates efficient readers from the inefficient ones as 80% of the content words and 40% of the function words are handled by fluent readers. N. J. Anderson (1999a) believes that extensive reading is one of the characteristics of good readers who are masters of decoding skills with the capability of decoding multiletter units (Pressley & Woloshyn et al., 1995).

Moreover, efficient reading involves referring to different problem-solving strategies (Baudoin, Bober, Clarke, Dobson, Silberstein, 1993: 169). Even for proficient readers, for instance, it is impossible to know any word that they encounter in a text. Baudoin et al. list the following items on efficient reading:

1. Use the meaning of the other words in the sentence (or paragraph) and the meaning of the sentence as a whole to reduce the number of possible meanings.
2. Use grammar and punctuation clues that point to the relationships among the various parts of the sentence.
3. Be content with a general idea about the unfamiliar word; the exact definition or synonym is not always necessary.

4. Learn to recognize situations in which it is not necessary to know the meaning of the word.

Ur (1996) highlights a number of differences between efficient and inefficient readers by considering ten elements involved in reading. Ur firstly illustrates that efficient readers have a tendency of reading texts which are appropriate for their levels in the TL where inefficient ones deal with too difficult ones which are far beyond their levels. This issue is also taken into consideration by Wallace (1992) where she indicates that there are specifically designed language focused texts which aim to teach usage of language. However, Wallace also signals other texts which do not focus on any specific linguistic feature but assist teaching language by promoting reading and are exciting for readers.

Ur (1996) secondly highlights that efficient readers also pay attention to the content of the text and prefer familiar texts while inefficient ones are interested in unfamiliar ones. Thirdly, she considers efficient readers fast as they are able to recognize words and word groups automatically in a rapid way (Nuttall, 1996) whereas the inefficient ones spend much of their time on recognizing words. Fourthly, Ur points out that efficient readers are aware of appropriate reading strategies which allow them to skip irrelevant parts of the text and concentrate on important ideas. However, this is not the case for inefficient readers as they pay the same amount of attention to the whole text. Fifthly, according to Ur, efficient readers try to guess the meaning of unknown words that they encounter in the text and refer to a dictionary only as a last resort (Vincent, 1986; Wallace, 1992) whereas inefficient ones have a tendency of interrupting their reading process to look up any unknown word. Relatively, Aspatore (1984) and Hedge (2000) highlight the importance of promoting readers to guess unknown words with reference to contextual clues in the text and their background knowledge since they are supposed to be talented enough to correctly guess unknown words. Furthermore, fluent readers are supposed to process words and their relationships in a text efficiently which is considered to be essential to understand a text (Nassaji, 2003). In this respect, Abraham and Mackey (1989: xii) consider dictionaries as “a reading inhibitor rather than a reading enhancer” and they do not allow using dictionaries.

In the sixth place, Ur (1996) maintains that predicting the forthcoming information in the text is essential for efficient readers as inefficient ones do not develop any expectations from the text. Seventhly, efficient readers interact the information gained from the text with their background information where inefficient ones do not have relevant background knowledge or do not integrate it with the input from the text. Eighthly, since efficient readers are interested in reading the text, they motivate themselves to read it; however inefficient ones are unable to motivate themselves as they are uninterested in reading. Ninthly, while reading the text, efficient readers are conscious of their aim in reading; whereas inefficient readers are unaware of their aim in reading it since they consider the process of reading as a task proposed by their teacher. Relatively, Wallace (1992) also points out that effective readers' process is directed by their aims. Tenthly and finally Ur maintains that efficient readers refer to a number of different strategies in reading various texts where inefficient ones deal with one strategy for all texts (N. J. Anderson, 1999a; Golinkoff, 1975; Jiménez, Garcia & Pearson, 1996).

Hare and Smith (1982) point out that monitoring comprehension and using remedial strategies appropriately are characteristics of good readers. As opposed to good readers who are supposed to monitor their comprehension evenly, poor ones have a tendency of referring to monitor their comprehension less often (Cromley, 2005; Flavell, 1979; Markman, 1979). Therefore, they do not realize their failure in comprehension or their inadequacy in the strategies that they use for the task. However, Cromley highlights three reasons of good readers which encourage them to monitor their comprehension. Firstly, they recognize words automatically; secondly, they have relative background and vocabulary knowledge; and thirdly, they use comprehension strategies. In a relative study, Paris and Meyers (1981) investigated comprehension monitoring and study strategies of good and poor readers. Their findings indicated the superior frequency of good readers in monitoring than poor readers. Besides, good readers better comprehended and recalled the stories. Also comprehension strategies were used more frequently by good readers than the poor ones. In another relative study Block (1992) aimed to investigate the comprehension-monitoring process of 25 college freshmen L1 and L2 readers of English. The

participants of the study were asked to think-aloud while reading a text. His results revealed that monitoring process was better controlled by older and more proficient readers compared to younger and less proficient ones. He also indicated that poor readers paid more attention to the inconsistencies in a text; on the other hand good ones were more tolerant to inconsistencies in order not to spoil text coherence. N. J.

Anderson (1999a: 38) also indicates that successful readers have a tendency to monitor their comprehension. “Part of that monitoring process includes verifying that predictions that are being made are correct and checking that the reader is making the necessary adjustments when meaning is not obtained”. N. J. Anderson then recommends that reading teachers should encourage their students firstly, to monitor their comprehension, which is a cognitive process since it allows readers to be aware of their current process, and secondly, to discuss the process of comprehension in a metacognitive manner. Metacognitive awareness of the reading process is attributed as the most important skill by N. J. Anderson. As expected, poor readers experience difficulties in monitoring their comprehension (Ajideh, 2009). August, Flavell, and Clift (1984) indicate the problem in unskilled readers as being unable to monitor their comprehension. They point out that such readers are incapable of noticing their failure in the comprehension of the text they are reading.

In relation with monitoring comprehension, Alderson (2000: 60) lists the following metacognitive skills used by good readers along with the self-regulation strategies of ‘planning ahead’, ‘testing one’s own comprehension’ and ‘being aware of and revising the strategies being used’.

- recognising the more important information in the text
- adjusting reading rate
- skimming
- previewing
- using context to resolve a misunderstanding
- formulating questions about information
- monitoring cognition, including recognising problems with information presented in text or an inability to understand text

Apart from these six elements, in a subsequent study Grabe (2003) maintains effective approaches for reading in which good readers are supposed to have 'rapid and automatic word recognition skills', 'a large recognition of vocabulary', 'sound knowledge of syntactic structure and discourse organization', and 'metacognitive awareness of reading purposes and text comprehension'. Besides, making predictions is also identified as an indicator of good readers by Baudoin et al. (1993) who maintain that readers predict about what they will read and check whether their guesses are verified in the text or not. In case of rejection of their predictions, they reread the text with new predictions in their minds.

Wallace (1992) explains that in general weak readers do not enjoy reading as they rarely pay attention to the text, therefore they read little. Since becoming autonomous readers requires reading as much as possible; they experience difficulties in reading. Nuttall (1996) develops and turns Wallace's ideas into figures of two circles. In 'the vicious circle of the weak reader', the reader is supposed to read slowly which causes disliking reading. Therefore, the reader does not read much which in turn results in failure in comprehension. On the other hand, in 'the virtuous circle of the good reader', the reader reads faster, resulting in reading more, understanding better, and enjoying reading. Nuttall indicates it is possible to enter these two circles at any point either as a weak reader or a good one.

Another vital characteristic of good readers is indicated as automatised usage of bottom-up processes; therefore developing automaticity is the essence of becoming a good reader (Paran, 1997) to be able identify the words and language structures quickly (Hedge, 2000). Automaticity theory (LaBerge & Samuels, 1974) assumes decoding as an automatic processing; otherwise insufficient decoding is believed to be hindering comprehension. Relatively, Grabe (1991: 379) defines fluent reading as a *rapid reading* process which is achieved through long-term diligence and progressive development.

T. Miller (2002) highlights the differences between good and poor readers with reference to use of *the top-down model of reading*. He indicates that good readers refer to top-down models to see a big picture; on the other hand, poor readers

refer to it to see a small picture. Besides, good readers are supposed to make use of bottom-up and top-down processes simultaneously in an automatic way; however poor readers are believed to be suffering in switching between these two processes as they control their process rather than following an automatic one (Nara, 2003a). In addition, good readers are also supposed to identify the markers in the text which assist them to make predictions about the text (Levine, Oded, Statman, 1985). In this respect, readers make use of exemplification markers, the specific markers of comparison and contrast, and the markers of cause and effect. Predicting may involve a number of different versions such as predicting the title after reading the text, predicting the forthcoming information in the second paragraph after reading the first one, predicting general reaction for an incident after reading it, and adding to the end of a story by predicting (Carter, 1986).

Chela-Flores (1993) defines subvocalization as vocalising during reading and points out that it may help differentiate good readers from the poor ones. Although subvocalization occurs naturally with readers' integration in the text, poor readers subvocalize more than the good ones by performing with all their articulatory organs except those required for making sounds. Wright, Sherman, and Jones (2004) also evaluate the occurrence of subvocalization as a natural phenomenon which assists readers to become efficient and independent. Alderson (2000) explains that fluent reading occasionally occurs in a tripled speed than an everyday conversation. However, Chela-Flores does not consider subvocalization as the cause of incompetence in reading comprehension but supposes it as a result or a symptom of it. It is important to remember the fact that, good readers also subvocalize but only when they need powerful contact with semantic levels. Although reading aloud may serve a function apart from comprehension for lower level readers, it should be avoided when teaching more proficient readers as it is an unnatural activity which may induce losing attention into the text for the listeners (H. D. Brown, 2001; Chastain, 1988). Alternatively, Rayner and Pollatsek (1989: 190) indicate that readers might have a tendency of *inner speech* when they encounter difficult words in the hope of overcoming the problem. It might also be interesting to note that

"[p]atients who have had surgery on their throats are told not to read books even silently, because subvocalization puts stress on the throat" (Noda, 2003b: 11).

2.7.2 CRITICAL READING

Critical reading is supposed to be "the most complex form of reading" (Kottmeyer, 1947: 48). Flemming (1997: xi) recommends reading teachers to encourage their "students to abandon the notion that the goal of reading is to uncritically absorb the ideas of others". Along with Baudoin et al. (1993), Flemming also highlights the importance of being a critical reader where it is essential to analyze, evaluate, and also judge the text and reveals the very important feature of them as being aware of the difference among facts, opinions, and implications (Zukowski Faust, Johnston, & Atkinson, 1983).

Reading is considered to be a social process in terms of critical reading perspective (Kress, 1985) and school related reading is regarded as dealing with facts in a text and memorizing and recalling them on examinations; therefore after the school it is quite difficult to develop critical reading habits (Adams & Brody, 1995). Similar to this, along with G. Abbott (2003), Colombo, Cullen, and Lisle (1992: vi) partly blame traditional schooling for the incompetence of critical reading as such schooling "gives students the impression that knowledge is static, not continually re-created through tension, struggle, and debate". It is also difficult for young learners to oppose the writer's ideas in the text since they are considered to be naïve readers because of their inadequacy in 'language awareness' (Hedge, 2000: 199).

Another barrier to critical reading might be considered as the impact of scriptural texts such as the Koran and Bible since readers of such texts regard them as absolutely correct (Aebersold & Field, 1997). In such cases, teachers are expected to encourage their readers to question the truth of the information in the text. Similarly, in an assimilative reading process in which readers are supposed to be reading to get details or the main idea and follow instructions; they are not expected to follow in a critical manner since their basic aim is receiving information

(Kottmeyer, 1947). According to Baker and Brown (1984), encouraging readers to become more critical readers may foster their comprehension.

Besides it might be rewarding to remember the three-step framework by Kress (1985: 7) in which readers are supposed to find out firstly "[w]hy is the topic being written about"; secondly "[h]ow is the topic being written about"; and thirdly "[w]hat other ways of writing about the topic are there" to become critical readers. However, C. Wallace (1992) adds a fourth step to the framework of Kress and asks readers to find out the model reader of the text. Alderson (2000) emphasizes the assumption that readers are believed to firstly learn understanding texts literally, secondly inferring meaning from it, and thirdly approaching the text in a critical way to evaluate it.

2.8 MODELS OF READING

Reading research has gained specific importance by the 1960s with the arrival of *cognitive psychology*. Previously, researchers were experiencing difficulties in explaining the mental event of reading as they merely focussed on behaviouristic aspects rather than examining the process itself (Eskey, 2005). Therefore, there were no crucial attempts to build an explicit model of reading until the 1960s. Eskey points out that for behaviouristic researchers it was almost impossible to understand the process of reading as they were occupied in behaviours of learners such as in spoken and written languages. As one of the first proponents of behaviourism, Watson (1924-1925: 6) points out that "[t]he behavio[u]rist asks: Why don't we make what we can *observe* the real field of psychology?"

However, the skill of reading would only enable researchers to investigate the eye movements of the readers in a behaviouristic aspect which would doubtlessly result in failure in explaining the complex mental process of reading. For example, in 1879 the French ophthalmologist Javal verified the first depiction of the eye movements in the reading process. His study on eye movements is known to be the first investigation into reading. He revealed that while reading, eyes do not move uninterrupted in the search of the graphic stimuli; instead, eyes have a tendency of

quickly jumping and also making pauses at particular parts of the text. The impact of eye movements can also be observed in Waldman (1958) where he examines the physical factors related with eyes such as hyperopia, myopia, presbyopia, and astigmatism and blames them for the lack of reading comprehension along with tired eyes.

Yet, Huey's (1908; 1968) characterization of reading is highly appreciated as he regards reading as an information processing activity which accelerates the exploration of significant advances in reading during the 1970s and 1980s (Harada, 2003). Huey points out readers' active role in an era when other professionals are regarding reading as a passive skill. He calls attention to the importance of repetition which addresses controlled and automatic processes in B. McLaughlin's (1987) *information processing*. Additionally, Thorndike's (1917) efforts deserve appreciation since he resembles the process of reading to 'thinking'. In this respect, as a complex and dynamic reaction, reading is regarded as a problem that needs to be solved. According to Thorndike, reading is considered to be 'reasoning' and in this respect good readers are expected to think clearly. Therefore, his ideas accelerated reading comprehension studies rather than merely focusing on eye movements (D. Williams, 1978). Furthermore, Bartlett (1932) appears as another cornerstone in pre-cognitive reading psychology research era. He indicated reading as effort to achieve meaning and pointed out the importance of prior knowledge in reading comprehension. However, like Huey and Thorndike, Bartlett's efforts were not taken into consideration (Harada, 2003) in pre-cognitive reading psychology research era.

The cognitive psychological studies assisted reading researchers to re-evaluate the process of reading (Samuels & Kamil, 1988) and the development of reading models accelerated after the 1960s. The passive perception of reading was replaced with an active one due to major changes in the notion. These great innovations formed the distinctions between the metaphorical models of reading namely *bottom-up* and *top-down*. The former refers to readers who combine small parts to see the big picture; whereas the latter refers to readers who try to see the big picture from the first moment (Lewis, 1999). Following these two, the late 1980s presented *interactive* reading models in which readers combine elements of both

bottom-up and top-down models as the most comprehensive description of the reading process (N. J. Anderson, 1999a; Ediger, 2001; C. Wallace, 2001). Although Durgunoğlu and Hancin (1992 cited in M. L. Abbott, 2006) regard metaphorical models of reading as superannuated in L1 reading, they are largely well accepted.

With the advent of top-down models, psychologists started to observe readers in a variety of different ways with the hope of helping reading researchers. In this respect, reading teachers were also recommended to focus on other aspects of their readers' in their classes. For example, Fry (1977a: 13) directed reading teachers to investigate readers in terms of "[o]ral reading, … [s]ilent reading, … [e]ye movements, … [e]ye-[v]oice [s]pan, … [l]atency or response time, … parts of the word, … parts of a passage, … [c]orrelation studies, … [and v]arying teaching condition studies".

As an indispensable result of reading research, a variety of reading models appeared which are classified in two broad categories by Grabe and Stoller (2002: 31). They firstly list 'bottom-up', 'top-down', and 'interactive' models in the *metaphorical reading models* group and then secondly they point out 'the psycholinguistic guessing game model', 'interactive compensatory model', 'word recognition models', and 'simple view of reading model' in *specific reading models* group. Going beyond the boundaries of behaviouristic research, the investigation of metaphorical models of reading provides researchers an understanding of what readers are doing during the reading process. Nassaji (2003) indicates that, in bottom-up, in other words traditional models, readers are supposed to succeed in each step by beginning with the printed letter, recognising graphic stimuli, decoding them to sound, recognising words, and finally decoding meaning to achieve the general meaning (Alderson, 2000; N. J. Anderson, 1999a; and Grabe & Stoller, 2002). This process requires great effort and focuses on details therefore showing the big picture is hard in bottom-up models. Controversy *top-down* models emphasise the importance of *schema* (Alderson, 2000) where readers are expected to bring their background knowledge to the text they are reading (Carrell, 1985 & 1987; Carrell & Eisterhold, 1983; Grabe & Stoller, 2002). The following sections will present three

basic types of reading models along with the other various models of reading comprehension.

2.8.1 BOTTOM-UP MODELS

Grabe and Stoller (2002) imply that in *bottom-up models* – also called *text-based view* (Bernhardt, 1984), *text-driven models* (Barnett, 1989), *data-driven processes* (Alptekin, 1993; N. J. Anderson, 1999a; H. D. Brown, 2001), *decoding* (Aebersold & Field, 1997); *serial models* (Alderson, 2000), *linguistic processes* (Hedge, 2000), and *skills-based approaches* (H. D. Brown, 2001) – readers follow a mechanical pattern by forming a piece-by-piece mental translation of the input from the text without referring to their background knowledge (N. J. Anderson, 1999a). This can be resembled to *phonics approach* where children start reading by learning symbol-sound correspondences.

Carrell (1988) explains *bottom* as the smallest units such as 'letters and words' and *top* as a larger unit such as 'phrases and clauses'. Similar to this, N. J. Anderson (1999a) reveals that in this piece-by-piece mental translation process, readers firstly recognise letters, then by the help of these letters they are able to recognise words, and finally readers comprehend the text by combining the words that they recognised previously. Aebersold and Field (1997) maintain that readers become so automatic in recognizing such small units that they are unaware of handling of this process. According to H. D. Brown (2001), such operations entail complicated knowledge of English language. In this respect, the bottom-up process of reading is considered to be a *serial model* as reading starts with the printed word and continues with the recognition of graphic stimuli, decoding them to sound, recognising words, and decoding meanings (Alderson, 2000). Bottom-up reading is considered to be "decoding written symbols into their aural equivalents in a linear fashion" (Nunan, 1999: 252). In this respect, bottom-up reading strategies are followed by readers who are low in proficiency as achieving the meaning is dependent on readers' success at each step (Salatacı, 2000).

2.8.2 TOP-DOWN MODELS

As opposed to bottom-up models, in *top-down models* – also called *inside-the-head view* (Bernhardt, 1984), *cognitively-driven processes* (N. J. Anderson, 1999a), *schema theoric models* (Alderson, 2000), *schematic processes* (Hedge, 2000), *conceptually driven processes* (H. D. Brown, 2001; Harada, 2003), *strategy-based approaches* (H. D. Brown, 2001; Nara & Noda, 2003), *the genre approach* (C. Wallace, 2001), and *reader-driven models* (Hadley, 2003) – it is essential to bring background knowledge to the text. Top-down processing is regarded as one of the essential characteristics of efficient readers (Quinn, 2003). In such models readers' aims in reading the text and their expectations from the text lead the process of reading primarily (Grabe & Stoller, 2002). This can be resembled to *whole-word approach* where children start reading by learning words' global shape rather than symbol-sound correspondences in them. Therefore, top-down models expect readers to form expectations about the forthcoming information in the text and question their expectations while reading it. Being able to identify genre with reference to their particular characteristics that identify the type of the text (C. Wallace, 1992) is also essential (Nara, 2003a) since they derive their expectations with reference to type of the text. Since genres possess specific rules, readers are able to discriminate different types of written texts (H. D. Brown, 2001). For example, readers who are able to identify that they are about to read a letter expect to start with a salutation which is followed by the aim of the letter. Besides, as indicated by Nara, to succeed in top-down models, readers are required to be good also at grammar and know a large quantity of vocabulary.

However, Eskey (1988) calls attention to one of the limitations of top-down model. As such a model requires the prediction of meaning with reference to context clues and integration of background knowledge, such a model might be valid only for skilful and fluent readers who can be considered autonomous at reading. Therefore, Eskey blames the model to be working improperly with less proficient readers. Moreover, Paran (1997) regards top-down strategies as a compensatory strategy therefore he points out that they should not be considered as a goal to

achieve. Thus top-down strategies are effective only for readers whose linguistic ability is poor.

2.8.2.1 BACKGROUND KNOWLEDGE

Schema theory deals with the reading process, where readers are expected to combine their previous experiences with the text they are reading. Since each reader has different background knowledge, it is supposed to be culture specific. Schema theory was developed by the gestalt psychologist Barlett "who observed how people, when asked to repeat a story from memory, filled in details which did not occur in the original but conformed to their cultural norms" (G. Cook, 1997: 86). G. Cook states that schema theory assists to explain readers' comprehension problems and suggests the kind of background knowledge they need. According to Nassaji (2002: 444), schema-theoretic approaches include three assumptions. Firstly, they attempt to discuss the representation of knowledge in the mind. Secondly, the usage of knowledge in comprehension is examined. Thirdly, making inferences in comprehension is taken into consideration.

Although the notion of background knowledge started to become popular with the advent of top-down models, it is also possible to see the signs of it during the reign of bottom-up models. For example, Kottmeyer (1947: 42) indicates that "[w]e take meaning form the printed page in ratio to what we bring to it in terms of previous actual or vicarious experience". Kottmeyer was able to summarize the impact of background knowledge on reading comprehension many decades ago. Carrell and Eisterhold's (1983: 556) exclamation that any text either spoken or written does not itself carry meaning since "a text only provides directions for… readers as to how they should retrieve or construct meaning from their own, previously acquired knowledge" finds its basis in Kottmeyer along with Alderson's (2000) indication that readers better comprehend if they have background knowledge about the text.

Bartlett's (1932) Schema theory accounts for the information which is brought to the text by readers. Schemata are accepted as interlocking mental

structures representing readers' knowledge (Perkins 1983; Zaher 1987; Anderson & Pearson 1988; G. Cook 1997; Alderson 2000; H. D. Brown 2001: 299; Harmer 2001) of ordinary events (Nassaji 2002). H. D. Brown highlights that schema comprises of any "information, knowledge, emotion, experience, and culture" that readers carry to the text. In the reading process, readers integrate the new information from the text into their pre-existing schemata. Not only do schemata influence how they recognise information, but also how they store it. According to Harmer (2001), only after the schema is activated are people able to see or hear, because it fits into patterns that they already know. Besides, the notion of schema is also related with the organisation of information in the LTM that cognitive constructs allow (Singhal 1998). Schema theory struggles to describe the efficiency of background knowledge which is supposed to be affecting comprehension of the text. C. Wallace (1992) points out that schemata enable readers to interact the existing knowledge with the new one coming from the text. They integrate both general information about the world and also specific field knowledge. C. Wallace indicates that *topic schemata* allow readers to draw expectations about the text such as its type or its topic.

The very important role of background knowledge on reading comprehension is noted by N. J. Anderson (1999a: 11) that readers' comprehension depends on their ability to relate the information that they receive from the text with their background knowledge. Such pre-existing knowledge is defined as "life experiences, educational experiences, knowledge of how texts can be organized rhetorically, knowledge of how one's first language works, knowledge of how the second language works, and cultural background and knowledge" by N. J. Anderson. *Background knowledge* – also *prior knowledge* – is supposed to consist of two main components: "our assimilated direct experiences of life and its manifold activities, and our assimilated verbal experiences and encounters" (Swales 1990: 83). Swales proposes that the accumulated store of facts and concepts are contributed by both types of experiences. These input sources build background knowledge which allows evaluation of propositions whether they are true or not. If readers do not have relevant background knowledge about the topic, then they will not be able to cross the borders of the printed material to achieve the meaning intended by the writer that is hidden beyond

literal meaning offered in the text. In such circumstances, they should be provided with relevant background knowledge about the topic in order to make the cultural cues clear before reading the text.

Nunan (1999) resembles schema theory to a frame theory and calls schemata *mental film scripts*. In this respect, schema theory attempts to account for the knowledge that is carried around in humans' heads. According to Kramsch (1997), a schema is created by relating a text, an event, or a fact to another. That occurs through semiotic links such as contiguity, similarity, or metaphor and other semiotic links such as causality, concession, comparison, and contrast. She also accepts schemata as culturally sensitive, co-constructed, and rhetorical constructions.

Nuttall (1996: 7-8) proposes that readers' success depend on the similarity of their schemata with the writer's. She gives an example to illustrate this. "The bus careered along and ended up in the hedge. Several passengers were hurt. The driver was questioned by the police". Nuttall proposes that in order to understand these three sentences readers need to make connections between them. Readers connect them according to their existing schema about buses that is believed to include the facts that buses carry passengers and buses have drivers. Therefore, readers understand that the 'passengers' in the second sentence belong to the 'bus' in the first sentence, not to any other vehicle, and the 'driver' in the third sentence is the bus driver, not from any other vehicle. The three sentences actually do not give this information to readers; but readers make assumptions based on their experiences. Another component of the reader's bus schema is the fact that buses career along a road. Although it is not mentioned in the text, readers can assume it. Moreover, road schema includes the components that mark the limit of a road such as 'hedge'. Then readers are able to visualise "the bus going too fast, leaving the road and crashing into the hedge that bordered it". If readers' road schemata do not include the components such as 'hedge', then they will probably have difficulties in visualising the scene. Finally, readers refer to their 'driver schema' which indicates that the driver as responsible for the safety of the vehicle driven. That is why the driver is questioned by the police. Nuttall indicates that probably our schema sees a bus driver as male and adds the fourth sentence that would surprise the reader. "She was later

congratulated on her quick thinking and skilful handing of the bus when the brakes failed". If readers do not consider such possibilities before reading the fourth sentence, their bus driver schemata will change. In other words, reading results in learning something new as schemata are built up from experience and existing schemata change through new experiences.

2.8.2.2 SUBCATEGORIES OF SCHEMA

The most popular categorisation of schema is the distinction between *formal* and *content* schema. In order to understand the impact of background knowledge on reading comprehension, Carrell and Eisterhold (1983), Carrell (1987 and 1988b) and Alderson (2000) draw a distinction between schemata types. By *formal schema*, they point to background knowledge relating to the formal and rhetorical organisational structures of different types of texts. Carrell (1985) indicates that reading comprehension is affected by reader's formal schemata interacting with the rhetorical organisation of a text. Alderson relates formal schemata to 'knowledge of language' and indicates that readers will probably have difficulties in processing the text if they do not know the language of it. He mentions the importance of structural knowledge which is shown to have a facilitative effect on reading. He adds that the unknown vocabularies in any text will obviously affect comprehension and will take the pleasure out of reading.

Content schema is defined as background knowledge of the content area of the text that a reader brings to a text (Alptekin 1993; 2002; 2003; Carrell & Eisterhold 1983; Carrell 1987; Singhal 1998; Stott 2001) such as knowledge about people, the world, culture, and the universe (H. D. Brown 2001). Carrell and Eisterhold propose that appropriate content schema is accessed through textual cues. Readers need knowledge about the content of the passage to be able to understand it as the background knowledge effect is accepted as very strong (Alderson, 2000). The important point is that this knowledge needs to be activated. P. Johnson (1982) also claims that characteristics of a text can have a large impact on readers' comprehension and she proposes that cultural background of the topic and the level of vocabulary difficulty of a passage influence reading comprehension. Harmer

(2001) maintains that in order to have better comprehension; the reader needs the right kind of pre-existing knowledge. This is a problematic area for FL readers who have different shared knowledge of cultural reference in their own language and culture. As a result of the differences between the reader's own culture and English culture, the reader has to work twice as hard in order to understand what she reads.

According to Harmer (2001), in top-down and interactive models, readers are supposed to use a variety of clues to achieve the meaning intended by the writer. Hadley (2003: 131) calls attention to three types of knowledge which are essential in comprehension process namely 'linguistic information', 'knowledge of the world', and 'knowledge of discourse structure'. Therefore, activating background and linguistic knowledge in the pre-reading stage to recreate the writer's intended meaning is supposed to be essential (Chastain, 1988). It is also important to remember the interaction between the *receptive* language skill of reading and the *productive* language skill of writing (Davies, 1976). In the process of writing, the writer codes the meaning by using letters and it is the reader's duty to decode the message (MacLeish, 1968). To do this, readers are required to recognize letters and combine their relevant background knowledge with the text.

P. Johnson's (1982) investigation on the impact of prior cultural background knowledge provided strong evidence for schema theory research. P. Johnson's most important conclusion can be regarded as the more significant effect of background knowledge than vocabulary in reading comprehension. Short and Candlin's (1986) example 'It was necessarily a Registry Office Wedding.' which is taken from David Lodge's *How far can you go* novel supports P. Johnson's conclusion as a non-native reader of English is hardly aware that a divorced British couple is not allowed to remarry in a church. Therefore, reading teachers are expected to provide such cultural background knowledge to their readers.

2.8.3 INTERACTIVE MODELS

Although bottom-up and top-down models fail to explain the reading process on their own, it is impossible to avoid the interaction of these two models in reading

(Nara, 2003a). Therefore, a third type of model appeared namely *the interactive models* – also called *parallel models* (Grabe, 1991) and *the interactive compensatory model* (Mikhaylova, 2009) – which integrate characteristics of both models (N. J. Anderson, 1999a). The essential part of reading comprehension appears as the consistency of the author's and readers' background knowledge. In this respect, Ediger's (2001: 154) definition is likely to define this complex and interactive process: "[R]eading [is] an interactive, sociocognitive process …, involving a *text*, a *reader*, and a *social context* within which the activity of reading takes place". It is essential for readers to be fast and efficient in recognising the letters which is similar to skimming a text in top-down models to get the main idea (Grabe & Stoller, 2002). Predicting the forthcoming information and integrating background knowledge with the text is an underlying principle in interactive models. Grabe indicates the two notions of interactive approaches as 'the interaction between the reader and the text' and 'the interaction between bottom-up and top-down processes'. The former deals with readers' prior knowledge which is relevant to the text and explains why activating schemata before reading and integrating this information with the text during reading results in better comprehension. On the other hand, the latter deals with the interaction between bottom-up and top-down models of reading in which fluent readers need both decoding and interpretation skills.

Furthermore, Adegbite (2000) examines interactive reading models in three respects. The first one assumes that readers are supposed to require an interaction with the text which is provided by recognizing words, decoding its content, and constructing the meaning where top-down and bottom-up procedures may assist to integrate the higher and lower levels of comprehension. Secondly, teacher-centred or learner-centred presentation is replaced with teacher-student and student-student interaction. Thirdly, reading in such models encourages readers to explore the text culture and environment.

Ur (1996) explains that when readers start reading a text, they are required to focus on decoding the letters to understand what words mean. In such instances they have little or no inference from their background knowledge and their understanding largely depends on decoding letters. But as soon as they meet a meaningful context

in the text, they bring their own interpretation to the word rather than merely focusing on its exact component letters. It is also important to remember that readers almost never "read anything in a 'vacuum'" (Willis, 1981: 150). This implies that readers already know something about the subject matter that the text they are reading. The interaction between the text and readers is not a unique feature of proficient readers. Alternatively, Widdowson (1980: 10) designates another interaction between the text and readers. According to him, readers may derive the meaning that they need from the text; however, the information derived from such an interaction "can never be complete or precise". Besides, such an interaction also highly depends on readers' background knowledge.

In parallel with interactive perspective, reading is considered as a kind of dialogue between the reader and the text (Ur, 1996). According to Grabe (1988), the reading process is not considered to be simply a matter of extracting information from the text. 'Think aloud protocols' in which readers indicate how they perpetuate the dialogue with the text reveal that some specific words or phrases activate readers' relevant background knowledge (Hedge, 2000). According to Baumann et al. (1993), in order to monitor reading comprehension, readers are also recommended to *think aloud*, which would allow them to see where they have difficulties. Moreover, Grabe implies that the new information which comes from the text may result in a change in readers' activated background knowledge. That is why reading is considered to be interactive rather than being active or passive.

2.8.4 COMPARISON OF METAPHORICAL MODELS

N. J. Anderson (1999a) resembles bottom-up models to *lower-level processes* and top-down models to *higher-level process*. Grabe (1999) explains that lower-level processes consist of recognizing orthographic and morpheme structures and processing phonemic information whereas in higher-level ones the author's intended meaning becomes more argumentative. Nassaji (2003: 261) intimates the complexity of reading as a multi-factor process by highlighting the important components involved in it. He identifies reading as 'a multivariate skill' implying the integration of lower-level and higher-level skills. Therefore, the information-processing system

in reading is believed to be consisting of different levels of processing which works independently in parallel with the interactive model of reading developed by Rumelhart (1977). While visual analysis is conducted by the data-driven processing level; hypotheses about the interpretation of the visual information coming from visual analysis is operated by the syntactic and semantic processing systems. Nassaji explains that each processing level carries its output to a central organizer where it is confirmed or rejected with reference to the information coming from other sources. In this respect, comprehension occurs as a result of this combined information.

Halliday's (1985) two probable levels of achievement are the lower-level skill of *contributing to the understanding of the text*, and the higher-level skill of *the evaluation of the text*. Lower-level skills are also called as *identification* whereas higher-level skills are called as *interpretation* (Grabe, 1991). Nassaji (2003) points out the lower level skill as the basis for the higher level skills. He also presents *literal* or *factual understanding* accounting for the lowest level of comprehension and *inferential understanding* accounting for the highest level of comprehension. According to Mei-Yun (1991), only linguistic knowledge is sufficient for literal or factual understanding of the text in an explicit way. However, in inferential understanding it is essential to achieve the implied meaning by paying attention to the details in a text where cultural knowledge, background knowledge, and also basic linguistic knowledge are all considered to be significant. For example, E. B. Hayes' (1988) findings indicated that native Chinese readers read for comprehension at the sentence level whereas non-native ones held to graphic features.

Parry (1987) indicates that reading in a bottom-up process can be considered as readers' perception of graphemes, words, sentences, paragraphs and so on; whereas reading in a top-down process can be considered as readers' background knowledge. According to Field (1999), bottom-up process is supposed to be accounting for perceptual information, while top-down process is supposed to be accounting for information provided by context. Field asserts that two terms were originated from computer science in which data-driven and knowledge-driven processes appear. Afterwards, they started to be used in relation with cognitive psychology. Bottom-up processes merely consist of the activities presented by

incoming stimulus; however the other factors also affect the activities in top-down processes along with the stimulus (Alptekin, 1993). Therefore, as indicated by Nara and Noda (2003), improving reading requires developing a large vocabulary pool; decoding meaning faster; and becoming proficient both in bottom-up and top-down models to achieve detailed or general meaning according to readers' needs.

S. Razı (2004) compares readers in bottom-up and top-down processes to passengers in a plane. Flying low resembles to bottom-up whereas flying high is like reading in top-down processes. On one hand flying low gives the advantage of seeing the details around, on the other hand flying high provides a general idea about the landscape in a short time. Passengers on a plane are not allowed to control their height as in bottom-up and top-down processes. Being able to control the plane means becoming a pilot which is like reading in interactive models and focusing on the details or getting the general idea in accordance with their needs.

2.8.5 SPECIFIC MODELS OF READING

Apart from the metaphorical models of reading there are also other specific reading models that provide good explanations on the emergence of reading comprehension. It might be beneficial to keep in mind the three characteristics of a good reading model proposed by Samuels and Kamil (2002). The first one indicates that a good model should summarize past, secondly it should assist to understand the present, and the final one implies that it should be possible to estimate the future. Below, eight specific reading models named 'The Psycholinguistic Guessing Game Model', 'Gray-Robinson Comprehensive Skills Model', 'Mackworth's Reading Model', 'The Interactive Compensatory Model', 'Word Recognition Model', 'Simple View of Reading Model', 'Language Experience Approach', and 'ACTIVE' will be introduced.

2.8.5.1 THE PSYCHOLINGUISTIC GUESSING GAME MODEL

Goodman (1988) explains his intentions in developing *The Psycholinguistic Guessing Game Model* as designing a reading process which is satisfactorily strong

to clarify and anticipate reading behaviour and investigates the efficacy of reading activity. Goodman's (1967) *Psycholinguistic Guessing Game Model* is considered to be a good example of top-down processing (Grabe & Stoller, 2002; Paran, 1997) and to achieve meaning it is unnecessary to read every letter or every word as it is possible to interpret what the text is saying (Doff, 1988). The three major steps in this model are *hypothesising*, *sampling*, and *confirming*. In order to achieve the meaning, readers are expected to succeed in each step to get information that is based on their background knowledge. Although bottom-up reading research misdirected researchers, there were exceptions. For example, Thorndike's (1917) ideas regarded reading as a thinking process and also as a problem which needs to be solved. His ideas later on helped researchers to move to top-down models of reading. In this respect Goodman's Psycholinguistic Guessing Game Model can be regarded under the sway of Thorndike's ideas. Relatively, Coady (1979) reinterprets the psycholinguistic model and lists the three components involved in the reading process as *process strategies*, *background knowledge*, and *conceptual abilities*. This associates the use of process strategies with beginner readers; whereas applying conceptual abilities enables more proficient readers to achieve better use of background knowledge.

Goodman's Psycholinguistic Guessing Game Model is also reflected by F. Smith (1971: 12) who regarded reading as 'reduction of uncertainty'. According to F. Smith, reading comprehension is based on only a small portion of information that comes from the text. F. Smith's example, 'The captain ordered the mate to drop the an___' might be helpful to understand how he reduces uncertainty in a text by dealing with four types of information namely *graphic*, *phonetic*, *syntactic*, and *semantic*. Graphic information deals with knowledge of English spelling which directs readers with limited possibilities where phonetic information is concerned about the limited possibilities of sound. Besides, syntactic information restricts that 'the' can be proceeded merely by an adjective or a noun phrase. Finally, semantic information focuses readers on the items that can be dropped and they are able to find the missing vocabulary 'anchor'. When F. Smith's ideas are compared to Goodman's, the similarities appear between these two. Similar cues can also be

identified in Goodman's Model namely *graphophonic*, *syntactic*, and *semantic* (Goodman, 1967). Then readers are firstly supposed to refer to their visual and phonetic features of English. Secondly, they integrate possible word order and thirdly, relate the meanings of the words in relation with each other. Then readers are supposed to be forced to create meaning from the text which bears resemblance to a dialogue between the reader and the text and also the author of it (Widdowson, 1979). Hedge (2000) proposes a challenging distinction at this point by integrating this dialogue with interactive role of reading and indicates that readers of any text are free whether to receive the author's intended meaning or interpret it with reference to their background knowledge. It should be noted that the second option of interpretation may involve arriving at different meanings by different readers in accordance with variability in their background knowledge.

Goodman (1967) defines miscues as mismatches between the text and an oral reading session and miscue analysis research provides evidence to psycholinguistic models. Goodman indicates that in a reading aloud session, three types of miscues may occur namely *graphophonic miscue*, *syntactic miscue*, and *semantic miscue*. Nassaji (2003) explains this procedure as comparing observed and expected responses in a reading aloud session and identifying errors made by readers. Nassaji also highlights that comparing conventional reading models to psycholinguistic ones reveals higher-level contextual and background knowledge sources, undervaluing to a large extent the contribution to reading of basic lower-level visual word recognition processes. According to Nassaji, for many instances readers are merely in need of minimal graphic cues since they have the ability of dealing with syntactic and semantic cues. In this respect, miscues are regarded as clues rather than errors (Harada, 2003). However, Alderson (2000) criticises reading aloud which is involved in miscue analysis as it is not a common way of reading in daily life.

Nassaji (2003) points out that although being popular, Goodman's Model is being questioned by a number of reading researchers including Goodman himself. Goodman (1988: 21) reveals that as language is social, his model functions in a *sociolinguistic* way; no matter how he calls it as *psycholinguistic*. Besides, his accepts that his model was not built on a learning theory. As the model focuses on

proficient readers, and the weak ones are excluded from the process; the applicability of the model to all stages of development is not possible. Although the model specifically focuses on English language teaching, Goodman highlights the importance of applying his model to reading also in other languages even with completely different orthographies. In spite of the fact that the model accounts for merely reading skill, it cannot be considered as an inconsistent one. Moreover, Goodman disclaims the criticism against his model which considers it as an incomplete one; however he welcomes the criticism which regards his model "for being unable to accommodate detailed micro model[l]ing of any factor or aspect".

In addition, Grabe and Stoller (2002) point out that Goodman's Model is considered to be fundamentally wrong by subsequent reading researchers. However, it is considered to be "a classic example of a top-down approach to reading comprehension" (Grabe & Stoller, 2002: 34). C. Wallace (1992) also indicates that both Goodman's and F. Smith's approaches support the excessive use of top-down reading models and they neglect the use of bottom-up models. However, bottom-up model is also considered to be essential in detailed reading. Moreover, Pressley and Woloshyn et al. (1995) argue to support the conclusion that referring to context clues in Goodman's Model is considered to be an immature reader's strategy. In conclusion, although Goodman's Model and the validity of his miscue analysis are being criticised, it is sure that his contribution to the understanding of reading process is undeniable. Although being subjected to a number of criticisms, Dechant (1991) appreciates Goodman and F. Smith's efforts in developing the model as it contributes to the perception of reading.

2.8.5.2 GRAY-ROBINSON COMPREHENSIVE SKILLS MODEL

Gray-Robinson Comprehensive Skills Model – developed by Gray (1960) and revised by H. M. Robinson (1966) – involves thinking in the process of reading. Fry (1977a: 11) points out that the following four steps are essential in this model.

1. Word perception, including pronunciation and meaning;
2. Comprehension, which includes a clear grasp of what is read;

3. Reaction to, and evaluation of, ideas the author presents;
4. Assimilation of what is read, through fusion of old ideas and information obtained through reading.

As identified by D. Williams (1978), these steps actually refer to the three skills of interpretation namely *comprehension*, *reaction*, and *assimilation*. In this respect, comprehension includes simply reading the text, getting the details, and reading beyond it. The second one, reaction – also called critical reading – integrates readers' emotional responses to the text. Finally, assimilation explains the interaction of existing knowledge with the new one from the text.

2.8.5.3 MACKWORTH'S READING MODEL

Mackworth's Reading Model is attributed to the development of computers and it combines elements of both the STM and the LTM dealing with visual processing time and neurological knowledge (Fry, 1977a). Lewis (1999) points out that the ideas in human mind are stored either on a short-term or a long-term basis. It is possible clarify this with the help of the following example:

CLNIPEGABTEOPCURMOKBO

When the list presented above is tried to be memorised, one can realise that it is almost impossible to recall all the letters; however the letters at the beginning and at the end of list are recalled better than the others presented in the middle of the list. This is called as 'the serial position effect' by Lewis (1999: 67). That is because the STM is limited in its capacity and also against time. Nevertheless, if there is a chance of grouping such input then the process of remembering will be much easier. The following four words which are derived from the previous letters exemplify this.

BOOK PENCIL BAG COMPUTER

It is quite easy to remember the words just after the memorization; however it may not be possible to recall all the four words later in the day. This is because of the

effects of the LTM in learning. If the words are not transferred to the LTM following the memorization process, then they cannot be recalled (Lewis, 1999).

2.8.5.4 THE INTERACTIVE COMPENSATORY MODEL

The basic aim in developing the interactive compensatory model of reading was to clarify differences of using context to enhance word recognition while reading (Stanovich, 1984). According to Grabe and Stoller (2002), in the 'interactive compensatory model' readers are supposed to first enhance powerful reading process and then their less automatic processes effect each other ordinarily. With the occurrence of automaticity, interaction and compensation improves. In this respect, compensatory strategies may assist to identify context clues for better comprehension or readers determine the meaning of a word in case of difficulties.

2.8.5.5 WORD RECOGNITION MODEL

Word recognition is considered to be the core of the reading process (Gough, 1984; Stanovich, 1991) and word recognition models are supposed to be in relation with connection theories in which the organization of information in mind is taken into consideration. Word recognition models function in parallel to bottom-up processes therefore the investigation of these models is dependent on limited amount of research conducted in bottom-up period (Grabe & Stoller, 2002). Word recognition needs to "be effortless and nearly automatic to allow attention to be focused on meaning" (Brockett, 2003: 123) otherwise the poor word recognition may hinder comprehension due to short-term retention. However, FL readers are supposed to be giving more attention to surface structures than L1 readers which results in failure in comprehension (Kern, 1989).

2.8.5.6 SIMPLE VIEW OF READING MODEL

As reading is believed to be consisting of multiple components (Grabe, 1991), the *Simple View of Reading* maintains that reading consists of two skills which are identified as decoding and linguistic comprehension (Curtis, 1980; Stanovich,

Cunningham, Feeman, 1984)**.** The former refers to word recognition whereas the latter is considered to be the ability which integrates lexical information to generate discourse.

Grabe and Stoller (2002) explain that *simple view of reading model* integrates word recognition abilities with general comprehension abilities. This is in parallel with Alderson's (2000) distinction of components of reading as decoding the words and understanding the text. Alderson explains that comprehension starts with grouping words according to their functions. In the next step discourse analysis directs readers to interact the meaning of the sentence and finally integrating existing and new information is considered to be essential. Alderson implies that these steps are also followed by listeners along with readers; therefore he identifies them as linguistic skills rather than reading skills. Moreover, the Simple View of Reading is blamed to be not reflecting the sophisticated nature of reading process (Kim, 2009).

2.8.5.7 LANGUAGE EXPERIENCE APPROACH

Socio-psycholinguistic – also called *meaning emphasis* – models are based upon the *Language Experience Approach* (LEA), a *literature-based approach*, and *the Whole Language Approach* (Ediger, 2001). LEA indicates that reading familiar texts facilitates reading resulting in better comprehension. LEA holds to two ideas to explain the philosophy in it (Ediger, 2001). The first idea refers to the fact of moving from the familiar to unfamiliar assists readers; and the second idea argues that in case of a matching the readers' schemata with the topic of the text, it will be easier for the reader to make sense of it. To achieve such beneficial results, LEA recommends that readers should be provided to create their own stories according to their schemata and world knowledge. Moreover, reading their own material also enables readers to become intrinsically motivated (H. D. Brown, 2001).

The impact of familiar texts on reading comprehension has also been of interest to several researchers (Alptekin, 2002 & 2003; Aron, 1986; Chen & Graves, 1995; Erten & Razı, 2009; Özyaka, 2001; Roller & Matambo, 1992) and their results

are all in parallel with LEA. N. J. Anderson (1999a) considers LEA as a glorious way to harmonize language teaching with its content.

2.8.5.8 ACTIVE

N. J. Anderson (1994) identifies eight strategies to be employed in FL reading classes with an aim of bridging the gap between theory and practice. N. J. Anderson (1999a) associates his reasons for the development of the framework of ACTIVE with key factors of reading and indicates that the word 'active' reminds him both these key factors and the active role of reader in reading process. N. J. Anderson (1999a: 4) explains that 'A' represents for activating prior knowledge; 'C' cultivating vocabulary; 'T' teaching for comprehension; 'I' increasing reading rate; 'V' verifying reading strategies; and 'E' evaluating progress. Moreover he reinforces his framework with two additional strategies of 'building motivation and planning' and 'selecting appropriate reading materials'. Each strategy in this framework is attached to each other interactively.

N. J. Anderson's (1994) first strategy in his framework is 'activating prior knowledge' as background knowledge is considered to be a major contributor to reading comprehension. Therefore, he strictly recommends activating readers' schemata before reading with the help of pre-reading activities. He also regards providing relevant prior knowledge as an essential part of pre-reading activities. Moreover, for some cases it might be necessary to remove the negative effects of background knowledge.

The second strategy in N. J. Anderson's (1994) framework 'cultivating vocabulary' highlights the importance of a formidable task of learning vocabulary. N. J. Anderson implies that it is impossible to learn vocabularies in a very short span of time. In addition, knowing a great number of vocabularies does not guarantee being a good reader. However, "[a]dding a regular, steady study of vocabulary to your reading improvement can provide consistent development and growth toward your goal of increasing your knowledge of words and how they work" (N. J. Anderson, 1999a: 21). He notes that reading teachers are required to teach principal

words along with the ability of guessing the meaning of less frequently used unknown words with reference to contextual clues.

N. J. Anderson (1994) thirdly refers to the notion of 'teaching for comprehension' in his framework and compares this with testing reading comprehension. To him, readers can be successful in reading process only if they monitor their comprehension which includes evaluating their predictions and making indispensable adjustments during reading. N. J. Anderson's this strategy undoubtedly reflects the principles of metacognition. Besides he also highlights the importance of developing an assumption in readers that reading the text will result in comprehension. Another important factor in teaching for comprehension is the effect of activating background knowledge, as presented in his first strategy. He concludes with a recommendation of techniques to be involved in reading classes as 'monitoring comprehension', 'formulating questions', 'summarizing reading', 'identifying transition words', 'justifying comprehension', and 'identifying relationship among ideas'.

'Increasing reading rate' appears as the fourth strategy in N. J. Anderson's (1994) framework where he relates this strategy to the notion of automaticity. He puts on to implement that in case of increasing reading rate this will in turn assist readers to use their cognitive comprehension skills more effectively. Increased reading rates are beneficial to those who are preparing for standardized tests and also to students who are required to read large amount assignments. To develop automaticity, N. J. Anderson suggests asking readers to recognize graphic stimuli in the order of letter, word, and phrase. Then 'chunking' is recommended where readers practise with a short passage. In the final step of automaticity, readers are expected to finish reading the text with time restrains. N. J. Anderson also proposes the use of a reading guide such as a pencil in order not to be lost in the text while reading it.

Fifthly 'verifying reading strategies' is listed in N. J. Anderson's (1994) framework where the active role of readers is highlighted. He indicates the importance of being able to organize reading strategies to achieve meaning. In this respect, readers are required to learn how to evaluate their success in using a reading

strategy along with learning how to use it. Therefore, N. J. Anderson recommends implementing reading strategy training programmes. To learn about readers' thought processes, teachers are expected to use verbal reports. Such reports enable readers to learn what others are doing to achieve meaning.

'Evaluating progress' is taken into consideration in the sixth place in N. J. Anderson's framework and he identifies that recording readers' progress whether quantitatively such as through examinations or qualitatively such as through questionnaires may assist them to motivate themselves to proceed flourishing. He also recommends the use of a reading log, reading rate graphs, reading rate records, a record of repeated reading practice, and reading portfolios to keep records of readers.

N. J. Anderson (1994) examines the two main reasons of reading in the seventh place 'building motivation and planning'. He distinguishes the main reasons as for receiving information and pleasure; and proposes that readers will be better motivated if they integrate one of these reasons in reading.

N. J. Anderson's (1994) eighth and final strategy in his framework is 'planning for instruction and selecting appropriate reading materials'. He reviews the eight steps of planning under the headings of 'teaching objectives', 'materials', 'warm-up/review', 'introduction to the new lesson', 'presentation', 'practice', 'evaluation', and 'application'. In selecting the reading material, he highlights the importance of using texts which receive readers' interests.

2.9 READING IN L1 AND FL

Although there is no strong evidence, efficient L1 readers are expected to make use of their skills also reading in a FL (Aebersold & Field, 1997). Although reading in L1 and FL resembles to each other in several ways; it is important to remember that there are some differences between these two.

In order to achieve the author's intended meaning in an FL, Bernhardt (1999) calls attention to the inevitable existence of an oral L1. The first difference between

L1 reading and FL reading is pointed out to be the readers' reasons of reading (Nara, 2003a). Since L1 readers are proficient also in other language skills, reading is not their only way of obtaining information. However, this is not the case for FL learners as they regard reading the most important skill to master (Carrell, 1988a; Eskey, 2005; Grabe & Stoller, 2001; Rivers, 1981) because of the easiness of obtaining written information in the TL. Hadley (2003) claims that it is almost impossible to administer native-language reading models directly to FL situations where readers are literate in their L1.

Another difference between L1 and FL reading can be explained with readers' background knowledge. As they are familiar with the content of the texts in L1, this makes the process of reading easier for them. Also learning to read in L1 requires fostering graph-meaning relationship where readers are familiar with sound-meaning relationship (Nara, 2003a). However, this is not valid for FL reading as readers are unfamiliar both to graph-meaning and sound-meaning relationships.

Besides, age is also attributed as another contributor of L1 and FL reading (Nara, 2003a). Nara explains that L1 reading starts at an early age before readers become mature; however FL reading usually starts at an older age, almost in adulthood with longer attention spans. Nara emphasizes that apart from the advantage of being able to focus on texts for longer periods, adults also enjoy benefiting from metacognitive strategies in reading more than the younger ones. Grabe (1991) adds two more to Nara's advantages that are their world knowledge and more flourished cognitive abilities. In addition, Grabe (1991) points out that L1 readers already possess several thousands of words and basic grammatical knowledge when they start reading; however neither of them is valid for FL readers.

In case of an existence of different alphabets between readers' L1 and English, such as the case for Japanese learners of English, it is inevitable to start teaching reading with the familiarization of the target alphabet. In this context, C. Wallace (1992) questions the approach of teaching illiterate people reading in English as a FL. She recommends that in most cases it works best starting with the teaching of L1 alphabet however if the learner's new environment is in English and

functions as acquisition rather than learning then it might be appropriate to start with teaching the English alphabet. Expectedly, if readers use the same alphabets in their L1 and FL, this will simplify their process (Aebersold & Field, 1997).

2.10 ADVANCED READERS VERSUS NOVICE READERS

In this section different proficiency levels of readers will be compared to each other with reference to three aspects of reading namely reading as *practice*, *product*, and *process*. There is little literature on reading as *practice* which implies readers' observation of what kinds of materials are being read in real life; therefore, readers are also required to consider their need analysis both in L1 and FL (C. Wallace, 2001). C. Wallace indicates that reading as practice activities may be valid both novice and advanced readers such as generating a list of reading activities based on real life reading and keeping a diary to note their reading strategies.

In the circumstances of reading where it is regarded as *product*, its early teaching starts with a query debate among *phonics* and *whole-word* approaches. The latter can be resembled to where children start reading by learning symbol-sound correspondences whereas the latter associates where children start reading by learning words' global shape rather than symbol-sound correspondences in them. Eskey (1988) and Paran (1996) are the two advocates of phonics approach where the emphasis is on the automated recognition of words. On the other hand; Mackay, Thompson, and Schaub (1970) support constructing sentences by using self-generated words and morphemes rather than dealing with individual symbols. When it comes to more advanced readers, as expectedly more complex sentences appear in the text with the integration of structures and cross-text features (C. Wallace, 2001). In this respect, identifying the genre and the type of the text might help readers.

When reading is regarded as *process*, miscue analysis is proposed for novice readers (C. Wallace, 2001). Miscues are regarded as mismatches between the text and an oral reading session (Goodman ,1967). C. Wallace considers it beneficial as it deals with systematic, syntactic, and phonological aspects of language. However, C. Wallace points out that more advanced readers enjoy a reader-centred approach in

which it is essential to bring their relevant background knowledge to the text and interact this information with the new one from the text. To enable this, a range of reading strategies are utilized by readers.

2.11 SHORT CIRCUIT IN READING

Krashen's (1985) 'Affective Filter Hypothesis' indicates the impact of having a low affective filter on acquisition. Then learners' motivation, attitude, self-confidence, and also anxiety all affect 'comprehensible input' reaching Chomsky's (1965) language acquisition device (LAD). When Krashen's hypothesis is adjusted into the process of reading then it can be concluded that if readers are anxious about the text they are reading, this prevents the meaning reaching their minds. Therefore, extensive reading can be regarded as a solution in case of high affective filter since it provides stress-free individual reading (Hedge, 2000).

Reading does not always result in comprehension of the text – called as a 'short circuit' by Goodman (1988: 16) – due to a number of reasons. In general terms, the reason of failure is attributed to lack of self-regulation (Çubukçu, 2009). Previously, Kottmeyer (1959) indicated that reading disability might be the consequences of *common causation factors* such as health, vision, hearing, speech defects, intelligence, laterality, and emotional disturbance; and *educational factors*. However, Goodman's reasons of the short circuit in reading are; not being able to get the meaning or losing the structure; using non-productive reading strategies; or being not allowed to stop non-productive reading. A short circuit may happen at any point in the process of reading.

The notion of 'short-circuit' was first introduced by Clarke (1980) in a study the characteristics of good and poor readers in L1 and FL were compared. He pointed out to the distinction between L1 and FL reading and questioned the short circuit of effective readers' strategies in FL. To him, limited control over the language along with the inability to deal with FL print caused short circuit. Therefore, he placed FL print to a more important rank. His short-circuit hypothesis asserts that incompetence in FL knowledge interferes with comprehension in FL even for those who are

successful L1 readers. Clarke's short-circuit hypothesis seems to be supported by Alderson's (1984) proposal of 'threshold level of competence' which is believed to hinder reading comprehension unless exceeded.

Being good at reading comprehension implies that readers are able "to get the maximum of information from a text with a minimum of misunderstanding" (Swan, 1975 :1). Swan (1975, 1976) examines factors which prevent readers from achieving meaning and firstly he implies that approaching the text merely in a bottom-up model does not enable readers to get the overall meaning of a text. Secondly, he indicates that approaching the text merely in a top-down model and reading very fast may result in misunderstanding exhaustive details. He thirdly refers to 'imaginative readers' who are under strong influence of their background knowledge and misinterpret the text. After presenting the factors related with readers, Swan (1975) moves to other comprehension problems which are caused by the text itself. He indicates that author's repetitive style and unknown words and expressions can be problematic while reading. Swan (1976) adds that long and sophisticated sentences might be problematic in reading along with expressions which clarify significant ideas indirectly.

However, F. Smith (1971) accepts that the process of reading is considered as any other process of acquiring information therefore readers are supposed to move words by passing through meaning. The common assumption of achieving meaning through words is not accurate. Hudson (1988) argues that as readers' comprehension depends on their background knowledge; in the case of a short circuit, meaning is not affected. It is also important to note that Alderson (1984) regards the problems that occur in the process of FL reading as a language problem. However, recently the problems in reading are regarded with a broader view by integrating theory and practice of reading into FL (Nara & Noda, 2003).

2.12 READABILITY ANALYSIS

The results of reading comprehension tests provide signs of failure and success in reading comprehension which is also helpful to identify text difficulty

(Linacre, 1999). Readability scores aim to measure the linguistic complexity of texts (Alderson, 2000) and to materialize this a number of readability formulas have been developed to assess texts' difficulty by considering them as products (C. Wallace, 1992) with reference to word and sentence lengths in them (Fry, 1977b). For example, Fry's formulate works on a sample of 100 words which come from the beginning, middle, and the end of the text; and calculates the difficulty in positive correlation with word and sentence lengths. There are also formulates which aim to estimate lexical load by identifying frequencies of words that appear in a text or by examining their lengths. Another approach to assign readability of a text is investigating the sentence lengths in it. However, Alderson regards it as a controversial issue since adding new words to a sentence may simplify its comprehension. Alderson concludes that it is almost impossible to identify the difficulty of a text absolutely, therefore he recommends use of authentic texts in appropriate to the aim.

G. H. McLaughlin (1969) presents that, to calculate readability, the Flesch Reading Ease Scale uses the average sentence length and the average number of syllables per word where higher ranks illustrate the easiness of the texts. G. H. McLaughlin maintains that receiving a score at the bottom of the Flesh scale '0' implies that the text is 'very hard to read' with an average of 37 words in each sentence where the average word syllable is more than two. On the other hand, receiving the highest rank of '100' indicates that the text is 'very easy to read' with an average of 12 or fewer words in each sentence which include no words of more than two syllables.

As an alternative to the Flesch Reading Ease Scale, G. H. McLaughlin (1969) developed the SMOG formula with an aim of predicting the difficulty level of texts. The principle of the SMOG is similar to the Flesh and the formula aims to discriminate words with three or more syllables since they are supposed to make the text difficult to read. As opposed to the Flesh, the higher ranks in the scale indicate the difficulty of the texts. For example, G. H. McLaughlin highlights that a score at the bottom of the SMOG scale between '0-6' indicates low-literate reading, a score between '13-15' indicates college reading, a score of '16' indicates university degree

reading, a score between ’17-18’ indicates post graduate studies reading, and a score of 19 or above at the top of the scale indicates post graduate degree reading.

Chastain (1988) revises the validity of readability analysis and reveals that it would be unwise to blame linguistic complexity on its own for reading comprehension problems as the process of reading is regarded as an interactive one in which readers’ schemata and their interest in reading the text are considered to be major contributors to the understanding of the texts. Similar to this, C. Wallace (1992) criticises readability formulas since they merely take words and sentence lengths into consideration. She argues that reduced clauses are also indicators of text difficulty since they shorten sentences; therefore, they should be taken into consideration in readability formulas. Alderson (2000) also expostulates the use of readability analysis as he regards it as a product approach to reading with the two limitations of variation in the product and also method which is used to measure the product.

2.13 SUMMARY

This chapter aimed to summarize the literature on the notion of *reading*. It first defined *literacy* as being proficient with the print of any language (Weinstein, 2001) then the sophisticated language skill of reading was defined in relevance with *practice*, *product* or *process* (C. Wallace, 2001) along with an implication on achieving either *literal* or *implied* meaning in any text. Thereafter, reading was indicated as the most important skill to master since it assisted learners to achieve their goals (N. J. Anderson, 1999a). Although readers’ purposes may differ for reading, each reader is required to have at least one purpose to get involved in reading (Grabe & Stoller, 2002). The Cognitive Academic Language Learning Approach was developed by Chamot and O’Malley (1987) in which the initial aim was assisting intermediate and advanced students at upper elementary and secondary schools. Efficient readers were indicated going through a number of various processes which were different from the inefficient readers’ (Ur, 1996) such as monitoring comprehension and using remedial strategies appropriately (Hare & Smith, 1982). Flemming (1997) praises analysis and evaluation by readers as they

are indicators of critical reading. The role of readers changed in the 1980s and 1990s with the advances in reading research (C. Wallace, 2001). Reading was accepted as a passive, then an active, and recently as an interactive skill. The process of reading demonstrated as a dynamic and interactive process where learners were expected to refer to their relevant schemata along with their goals in reading. Despite criticism, Goodman (1967) and F. Smith's (1971) efforts in psycholinguistic reading research contributed to the perception of reading. Although there is no strong evidence, efficient L1 readers are expected to make use of their skills also reading in a FL (Aebersold & Field, 1997). A 'short circuit' defined as failure in achieving intended meaning (Goodman, 1988). Readability scores aim to measure the linguistic complexity of texts (Alderson, 2000) and to materialize this a number of readability formulas have been developed to assess texts' difficulty by considering them as products (C. Wallace, 1992) with reference to word and sentence lengths in them (Fry, 1977b).

CHAPTER THREE

LANGUAGE LEARNING STRATEGIES

3.0 INTRODUCTION

This chapter aims to integrate the skill of reading with metacognition since the basic aim of the present study focuses on the impact of MRSs on reading comprehension. To achieve this aim, after presenting language learning variables which provide basis for the existence of LLSs, it defines and discriminates strategies into six categories in relevance with Oxford (1990) along with various prominent researchers' ideas. Then, by examining some significant LLS research studies, their contribution into the field will be underlined. By defining *reading strategies* as specific actions consciously employed by the reader to achieve intended meaning, this chapter aims to give examples of them which are supported by the examination of some significant reading strategy research studies. Before, moving to MRSs, the notions of metalinguistic knowledge and metacognition are taken into consideration with an emphasis on relevant literature. Afterwards, MRSs are defined, categorised, and supported with reference to MRS research. Following this, instructing reading strategies are discussed in two broad categories of individual and multiple reading strategy instruction which are supplemented with relevant research studies. Unavoidably, MRS instruction research studies are documented to relate the skill of reading with the notion of metacognition. Finally, the chapter deals with reading activities in three broad categories of pre, while, and post reading activities which might be helpful for teachers to plan their reading courses.

3.1 LANGUAGE LEARNING VARIABLES

For many years, the notion of learning was isolated from the notion of teaching in which individual differences were disregarded. However, educational and cognitive psychological studies assist for the interaction of teachers' effective

teaching methods with learners' effective learning strategies (Weinstein, Meyer, Husman, Stone, McKeachie, 1999). The sophisticated process of FL learning involves a great deal of factors which have impact on them. Chastain (1988: 121-138) examines such factors and indicates two broad categories, one dealing with 'learner variables' the other one dealing with 'instructional variables'. Undoubtedly these two groups of variables bring along their own subcategories. Roughly speaking, learner variables are constructed of four factors namely 'affective', 'cognitive', 'social', and 'biological'; whereas instructional variables reflect two other factors related whether with 'the teacher' or 'instruction'.

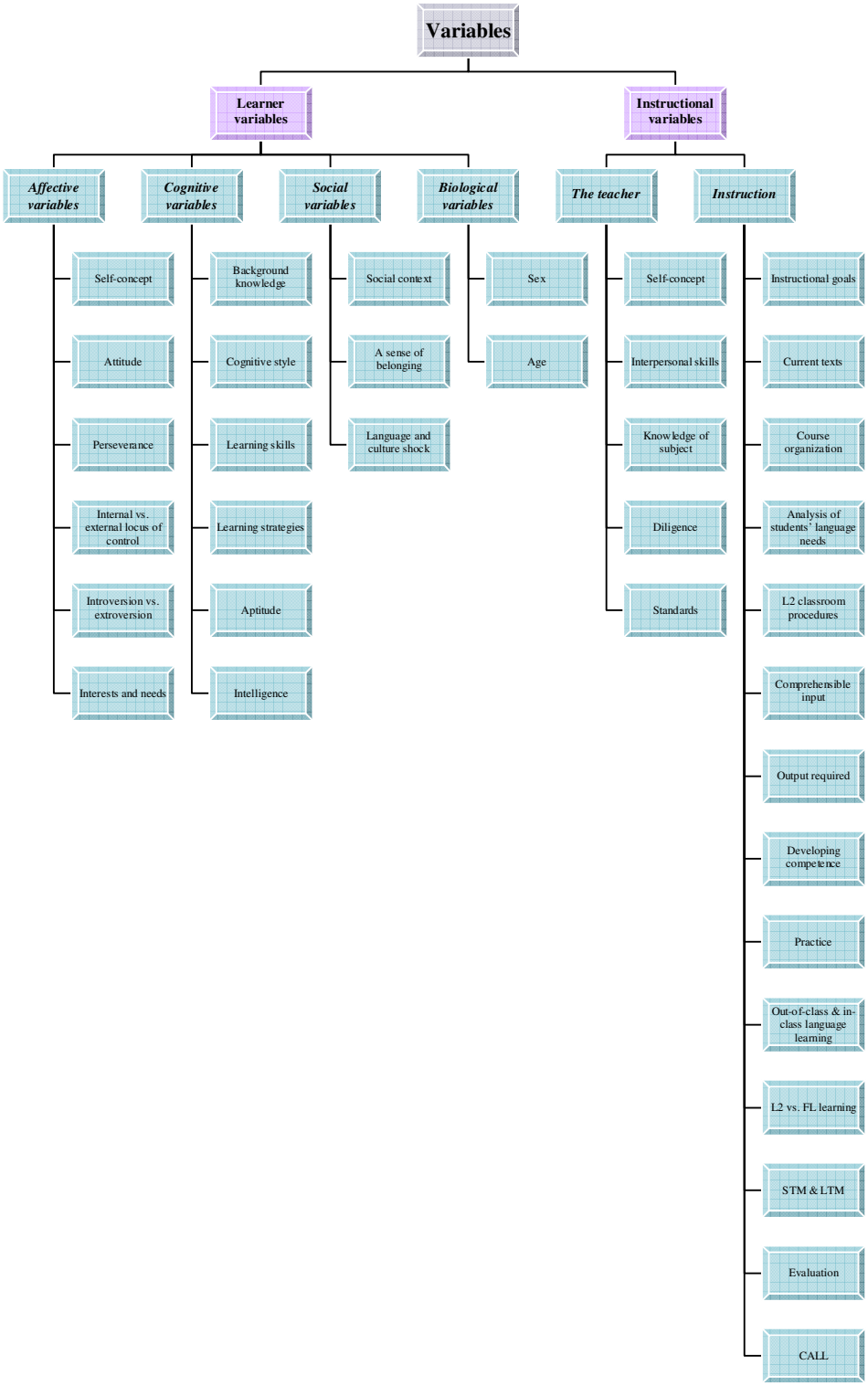
As indicated in Figure 3, 'learning strategies' which is the main focus this present study; appear as a cognitive group learner variables. To complement the cognitive group of variables Chastain (1988) refers to 'background knowledge', 'cognitive style', 'learning skills', 'aptitude', and 'intelligence'. The cognitive variable of background knowledge has its roots in schema theory which accounts for the information that is brought to the text by readers and relatively schemata is defined as interlocking mental structures representing readers' knowledge (Alderson, 2000) which have a considerable impact on comprehension. In schematic respect, readers' contribution to the incoming text is considered to be essential. Another cognitive variable of cognitive style integrates readers' predispositions which are utilized in the reading process. Chastain points out that although learning skills are considered to be integrated in learners' background knowledge; they stand alone due to their significant role in FL learning. Through aptitude, the aim is discriminating gifted learners from the other weak ones; and helping them to become more successful language learners such as training good learners' strategies. In addition to this, intelligence is also pointed out as another contributor of cognitive language learning variables and Chastain indicates that more intelligent students are better learners of FL.

In this respect, Figure 3 demonstrates the variables affecting FL learning.

Figure 3

Variables in Language Learning

(Source original, Based on Chastain, 1988: 121-138)



3.2 LANGUAGE LEARNING STRATEGIES

Scarcella and Oxford (1992) provide basis for the existence of LLSs by dealing with four areas of competence namely grammatical competence, sociolinguistic competence, discourse competence, and strategic competence. To them, language learners use a variety of strategies to communicate more effectively. Relevant to this, LLSs are considered to be of the utmost importance for EFL learning since appropriate use of strategies relevant to learners' styles helps them improve their proficiency and self-confidence (Oxford, 1990).

One of the earliest definitions of learner strategies belongs to Rubin (1975: 43) who regards them as "techniques or devices which a learner may use to acquire knowledge". Thereafter, Weinstein and Mayer's (1986: 315) definition which considers learning strategies as "behavio[u]rs or thoughts that a learner engages in during learning that are intended to influence the learner's encoding process" adds some extra gloss to the field. Short after Weinstein and Mayer's definition, O'Malley and Chamot (1990: 1) delineate learning strategies in a similar way as "the special thoughts or behavio[u]rs that individuals use to help them comprehend, learn, or retrain new information". Eventually by the same year, Oxford (1990: 8) emerges with her very famous and almost complete definition of learning strategies, by expanding the favourite technical definition of learning strategies as "operations employed by the learner to aid acquisition, storage, retrieval, and use of information" by adding "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations".

The subsequent definitions seem to counterfeit the previous ones. For example, Chamot and El-Dinary (1999: 319) describe learning strategies "as mental procedures that assist learning and that occasionally can be accompanied by overt activities" which is quite similar to O'Malley and Chamot's (1990) archetypal illustration. In the recent decade, Dörnyei and Skehan (2003) review the definitions on learning strategies and they maintain that strategies can be accepted as either cognitive or emotional behaviour.

Learner strategies are believed to be employed consciously by learners (N. J. Anderson, 2005; Bialystok, 1978; Cohen, 1990, 1998; Hsiao & Oxford, 2002; Oxford & Cohen, 1992; Reid, 1998); therefore, learners achieve their aims "only through conscious, systematic application of a battery of strategies" (H. D. Brown, 2001: 207). Although strategies are discriminated from the other processes by the factor of conscious choice, as Cohen (1998) notes, when learners practise a strategy adequately and develop a new habit which originates from this strategy; then they lose their control on this strategy since it turns into a 'process'. In this respect, Macaro (2006: 9) points to one of the problems related with LLSs as "a lack of consensus on a strategy's relationship to skills and processes". Since there are significant theoretical differences between *strategies* and *skills*, as explained by Carrell (1998), the present study deliberately aims to use the term strategy to refer to actions that are selected consciously by readers to achieve their reading goals.

Although effective learners are proven to be referring to a large number of strategies appropriate to their task (Ehrman & Oxford, 1988; Oxford, 1989 & 1990; Oxford & Crookall 1989), Ehrman and Oxford (1995) point out the importance of harmonizing strategies as a great number of unsuccessful learners refer to a large group of strategies sporadically. Effective language learners are known to be aware of the strategies that they use and they also know why they use them (Abraham & Vann, 1987; O'Malley & Chamot, 1990). Besides, learners' perception of strategies has an impact on the use of them (Barnett, 1988). However, beliefs are also considered to affect any aspect in educational practice (LoCastro, 1994; Nyikos & Oxford, 1993; N. Razı, 2009).

Reid (1998) along with Oxford and Nam (1998) reinforce the idea that learners' strategy choice is under the impact their learning styles. However, it should be noted that unlike learning styles, learning strategies are conscious ones. In this respect, Styles and Strategies-Based Instruction (SSBI) regards learners' styles and accommodation of learning strategy instruction to be of the utmost importance (N. J. Anderson, 2005). LLS research indicates that the frequencies of using strategies along with the strategies they prefer are determiners of successful and unsuccessful learners (Hong-Nam & Leavell, 2006). Since successful learners are considered to be

using learning strategies effectively (Green & Oxford, 1995; Aebersold & Field, 1997) to solve problems that they encounter in learning, learning strategies can be identified as "specific methods of approaching a problem or a task" (H. D. Brown, 2000: 113). Tercanlıoğlu (2004) emphasizes that identifying the strategies of more successful readers can assist teachers as it enables them to instruct these strategies to less successful ones.

Donato and McCormick (1994: 455) relate Leontiev's (1978) *activity theory* with LLSs where strategies are supposed to include three levels of activities and relatively they examine how LLS develop as a by-product of classroom culture. Firstly, in 'object-oriented learning activity' learner's aim of using the strategy is considered; secondly, in 'goal-directed actions' learner's maintenance of the activity is examined; and thirdly, in 'the operational composition of these actions under particular conditions' the contribution of the situation to the automatization of the strategy is utilized. They also call attention to the importance of regarding strategies as goal-directed actions.

Hypermedia interactivity can be explained as "linking together multimedia data with hypertext links" (Hémard, 2006: 24) and becomes more significant by the spectacular growth of the web. However, Hémard reveals the flawed hypermedia interaction in language learning websites. Paying attention to design features of such interactions will obviously facilitate readers' process which would result in changing the strategies that they read while reading interactive texts. Similarly, Topçu (2007) also recommends adding a preview window to hypermedia texts so that the use of problem-solving and supporting reading strategies can be fostered.

3.2.1 LANGUAGE LEARNING STRATEGY RESEARCH

The study of successful learners provoke researchers to investigate their learning strategies (Hedge, 2000; Richards & Renendya, 2002). For example, Rubin (1975) and Stern (1975) are known to be the first two researchers who examined the characteristics of good language learners in their studies. Following Rubin and Stern, other researchers also investigated the use of LLSs of both successful (See, Chamot,

1987; Naiman, Fröhlich, Stern, Todesco, 1978; Naiman, Fröhlich, Todesco, 1975) and unsuccessful learners (See, Abraham & Vann, 1987; Chamot & Küpper, 1989; Hosenfeld, 1976, 1984; Porte, 1988; Vann & Abraham, 1990). Recent research on this issue encourages appropriate use of strategies, since it "results in improved L2 proficiency overall, or in specific language skill areas" (Oxford, 2002: 126). Controversy, concerning learners' inadequacy in using appropriate strategies triggered researchers to study also unsuccessful learners (See Vann & Abraham, 1990) who were attributed as having difficulties in administering strategies, such as predicting and monitoring (McNeil, 1987), since monitoring is supposed to have a positive effect on achievement (Bialystok, 1981). Good language learners adapt themselves to different situations through monitoring and adapting strategies; however, unsuccessful learners have a tendency to pursue ineffective strategies (Chamot & El-Dinary, 1999).

Alptekin (2007) explored the differences in the choice of LLS and in the frequency of its use among 25 international non-Turkish students at university level in Turkey, English (FL) being learned in a tutored and Turkish (L2) being learned in a non-tutored manner. His results concerning strategy preference and frequency of use indicated significant differences between L2 and FL learning. The participants were high users of compensation and social strategies and medium users of cognitive strategies in L2 context. On the other hand, they were high users of metacognitive, cognitive, and compensation strategies and medium users of social strategies. Alptekin's results indicated that his participants were high users of compensation and social strategies in the context of learning Turkish whereas they were high users of metacognitive, cognitive, and compensation strategies in the context of learning English. It might be possible to relate his findings with Block's (1986) ideas who indicates that although the use of strategies may change with reference to L2 and FL context, it is not tied to any specific language since the use of strategy is a stable phenomenon.

The findings of LLSs indicate the superiority of females in using more strategies when compared to males (Ehrman & Oxford, 1988; Hong-Nam & Leavell, 2006; Oxford, 1990; Oxford & Ehrman, 1988, 1995; Politzer, 1983; Oxford &

Nyikos, 1989; Green and Oxford, 1995). Ehrman and Oxford (1988) concluded that learners' sex and occupation had a significant impact on their use of LLS. However, they were not able to support this sex difference impact in a further study since the findings of Ehrman and Oxford (1990) did not reveal any significant differences between males and females.

Shen (2005) investigated Chinese character learning strategies and the findings indicated that participants referred to metacognitive strategies much less than cognitive ones. Although it seems to be a complicated phenomenon, Shen aims to clarify it. She explains that as there is not a linear correlation between cognition and metacognition, they do not develop concurrently.

> One reason for this may be that metacognition concerns knowledge of one's own cognitive processes and does not deal directly with processing incoming information. Thus the development of self-awareness related to a particular cognitive process … might have to wait until the learner has accumulated a critical number of cognitive strategies.
>
> (Shen, 2005: 62)

Besides, Shen (2005) points out that encountering learning problems provides them chances to think about how they acquire information, thus possessing metacognitive knowledge does not guarantee its usage through metacognitive strategies.

The findings of Chamot and El-Dinary (1999) indicated similarities between young and older learners' use of strategies. According to them, it is good learners' characteristic to monitor their learning process and adapt strategies whereas poor ones seem to hold to their strategies. By doing so good learners have an intention of focusing on the task as a whole which is not the case for poor ones as they pay excessive attention to details. Age is also considered to be an effective factor by Chamot and El-Dinary (1999) and Singhal (2001) indicates less and ineffective use of strategies by younger and less proficient learners.

The previous literature on learning strategies focuses on the characteristics of good learners. Pressley and Woloshyn et al. (1995: 2) refer to 'the good information

processor model' and indicate that it is essential for a good strategy user to possess a large number of strategies and use them to overcome cognitive difficulties. Poor readers, on the other hand, are regarded as having difficulties in administering strategies, such as predicting and monitoring (McNeil, 1987), since monitoring is attributed to have a positive effect on achievement (Bialystok, 1981). On the other hand, several research studies indicate that more proficient users of language refer to LLSs more than less proficient ones (Green & Oxford, 1995; Griffiths, 2003; Mogogwe & Oliver, 2007; O'Malley & Chamot, 1990; Taguchi, 2002).

In order for strategies to be useful, they are required to be chosen carefully with reference to learners' learning styles. The task which is performed by the learners also has an impact on the identification of appropriate strategies. In order to provide a quicker and more effective learning environment, language teachers should help their learners to be aware of strategies (Oxford, 2003) since learners are often not aware of them (Nyikos & Oxford, 1993). Green and Oxford (1995) recommend teachers to encourage their learners to use strategies in their naturalistic environment; therefore they aim to call attention to the importance of practising strategies in out of school contexts.

The following sections deal with the categorization of LLSs.

3.2.2 CATEGORIES OF LANGUAGE LEARNING STRATEGIES

Since the emergence of LLSs by the 1970s, there has been considerable amount of research on their interaction with language learning process. Due to a large number of strategies which are readily available for learners, researchers have long been aiming to classify them (See N. J. Anderson, 2005; Carson & Longhini, 2002; O'Malley & Chamot, 1990; O'Malley, Chamot, Stewner-Manzanares, Küpper, & Russo, 1985; O'Malley, Chamot, Stewner-Manzanares, Russo, & Küpper, 1985; Oxford, 1990; Weinstein & Mayer, 1986; Rubin, 1981). Although researchers aim to provide reliable basis for their various classifications, there has not been a consensus on the classification of LLSs. However, Oxford's efforts deserve appreciation since she consistently aims to question the classification of the strategies in her very

famous Strategy Inventory for Language Learning (SILL; See, Hsiao & Oxford, 2002). Therefore, the classification of LLSs in this present study will be based on Oxford's.

The two widely-accepted categorizations of learning strategies date back to the early 1990s prominent publications belong to Oxford (1990) and O'Malley and Chamot (1990). Language learning literature presents a variety of different strategies which are mainly used for literacy. O'Malley and Chamot list learning strategies in three categories: *metacognitive*, *cognitive* and *social/affective*. On the other hand, Oxford's six types of learning strategies are broadly categorized in two groups; one dealing with *direct*, and the other dealing with *indirect* ones. It is possible to relate Oxford's classification with Rubin's (1981) studies since Rubin previously discriminates strategies that contribute directly to learning from the ones that contribute indirectly to learning. Oxford (1990) lists *memory*, *cognitive*, and *compensation* strategies in the direct group; and *metacognitive*, *affective*, and *social* strategies in the indirect group. She indicates that there is an interaction between direct and indirect strategies; therefore learners may need to refer to their direct strategies in order to use an indirect strategy.

Under the impact of Oxford's (1990) categorization of learning strategies, Vermunt (1996) regards *metacognitive regulation activities* as indirectly related with learning outcome and they focus both on cognitive and affective aspects of learning. Expectedly, Oxford's six strategy groups were regarded as better than the other strategy categorizations by Hsiao and Oxford (2002). In addition to Oxford's six LLS categories, Carson and Longhini (2002) add compensation strategies that fall into direct strategy group.

Another striking categorization of learning strategies comes from Stern (1992) with five groups, namely, *management and planning*, *cognitive*, *communicative-experiential*, *interpersonal*, and *affective*. It is interesting to note that metacognitive strategies exist in this categorization under the title of *management and planning*, which includes learners' plans, objectives, assessment of progress, and evaluation of achievement. Recently, N. J. Anderson (2005: 758) sums these early

classifications of learning strategies in five groups namely *memorization*, *clarification*, *communication*, *monitoring*, and *prior knowledge*.

3.2.2.1 Cognitive strategies

Since the first step of learning a skill is the cognitive step (O'Malley & Chamot, 1990), cognitive strategies are considered to be very popular among language learners and they are essential in language learning (Oxford, 1990). These strategies allow learners to interact with language items through "reasoning, analysis, note-taking, summarizing, synthesizing, outlining, reorganizing information to develop stronger schemas (knowledge structures), practicing in naturalistic settings, and practicing structures and sounds formally" (Oxford, 2003: 12). By means of these strategies, learners can interact with the new information in a variety of ways (Hedge, 2000). Chamot and O'Malley (1987) point out that a number of such strategies can facilitate language learning.

3.2.2.2 Metacognitive strategies

Learning strategies are supposed to be fostering learners' autonomy in language learning (Holec, 1981). According to Ellis Ormrod (2006: 46), "[t]he term metacognition refers both to the knowledge people have about their own cognitive processes and to their internal use of certain cognitive processes to facilitate learning and memory", therefore metacognition is believed to maximize memory for example by knowing the limitations of memory. Gardner (1978) proposes the roots of metacognition belong to early accounts of one's life. O'Malley and Chamot (1990) describe the process involved in metacognitive strategies as consisting of four elements, namely, 'planning', 'prioritising', 'setting goals', and 'self-management'. Metacognitive strategies assist learners to *orchestrate* (Brown & Campione, 1980), *regulate* (Oxford, 1990; Rubin, 1981), *arrange* (Oxford & Nyikos, 1989), *organize*, *plan*, *evaluate* (Richards & Lockhart, 1996), *monitor*, *control* (Busato, Prins, Elshout, Hamaker, 2000), and *co-ordinate* (K. Johnson, 2001) their own strategies and learning. Such strategies also involve thinking about learning, monitoring one's own production, and evaluating comprehension (V. Cook, 2001). Therefore, being

able to monitor learning strategies can contribute to their learning through metacognitive approaches ("National Research Council", 2000). Relatively, according to Demirel (1992: 9), metacognitive learning strategies are 'advanced organizers', 'directed attention', 'selective attention', 'self-management', 'functional planning', 'self-monitoring', 'delayed production', and 'self-evaluation', which are in parallel with Singhal (2001).

Furthermore, Phakiti (2003) proposes that research should not differentiate between cognitive and metacognitive strategies; rather, it should identify the underlying goals or motivations for using a strategy and thereby define a strategy as either cognitive or metacognitive. In this respect, learners use cognitive strategies to achieve a particular goal such as understanding a text and metacognitive strategies to ensure that they have achieved this goal such as monitoring comprehension of the text.

In addition, Tudor (1996) calls attention to the relationship between metacognitive strategies and organisation of the learning process. Metacognitive strategies encourage learners to observe their environment rather than focusing their attention on learning (Williams & Burden, 1999). Therefore, they need to be aware of what they are doing and also which strategies they are using. In this respect, it is also crucial to manage the strategies appropriately for different tasks. As learners are aware of their own learning process, they know about their knowing, a different level called *metacognition*. Williams and Burden conclude that providing metacognitive awareness is crucial for effective learning and point out the difference between the strategies which allow direct and indirect contribution to learning. If learners memorize new vocabulary or guess a meaning of an unknown vocabulary, these then could be considered as direct contribution to the learning of the TL which takes place at a cognitive level. However, if they have intentions to chat with foreigners on the Internet or wander enthusiastically around to contact and socialize with tourists then these could be exemplified as indirect strategies.

Alternatively, Bialystok (1981: 26) draws connections between Krashen's model of 'language monitor' and the notion of the monitoring strategy. In this

respect, Bialystok indicates time and attention as the two essential elements of monitoring with the assumption of "language use is not ordinarily under conscious control". However, as in Krashen's model learning does not lead to acquisition, using learning strategies consciously does not foster learning a FL (O'Malley, Chamot, Stewner-Manzanares, Russo, Küpper, 1985).

3.2.2.3 Memory strategies

Memory – also called *memory-related* (Oxford, 2001a) and *mnemonic* (Oxford, 2001b) – strategies which assist learners to create linkages between existing and new information are known to have been in use for a very long time. However, they do not guarantee deep understanding of the information (Oxford, 2001a). In should be kept in mind that there may not be a positive relation between memory strategies and L2 proficiency (Oxford, 2003) and it is important to differentiate 'cognitive' strategies from 'memory' strategies. Although cognitive strategies relate existing and new information at a deep level, memory strategies provide this relation only in a simple and superficial way (Oxford, 2001b: 167).

3.2.2.4 Compensation strategies

Through compensation strategies learners can participate both in receptive and productive skills even if they have insufficient TL knowledge. However, when such strategies are used for the productive skills of listening and writing, they are labelled as *compensatory strategies*. They are also considered to be forms of communication strategies and not regarded as LLSs (Cohen, 1998); therefore they are used not to learn a language but to use it. However, Oxford (2001b & 2003) considers that any compensation strategy assists learners.

3.2.2.5 Affective strategies

Krashen's (1985) Affective Filter Hypothesis proposes that affective factors prevent new information reaching the LAD. Affective strategies contribute learners to regulate attitudinal and emotional factors on their own. "Affective strategies, such

as identifying one's mood and anxiety level, talking about feelings, rewarding oneself for good performance, and using deep breathing or positive self-talk" are considered to be having a positive impact on language learning (Oxford, 2003: 14). However, cultural norms should also be taken into consideration to judge such strategies, as they are culture specific (Oxford, 2001b).

Motivational self-regulation examines the ways that learners use to motivate themselves. In this respect, Dörnyei (2001: 110) classifies self-motivating strategies that can be regarded to be very similar to Oxford's (1990) and O'Malley and Chamot's (1990) *affective strategies*. Dörnyei and Skehan (2003) categorize them into five classes as 'the controls of commitment', 'metacognition', 'satiation', 'emotion', and 'environment' which are based on the typologies of Kuhl (1987) and Corno and Kanfer (1993).

3.2.2.6 Social strategies

Language is a device which enables people to communicate through interaction; therefore learning a language should involve this interaction. Social strategies provide learners with the means to interact with other people through improving their understanding and enhancing language production. Social strategies not only foster learning but also relieve learners to realize the new culture (Oxford, 2001b). Asking questions to get verification, asking for clarification of a confusing point, asking for help in doing a language task, talking with a native-speaking conversation partner, and exploring cultural and social norms can be examples of such strategies (Oxford, 2003).

3.3 READING STRATEGIES

Waldman (1958: 5) endeavours to answer the question of how to become a more efficient reader and he indicates that "[t]he way to read both faster and better is to read, *read*, **read,–faster and better** [emphasis is original]. The method works, too, in most cases." Unfortunately this is not so simple as indicated by Waldman and becoming a more efficient reader requires the integration of some other complicated

skills as readers follow a very complex process in reading by engaging in different models where the aim is decoding the writer's intended message by referring to background knowledge. Since reading was regarded as a unitary process in the 1970s (Goodman, 1967; Lunzer & Gardner, 1979; F. Smith, 1971), reading professionals started to deal with the terms of *reading strategies* rather than dealing with *reading skills* (C. Wallace, 1992).

Although reading strategies have long been studied, regrettably reading researchers have not yet agreed on its definition as the term has been utilized either in L1 or FL settings (Cohen, 1998); and despite the abundance of research studies, there has been a lack of consensus on a clear categorization of reading strategies among methodologists. For example, reading strategies are delineated as "the mental activities that the readers use in order to construct meaning from a text" by Aebersold and Field (1997: 14) and they are subject to change through age. This seems to be derived from both Garner's (1987) definition which lacks mentioning mental activities and Barnett's (1989) definition which associates reading strategies with mental operations. To achieve their goals, readers use different learning strategies, in other words, thoughts and behaviours to accelerate comprehension (O'Malley & Chamot, 1990). Afterwards, reading strategies are regarded as allowing readers to approach a text in a variety of ways by considering the nature of the text, their purposes, and the context of it by C. Wallace (1992). Brantmeier (2002) considers them as comprehension processes which allow readers to understand what they read. More recently, M. L. Abbott (2006: 637) defines reading strategies "as the mental operations or comprehension processes that readers select and apply in order to make sense of what they read". In the light of previous literature, the term *reading strategy* is defined for the purposes of this study as specific actions consciously employed by the reader to achieve intended meaning.

Reading strategies are assigned in accordance with readers' aims in reading (Hedge, 2000) and allow readers to deal with more proficient texts (Chastain, 1988). Grabe (1999) highlights that identifying words without referring to appropriate strategies is not sufficient for reading comprehension. C. Wallace (1992: 67) indicates that effective readers rely on a number of different reading strategies in

accordance with their purpose in reading, text-type, and context. She points out that "reader strategies can be generalized across subject boundaries" which implies that it is possible to transfer such strategies from L1 to the TL. Aebersold and Field also add that L1 reading strategies are subject to be observed while reading a text which is beyond one's limit. According to C. Wallace, in a strategy-based approach the process of reading is not regarded constituting of different subskills. Research on reading strategies indicate that they motivate readers by providing autonomy (Bamford & Day, 1998). N. J. Anderson (1999a) points out that any reader is required to utilize the skills of understanding the main ideas in a text; inferring meaning; predicting outcomes; and guessing lexical items by the help of contextual clues. Then readers are expected to refer to reading strategies to materialize these skills. However, it is interesting to note that it is quite common for readers to be unaware of the strategies that they use while reading a text (Noda, 2003c).

Although some experts prefer to use the terminologies of *reading skill*, *microskill*, or *subskill*, a vast majority of experts have a tendency of using the term of *reading strategy* since a reading skill is supposed to become a strategy when it is used independently by a reader (M. L. Abbott, 2006). Relatively, Alptekin (2007: 5) indicates that "[s]trategies would then lead to actions aiming to retrieve and store new information until this information is automatized". Reading strategies are generally categorised under two subtitles of 'text-level' and 'word-level' strategies (Barnett, 1988). Barnett explains that the former consists of strategies that are essential to read the text as a whole whereas the latter deals with strategies which are at bottom-up level.

Several researchers have attempted to classify reading strategies (N. J. Anderson, 1991; Block, 1986; Olshavsky, 1976-1977; Sarig, 1987). Although their studies identify a number of similar reading strategies, there are considerable differences in their strategy groups. However, the distinction between cognitive and MRSs can be observed in Urquhart and Weir (1998). According to Block (1986: 465), "comprehension strategies indicate how readers conceive a task, what textual cues they attend to, how they make sense of what they read, and what they do when they do not understand". In Johnston's (1983) categorization, strategies are grouped

into two; one assisting the reader to construct the meaning based on a model, the other one monitoring comprehension and adapting strategies in case of failure. Alternatively, reading strategies are categorised into four groups namely *bottom-up*, *top-down*, *metacognitive*, and *socioaffective* strategies (Warnick, 1996). Bottom-up reading strategies are dependent on orthographical functions of language such as recognizing and analyzing symbols, words, and grammatical functions for comprehension whereas top-down strategies integrate cognitive behaviours of readers such as hypothesizing about the text, predicting the forthcoming information, inferring meaning, and combining background knowledge. On the other hand, metacognitive strategies require readers to observe their own behaviours during reading process such as commenting on the text and the tasks related with it and monitoring their own comprehension of the text while socioaffective strategies deal with readers' as individuals in the society by pointing out their social role such as relating personal memory and reacting to text content. In these four group of strategies, bottom-up ones are considered to be the easiest reading strategies to be taught (Noda, 2003c).

Pressley and Woloshyn et al. (1995) stress the virtue of integrating strategies into cognitive goals and with reference to Pressley's (1986) *good information processor model*. They maintain previewing, activating relevant background knowledge, and self-questioning the forthcoming information as essentials of good pre-reading whereas careful reading, reviewing, and rereading are considered to be good while-reading activities. Readers are also expected to use general strategies which are according to Pressley and Woloshyn et al., materialized by the help of good information processors to monitor whether readers achieve their sub-goals or not. To enable this, readers are required to familiarize themselves with the strategies metacognitively therefore they are able to know when, where, and how to use them. Moreover, Parry (1996) and M. L. Abbott (2006) conclude that reading strategies function in accordance with readers' culture. In this respect, M. L. Abbott refers to use of strategy differences between Chinese and Arabic EFL learners and points put that Chinese readers are encouraged to use bottom-up reading strategies whereas Arabic ones are expected to follow to-down reading strategies by their teachers.

H. D. Brown (2001: 306-311) considers that reading strategies appear whether in bottom-up or top-down processes and he lists ten reading strategies. His first strategy deals with establishing the purpose in reading the text. Secondly he proposes a bottom-up strategy for beginning level readers in which readers are expected to use 'graphemic rules and patterns'. He indicates that his third strategy is for intermediate and advanced learners where the aim is increasing speed in silent reading. To provide this he recommends readers not to subvocalize each word; to detect words in chunks such as phrases; and not to take care of unknown words unless they prevent achieving overall meaning. He fourthly proposes skimming the text to get the general idea where he fifthly deals with scanning to get specific details. His sixth strategy suggests the use of 'semantic mapping or clustering' through which readers are able to prevent the complexity of ideas by grouping them. Seventhly legitimate and correct guessing is recommended. His eight strategy deals with analyzing vocabularies by paying attention to prefixes; suffixes; familiar roots; grammar which may indicate information; and semantic clues related with the topic. A top-down strategy of 'distinguishing between literal and implied meanings' appears as the ninth one in his list and he encourages handling 'pragmatic' meaning to accurately interpret what is being implied in the text apart from dealing with 'syntactic surface structures'. The tenth and the last reading strategy on H. D. Brown's list is utilizing 'discourse markers' in the text since they indicate relations and discriminations in a text.

According to Grabe and Stoller (2001), academic reading requires developing strategic readers who are aware of their goals in reading and able to administer strategies effectively, chosen carefully depending on their purpose in reading, to check their understanding of the text and solve comprehension problems. Successful readers are believed to be those who use learning strategies effectively (Aebersold & Field, 1997; Green & Oxford, 1995). The study of successful readers led to the emergence of reading strategy research. For example, Ur (1996) pointed out that efficient readers used different strategies for different purposes. On the other hand, she implied that inefficient readers tended to use the same strategy for all texts, therefore, their inadequacy in using appropriate strategies triggered researchers to

also study poor readers. Nevertheless, having a tendency of using more strategies resulted in better performance on reading tests (N. J. Anderson, 1991). Readers' preferences of strategy choice are thought to be affected by their beliefs, which are affected by any aspect in educational practice (LoCastro, 1994). Strategies which are used by native speakers of any language are considered to be acquired unconsciously in their natural environment (Noda, 2003b). Nevertheless, literature on reading strategy training supports the idea that strategy use can be accumulated (Bialystok, 1979; Kern, 1989).

A variety of reading strategies are believed to be improving reading comprehension (Brookbank, Grover, Kullberg, & Strawser, 1999; Guthrie, Schafer, Wang, & Afflerbach, 1995). *Introspection* is defined as the investigation of reading process whether by means of think-aloud protocols or interviews which enables to identify the reading strategies used by both efficient and inefficient readers (Alderson, 2000). Research on reading strategies identifies the most important strategies which are woven together by Aebersold and Field (1997: 16):

- Recognize words quickly
- Use text features (subheadings, transitions, etc.)
- Use title(s) to infer what information might follow
- Analyze unfamiliar words
- Identify the grammatical functions of words
- Read for meaning, concentrate on constructing meaning
- Guess about the meaning of the text
- Evaluate guesses and try new guesses if necessary
- Monitor comprehension
- Keep the purpose for reading the text in mind
- Adjust strategies to the purpose for reading
- Identify or infer main ideas
- Understand the relationships between the parts of a text
- Distinguish main ideas from minor ideas
- Tolerate ambiguity in a text (at least temporarily)
- Paraphrase
- Use context to build meaning and aid comprehension
- Continue reading even when unsuccessful, at least for a while

Aebersold and Field (1997) declare that their list is dependent on the studies of Anderson, Bachman, Perkins, and Cohen (1991), Barnett (1989), and Clarke

(1979); however they also call attention to the maturity of the list with the help of new research. Although a number of reading strategies appear in the above list, the ongoing debate on the superiority of strategies on each other still continues due to the lack of strong evidence in the relevant literature.

Rhetorical structures identify how the ideas presented in a text and therefore paying attention to such structures facilitate reading comprehension. As pointed out by Aebersold and Filed (1997), they indicate how the author approaches to the topic such as describing, classifying, comparing, contrasting, arguing, and so on. In this case, readers who are able to identify the author's attitude are advantageous since they develop reasonable expectations about the forthcoming information in the text.

Apart from the strategies woven together by Aebersold and Field (1997), Nara (2003b: 190) also calls attention to the importance of reminding readers with the strategies that they can use while reading the text and he lists the following strategies:

- skipping unknown words
- making informed guesses (discourage the use of dictionaries)
- checking the story against schemata (is it progressing as hypothesized?)
- evaluating opinions and discerning facts versus opinions
- separating opinions and conjectures from fact

Besides, Nara (2003b: 180) encourages readers to ask the following questions related with the genre of the text:

> What sort of reading strategy does the text lend itself to most naturally? How would a native speaker use the text at hand? How would a native speaker approach the text under time constraint? What reading strategy is an advanced or native reader […] likely to employ in order to read the text?

Pressley and Woloshyn et al. (1995: 3) note 'self-questioning', 'constructing representational images', 'activating prior knowledge', and 're-reading difficult-to-understand sections of text' as strategies to be involved in reading procedure along with problem solving strategies of 'means-end analysis' and 'working forward'.

Levine et al. (1985) recommend the use of 'deducing meaning from word structure', 'deducing meaning from context', 'benefiting from contextual clues', 'recognizing methods of text organization', 'benefiting from relationships of comparison and contrast', 'benefiting from relationships of comparison and contrast without explicit markers', 'benefiting from relationships of cause and effect', 'benefiting from general statements and illustrative support', 'making initial predictions', 'using markers to build on first predictions', 'using context to build on first predictions', 'inference', 'skimming', 'scanning', and 'transferring information to a diagram'.

A. Hayes (1980) presents the techniques that The English Language Teaching Institute in London employ to train reading 'skills'. Although, A. Hayes calls them skills, they are reading strategies due to their unconscious administration. She indicates that, asking questions, focussing on main ideas, titling paragraphs, and recognizing thesis statement are used to train the strategy of *skimming*; jumble ordered paragraphs, identifying paragraph types, and identifying linking devices are used to train the strategy of structuring; activating relevant schemata and generating questions about the topic are used to train the strategy of anticipation; and oral and written summaries, paralleled reading, and jigsaw reading are used to train the strategy of summarizing.

Hickman, Pollard-Durodola, Vaughn (2004) identify the five steps involved in story read-alouds. Then readers are firstly expected to preview the story along with three new vocabularies; secondly read aloud for literal and inferential meaning; thirdly reread the text with a specific emphasis on new words; fourthly enhance comprehension; and fifthly summarize.

McClanahan, the educational consultant, and Amstutz, the special advisor of Steck-Vaughn GED (1988, General Educational Development) reading literature and the arts (1988), encourage readers to use strategies to plan their time, take notes, and also solve reading problems. Repeating, reviewing, and practising reading strategies are strongly recommended. Besides readers are also expected to utilize the strategies of 'getting meaning from the context', 'identifying the main idea', 'identifying an unstated main idea', 'identifying implied meaning', 'restating information', 'drawing

a conclusion', 'identifying implications', 'understanding a consequence', 'identifying techniques such as figurative language, symbols, images, characterization, theme, point of view, mood, mood shift, and tone', 'transferring concepts to a new context', 'identifying elements of style and structure', 'identifying cause and effect relationships', 'identifying implications and drawing conclusions', 'understanding a consequence', and 'distinguishing fact from opinion'.

Readers constitute expectations as they read the text. It is possible to predict words from the context, content of a sentence by the help of syntactic clues, and content of an article by the help of title and minimum amount of sentences (Levine et al., 1985). Bartram and Parry (1989) consider *guessing difficult words*, *predicting*, *skimming*, *scanning*, and *looking for detailed information* as important strategies for readers. Grabe (1997: 6) concludes with reference research on strategy training that "summarizing, semantic mapping, predicting, forming questions from headings and sub-headings, and using adjunct questions" have an impact on the improvement readers' awareness of text structure. It should also be remembered that 'note taking' is also regarded as an effective strategy by Anderson and Armbruster (1984).

3.3.1 LITERATURE REVIEW ON READING STRATEGIES

The investigation of good readers' characteristics contributed to the birth of strategy-based approach. Hosenfeld (1977) is considered to be the first researcher who examined the characteristics of early second language readers in the U.S. reading French, German, or Spanish. Specifically, Hosenfeld examined efficient readers who were regarded to be successful language learners due to their self-taught characteristics (Johns, 1980). Her ninth-grade participants were asked to think aloud in English and she identified that good readers had a tendency of referring to large number of strategies such as skipping inessential words, guessing from context, reading in broad phrases, and continuing to read in case of a failure in decoding. However, the results indicated that the poor readers immediately lost the meaning just after decoding, read in short phrases, did not value skipping, and had negative self-concepts. Similar to Hosenfeld, C. Wallace (1992) also identifies that good readers benefit from the surrounding text at an utmost level, resist uncertainty, use a

great deal of textual cues to predict the forthcoming information, and are resilient in their reaction to the text.

Cziko (1980) investigated the errors of oral reading and compared seventh-grade English speaking students of French to the students of native French-speakers. His results indicated that less proficient readers have tendencies of relying upon bottom-up strategies such as graphic information; however native or advanced ones are able to use interactive strategies to depend on graphic and contextual information. Therefore, he concludes that conceptual strategies cannot be employed by the readers until they achieve a certain level of proficiency.

Hosenfeld, Arnold, Kirchofer, Laciura, Wilson (1981) aimed to examine readers to clarify what they did to construct meaning from a text and they revealed twenty reading strategies of good readers. According to them, efficient readers were supposed to firstly read to achieve meaning; secondly whether skipped or guessed unknown lexical items; thirdly utilized previous and subsequent information to process the context; fourthly determined grammatical structures; fifthly checked whether their guesses were accurate or not; sixthly predicted forthcoming information from the title; seventhly proceeded reading; eighthly identified cognates; ninthly interpreted with reference to their prior knowledge; tenthly construed unknown lexical items; eleventhly contemplated that the text is purportedly; twelfthly focused on meaning of the text not on its language; thirteenthly were eager to guess; fourteenthly employed illustrations; fifteenthly utilized glosses; sixteenthly referred to dictionary as a last resort; seventeenthly derived the correct meaning of the word from the dictionary; eighteenthly skipped insignificant words; nineteenthly pursued the text with reference to their predictions; and twentiethly benefited from context clues.

Block (1986) investigated the characteristics of 9 university level English as a second language (ESL) and native English students who were identified to be non-proficient readers in a remedial reading class in the U.S. She determined their four characteristics which were believed to differentiating them from effective readers. To her, integration; identifying text structure; use of background knowledge; and

reaction in an extensive mode were their problematic areas in reading. Controversy, effective readers were proven to be employing a group of strategies which integrated meaning rather than focusing on surface text-based strategies in also other studies conducted by N. J. Anderson (1991) and Carrell (1989) along with Block's. In might be interesting to note that N. J. Anderson's study revealed a similar usage of reading strategies both by efficient and inefficient readers. However, efficient users reported that they referred to more strategies than the inefficient ones. However, N. J. Anderson's study did not indicate any simple correlations between successful and unsuccessful readers which directed him to conclude that only knowing a strategy was not essential but being aware of how to employ it effectively in relation with other strategies was.

Sarig (1987) investigated how reading strategies in both L1 and L2 foster reading comprehension by examining the relationship between L1 and L2 reading strategies by a number of 10 female native Hebrew EFL readers. After reading academic texts, Sarig administered think-aloud procedures to identify general types of behaviours which were then classified into four categories of technical aid, clarification and simplification, coherence detection, and monitoring moves. The results supported evidence for the transferability of reading strategies from L1 to L2, therefore either readers' success or failure depended on the same sets of strategies employed in reading two different languages.

Barnett (1988) explored the use of real and perceived reading strategies by French FL learners and aimed to identify how the use of such strategies affected their comprehension. Her codes of 'text-level' and 'word-level' correspond to 'top-down' and 'bottom-up' strategies in the literature. In Barnett's study one of the groups was instructed on the use of reading strategies whereas the other one received no specific instruction on strategies. After reading an unfamiliar text, the participants were asked to recall the text and responded the questionnaire items on their use of reading strategies. The results indicated that paying attention to meaning and structure of lexical items; rereading as whole; finding the topic interesting; activating relevant schemata; inferring forthcoming information; thinking about the title; and guessing the meaning were effective strategies whereas paying attention to the meanings of

individual words or structure of the whole text; rereading only difficult parts; regarding reading the text as a chore; not thinking about forthcoming information; not linking paragraphs to each other; not thinking about the title much; and not skipping irrelevant words were ineffective strategies.

Pritchard (1990) investigated how reading culturally familiar and unfamiliar texts affected comprehension with American and Palauan students. In this respect, he specifically aimed to determine the strategies employed by proficient readers to comprehend culturally familiar and unfamiliar texts. The results indicated the superiority of the American participants over the Palauans in using more strategies in a more often manner. Therefore, his results provide evidence for the existence of cross-cultural differences in reading strategy use.

N. J. Anderson (1991) compared readers' use of strategies at two different tasks of reading comprehension tests and academic texts. A number of 28 Spanish native speaker adult ESL university learners participated in his study. The participants' reading comprehension skills were assessed by means of a typical standardized test which was formed as two different versions. The participants were delivered these different versions with a couple of days' interval and were subjected to think-aloud protocols. Moreover, the participants were also required to read two academic texts and answer multiple choice comprehension questions about them. The results indicated that the participants who used more strategies comprehended better than the others. However, his results did not indicate a significant relationship between the number of reported strategy use and overall comprehension scores. The most important finding of N. J. Anderson's study points out the inadequacy of simply knowing a strategy since both weak and good readers used the same kinds of strategies in his study. This finding exposes the necessity of knowing how to use a strategy.

In a strategy-based approach, C. Wallace (1992: 90) recommended presenting out-of-school contexts to the learners such as labels and letters which would familiarize them with the TL. She concluded two essential implications on strategy-based approach. "First, strategies are exercised during the reading of actual texts; we

do not 'learn a particular strategy' with a view to then applying it to a text. Second, different strategies are appropriate to different types of text". These two implications suggest that the reader's task is required to match the text in order the reading strategies to be beneficial.

Young and Oxford (1997) specifically aimed to investigate any probable use of strategy differences between males and females; therefore, they conducted a study with a number of 49 native English speakers, 26 females and 23 males, while reading in both Spanish and English. After reading the texts, the participants were asked to identify their degree of familiarity with the topic. Then they were subjected to a think-aloud protocol in which their strategies were coded as either global or local. The results did not point out any significant differences in L2 reading by gender in the use of strategy groups, familiarity of the topic, and recalling of the text. However, in terms of individual strategy use, there were some differences such as males' superiority in monitoring their reading and paraphrasing; and females' superiority in solving vocabulary problems.

Salatacı and Akyel (2002) investigated the reading strategies of 20 Turkish intermediate level EFL university students. Their study aimed to investigate the impact of reading strategy instruction on the use of these strategies and reading comprehension in English. Moreover, the study also aimed to investigate the impact of reading strategy training in English on the use of reading strategies in Turkish. Salatacı and Akyel instructed reading strategies and administered pre- and post-reading comprehension tests. Besides, they also collected additional data from 8 participants through think-aloud procedures. Observations and semi-structured interviews were also administered. Throughout the 4-week instruction which lasted 3 hours per week, the participants were exposed to a combination of the experience-text-relationship (ETR) and reciprocal teaching (RT) methods. After the instruction, the participants used fewer bottom-up strategies since they were encouraged to read for general understanding of the text. However, they used more top-down strategies after the instruction. The findings indicate a positive impact of the instruction on the use of top-down strategies both in English and Turkish. Besides, after the instruction the participants had a tendency to comment more on their reading behaviour. Salatacı

and Akyel's study imply that reading strategies are transferable across languages in an interactive manner.

Holleran (2003) investigated the use of underlining, highlighting, and taking notes while reading both from paper and screen with a number of 152 undergraduate students on a wide scale of age from 17 to 60. The study basically aimed to reveal whether using strategies had an impact on comprehension and retention. As the study dealt also with online reading, the participants' computer ability was taken into consideration. In her quasi-experimental study, she worked with eight intact classes which were assigned to one of four groups. All the participants were provided with the same directions based on the same text. However, their strategy use and medium were regarded as the variables of the study. The results indicated the superiority of strategy users over non-users. Another interesting finding of the study was that reading from paper resulted in better performance compared with reading from the computer screen.

Vogt and Nagano (2003: 220) investigated the impact of Light Bulb Reading which is defined as an approach that assists young readers to identify the strategies that they need while reading. In their approach, when readers start to use some of the newly learned strategies, they earn light bulbs in their note-cards as an external motivator. With reference to their findings, Vogt and Nagano discussed that providing intensive and individual work to children in a "consistent, systematic, and immediate" way resulted in progress in reading.

Mokhtari and Reichard (2004) investigated the differences between L1 (American) and L2 (Moroccan) readers' metacognitive awareness and perceived use of specific strategies when they read for academic purposes in English. Their results revealed almost similar patterns of strategy awareness and reported usage; however, in case of differences, Moroccan readers referred to certain types of strategies more frequent than did American readers. Their results eradicates "the myth that second and foreign language readers are often 'at-risk' of failure when studying in a second or foreign language" since native and non-native readers reported their use of

remarkably similar strategies. Their study also indicated similar metacognitive awareness of a range of strategies for adults in L1, L2 or FL settings.

Tercanlıoğlu's (2004) study indicated frequent use of MRSs for L1 learners and also pointed out that ESL learners used reading support strategies more than L1 learners.

3.3.2 METALINGUISTIC KNOWLEDGE AND METACOGNITION

In his discussion of metacognition, Flavell (1985: 198), the first proponent of it, analyzes the two domains of it; *metacognitive knowledge* and *metacognitive experiences*. Flavell describes metacognitive knowledge as an individual's knowledge and beliefs about cognitive matters, gained from experience and stored in the long-term memory. In this respect, it is possible to acquire metacognitive knowledge about people, tasks, and strategies. Flavell points out that in a classroom, metacognitive knowledge of tasks operates when the nature of a task forces learners to think about how they will manage. For difficult tasks, learners allocate more time, or prepare an outline.

Although it is quite common to define metacognition as "thinking about thinking", relevant literature presents some confusing terminologies on the notion of metacognition. In spite of the inexistence of an agreement on an exact definition of metacognition (Çubukçu, 2009), in general, it refers to awareness of own learning, memory, and also thought processes (Flavell, 1976 & 1979). As some researchers have an intention of using self-regulation, executive control, meta-memory, and metacomprehension interchangeably in preference to metacognition, there arise some theoretical problems. Apart from the other terminologies, metacognition is most often associated with Flavell (1979) which is believed to be comprising of both metacognitive knowledge and metacognitive experiences or regulation. In this subcategorization, metacognitive knowledge represents the acquired knowledge about cognitive processes which can be divided into additional three subcategories of knowledge of person variables, task variables, and strategy variables. In this case, the person variable is related to the question of how well a reader is able to read the text

whereas the variable of task involves knowledge about the task such as being familiar with the topic or not. The third variable strategy requires the evaluation of the strategies that are supposed to be beneficial to achieve the reading goals.

As revealed by Flavell (1985), metacognitive experiences are either cognitive or affective experiences that relate to cognitive activities. For example, readers may feel uncertain or doubtful about the content of the text, or they may be quite concerned that they do not understand it. M. L. Abbott (2006) indicates that metacognitive experiences are most likely to occur when careful, conscious monitoring of one's cognitive efforts is required. The uncertainty or confidence that one may feel about a topic is tied to relevant metacognitive knowledge. However, it is not possible for every one of the students to recognize the special skills that allow them to extract information, organize, learn, and of course, remember. Put another way, Flavell connotes that researchers know far less about knowing and understand less about understanding.

The skills of metacognition allow learners to monitor their progress when they try to understand and learn something (Flavell, 1985). Flavell explains that metacognition provides learners with ways of estimating the effects of their efforts, and it allows learners to predict the likelihood of being able to remember the material afterwards. In this sense, metacognitive knowledge implies learners that there are ways to organize material to make it easier to learn and remember, that some rehearsal and review strategies are more effective for one kind of material than another, and that some forms of learning require the deliberate application of specific strategies whereas others do not.

Although the definition of self-regulated learning is supposed to be immature (Boekaerts & Corno, 2005; Karoly, Boekaerts, & Maes, 2005;), Zimmerman (1994: 3) as one of the proponents of it regarded self-regulated learning as a concept in which learners actively attend "metacognitively, motivationally, and behaviourally". Swalender and Taube (2007) indicate that becoming a self-regulated learner requires regulating both behaviour and principle motives. As being regarded as basics of comprehension, metacognitive strategies are believed to have superiority in

estimating comprehension in a more proper way than cognitive ones (Zimmerman, 1994). As indicated by Pressley and Ghatala (1990), constructing meaning requires monitoring comprehension for readers; therefore self-regulated learning emerges as a vital component of reading process. Similarly, Somuncuoğlu and Yıldırım (1999) regard learning strategies fundamentals of self-regulated and relatively they consider control strategies as metacognitive strategies since they assist learners to plan, monitor, and regulate their learning processes.

Self regulated learning strategies provide basis for metacognitive theorists. Çubukçu (2009) maintains that teachers are able to recognize self-regulators with ease due to the following characteristics. To her, 'they are self starters, confident, strategic, resourceful, and self-reactive to task performance outcomes'. Since monitoring one's own progress is regarded to be essential in metacognition, self-regulated learning (SRL) studies have been subject to a large amount of scholarly articles (Nietfeld, Cao, Osborne, 2006; Veenman, 2007; Dignath & Büttner, 2008; Stoeger & Ziegler, 2008; Hadwin, Nesbit, Jamieson-Noel, Code, Winne, 2007; Kitsantas, Zimmerman, 2006 & 2009; Vrugt, Oort, 2008; Jones, Estell, Alexander, 2008; Pieschl, Stahl, Bromme, 2008; Whitebread et al., 2009; Azevedo, 2007 & 2009).

Metacognitive knowledge is believed to be composed of ones own "ability to discuss, describe, give rules for, and comment on L1 language use" (Aebersold & Field, 1997: 26). In relevance to its lexical units, *metacognition* refers to the understanding of what is behind as *meta* means behind whereas *cognition* means the process of understanding. Monitoring for instance, assists to identify whether a specific strategy is promoting the task (Pressley & Woloshyn et al., 1995). According to Aebersold and Field, young FL learners may regard referring to their metacognitive knowledge and making comparisons with their L1 and FL as a formidable task; however adult FL learners may find making such comparisons quite beneficial due to their proficiency in metacognitive knowledge. Metacognition involves the conscious awareness and control of one's learning. Veenman, Van Hout-Wolters, and Afflerbach (2006: 4) provide a theoretical account of the interaction between metacognition and learning which indicates that learners have

metacognitive knowledge about their learning processes which might be true or false and such knowledge is supposed to "be quite resistant to change". A. L. Brown (1987) maintains that metacognitive experiences incorporate the use of either metacognitive strategies or metacognitive regulation.

Swartz and Perkins (1989: 52) discriminate four distinctive levels of thought which are supposed to be deliberately metacognitive:

- **Tacit Use.** The individual does a kind of thinking--say decision making--without thinking about it.
- **Aware Use.** The individual does that kind of thinking conscious *that* and *when* he or she is doing so.
- **Strategic Use.** The individual organizes his or her thinking by way of particular conscious strategies that enhance its efficacy.
- **Reflective Use.** The individual reflects upon his or her thinking before and after--or even in the middle of--the process, pondering how to proceed and how to improve.

A metacognitive skill of 'calibration', being defined as "the accuracy of learners' perceptions of their own performance" by Pieschl (2009: 2), is regarded as one of the essential components of self-regulated learning. Pieschl maintains that in comparison to metacognitive monitoring, which is related with learners' awareness of their own learning process, calibration refers to their awareness of their own internal processes. The second metacognitive skill of 'prediction' allows learners to think about their learning objectives, proper learning characteristics and the time available to study. The third metacognitive skill of 'planning' provides opportunity to organize how, when, and why to do something. The fourth metacognitive skill of 'monitoring' skills regulate learners their own use of cognitive skills while the activity takes place.

Kuhn (2000: 178) asserts that metacognition arises early in life which is supposed to become "more explicit, more powerful, and hence more effective" as they are controlled consciously. Flavell (1999) indicates that by the age of 3 children began to discriminate the distinction between perceiving an object and thinking about it. By the age of 4 they realise that particular beliefs and desires play an important role in human behaviour. Kuhn considers this understanding as a landmark since it

attaches their assertions about other people and provide basis for the development of metacognition.

Flavell's (1979) article stimulated researchers to examine metamemory functions in the 1980s since metacognition was regarded in a restricted manner at that time. However, the aim of recent metacognitive research studies is investigating more than memory since problem solving and also reasoning also appear as the main characteristics of them (Kuhn, 2000). Metacognition is regarded as significant in learning since being unaware of comprehension failures also brings the problem that students will not be able to use appropriate strategies that were taught previously by their teachers (Carrell, 1998).

Lockl and Schneider (2006: 16) point out that with the advent of metacognition by the 1970s, prominent researchers had an intention of examining learners' *metamemory* which is "their knowledge about person, task, and strategy variables". Such studies theoretically based on Flavell and Wellman's (1977) Metacognitive Taxonomy. On the other hand, another relative but different term, *metacomprehension* is related with perception at the most extensive and possible level (Schraw, 2009). Schraw regards metacomprehension as essential for developing self-regulated learning habits and metamemory and metacognition are considered to be the two components of metacomprehension. Linderholm, Zhao, Therriault, and Cordell-McNulty (2008) indicate that metacomprehension is usually measured by asking readers to read multiple texts at a time and afterwards to predict their probable success on a reading comprehension test. In their empirical study, Linderholm et al. aimed to reveal the information that allows readers to make predictions during metacomprehension. Their results indicate the impact of readers' previous impression of the reading task. Such an impression is believed to be depending on the genre of the text.

3.3.2.1 LITERATURE REVIEW ON METACOGNITION

Alderson, Clapham, and Steel (1997) conducted a study to investigate the metalinguistic knowledge of university learners and they concluded that there is a

distinction between metalinguistic knowledge and linguistic ability; therefore teaching grammatical functions of a language does not foster metalinguistic knowledge.

Hall and Myers' (1998: 13) case study examined the acquisition of metacognitive awareness in relevance to reading skill where the data was collected through interview with a nine-year-old learner. Despite limitations of their study, they claim a relation between metacognition and Gardner's (1983) intrapersonal intelligence. They point out with reference to Gardner's ideas that learners are encouraged to develop intrapersonal intelligence at school settings since they are expected to "reflect on, analyse and evaluate their own progress".

Alexander, Johnson, Albano, Freygang, Scott (2006) explored the interaction of IQ scores with that of metaconceptual knowledge and their results indicated positive correlations between them. The results of the study direct them to implicate that the importance of metaconceptual knowledge boost when IQ is lower.

Cromley and Azevedo (2006) questioned the quality of the data that provides basis for cognitive and MRS research. As they administered MARSI to two different groups previously (Cromley and Azevedo, 2004 & 2005), they were able to identify the low correlation scores between the two sets of comprehension values in their previous studies. Therefore, Cromley and Azevedo (2006) aimed to measure use of strategies by means of self-report, concurrent multiple-choice, and think aloud. The results indicated the superiority of concurrent measures over the others.

Pressley and Gaskins (2006) evaluated the characteristics of good readers by examining what they do before, during, and after reading. To them, good readers set a purpose, size up the text, plan their reading, and previews before reading; skim, re-read, take note or mark significant information, check the validity of their predictions about the forthcoming information during reading, infer pronoun referents, monitor, and evaluate; skim the text back, re-read, go over important parts, re-process incomprehensible but important parts such as drawing a chart, consider how to use the ideas afterwards.

Annevirta, Laakkonen, Kinnunen, Vauras (2007) investigated metacognitive knowledge development of primary school children. Their findings directed them to implicate that developing more metacognitive knowledge between preschool and 2nd grades results in better text comprehension skills in the first three school years. In the shed of this implication, it would not be wrong to extent the scope of this finding by expecting similar performances not only in the first three years but also in the subsequent years of their school life from learners who are able develop their metacognitive knowledge up to their limits.

Rouet and Le Bigot (2007) aimed to reveal the impact of college training on metatextual knowledge in relevance with hypertext navigation strategies. A number of 19 participants consisting of under- and post-graduate students were delivered a hypertext and asked to draft a short essay. Their results indicated the superiority of post-graduate ones with an implication of the existence of metatextual knowledge in more experienced students that is responsible for the use of more effective strategies.

Swalender and Taube's (2007) study pointed out the superiority of females' attitudes towards reading which assisted them to receive significantly better results on narrative and expository texts when compared to males. On the other hand, males indicated more use of goal oriented strategies over females. To overcome the negative attitude problems with males, Swalender and Taube recommended using reading materials which might be interesting for them.

Zohar and David (2008) explored the impact of explicit teaching of metastrategic knowledge with 6th graders. Their findings indicated that the participants developed strategic and metastrategic thinking abilities after the implementation of the training programme. Therefore, explicit strategy instruction is regarded to be beneficial to low achievers.

Leutwyler (2009) examined how metacognitive learning strategies develop throughout high school. Therefore, in his longitudinal study, he analysed the development of such strategies in a number of 1,432 students. The results of the

study did not indicate a significant development for their use of metacognitive learning strategies during high school.

Shamir, Mevarech, and Gida (2009) aimed to find out an effective way of assessing metacognition in young children in a variety of contexts such as individual learning, peer assisted learning, and self-report. Children's declarative and procedural metacognitive behaviour between the contexts of individual learning and peer assisted learning was pointed out to be significantly different from each other. Their explanation to their finding is that young children are supposed to be unaware of their metacognitive behaviour or they may find it difficult to explain.

3.3.3 METACOGNITIVE READING STRATEGIES

The recent neo-Vygotskian trend accentuates the significance of learners watching themselves (Bishop, Boke, Pflaum, & Kirsch, 2005) in parallel with the findings of relevant literature supporting readers' awareness of their own reading processes (Carrell, 1989; Carson, Carrell, Silberstein, Kroll, Kushn, 1990; Shih, 1992). A learning style is supposed to be consisting of four forms of processing strategies, regulation strategies, mental models of learning, and learning orientations (Vermunt, 1996). Vermunt's *regulation strategies* are also known as metacognitive strategies. Flavell (1979) explains *metacognitive knowledge* as what an individual knows; *metacognitive skills* as what an individual is doing; and *metacognitive experience* as an individual's available affective or cognitive state. Bishop et al. indicate that strategic readers operate metacognitively by thinking about their own thinking. Metacognition and self-regulation are regarded to be essential in order to continue reading appropriately in the interactive model of reading (Macaro & Erler, 2008). However, before dealing with the notion of reading strategies, reading professionals encouraged their readers in a way to facilitate their comprehension. For example, Mosback and Mosback (1976) promoted 'setting aside time each day', 'checking progress through pacing', and 'checking comprehension' that can be classified as MRSs.

By examining the interaction between learning styles and strategies, Ehrman and Oxford (1990) indicate that *sensing* learners use metacognitive strategies in a high amount. Besides, there is supposed to be positive correlation with the use of metacognitive strategies and FL proficiency level; and more proficient ones are expected to use them more effectively (Cohen, 1998). Efficient readers are expected to question themselves on their comprehension of the text and also on the effectiveness of the strategies that they use. Bishop et al. (2005: 207-208) list the following nine characteristics of strategic readers:

- *Imagine, using a variety of senses:* Through this strategy readers visualize the scenes in the texts and refer to their senses to predict the features of substances.
- *Make connections:* Through this strategy readers refer to their background knowledge and they integrate it with the information from the text.
- *Analyze text structure:* This strategy requires readers to determine the genre and also make use of other specific features in the text such as linking devices, table of contents, and subheadings.
- *Recognize words and understand sentences:* This strategy involves familiarity with the lexical and grammatical knowledge and contextual cues to comprehend the sentences.
- *Explore inferences:* Readers are expected to predict the forthcoming information in the text and recognize cause and effect relationship by using this strategy.
- *Ask questions:* Readers question themselves for instance on the author's message, or its relevance with the real life.
- *Determine important ideas and themes:* This strategy highlights that the introductory and concluding parts are the most important sections that readers need to pay attention along with thesis statements in each paragraph.
- *Evaluate, summarize, synthesize:* This strategy point out the importance of pausing while or after reading to construct meaning.

- *Reread and adjust approaches to the text:* Readers are expected to reread, read aloud, and underline the text and take notes in case of failure in understanding.

Baker and Brown (1984) divide MRSs into two categories of *self-knowledge* which is related with the knowledge about cognition; and *task-knowledge* which refers to the self-regulatory patterns of readers. Brenna (1995) adds a third category of *text-knowledge* which is a term that was borrowed from Wason-Ellam (1994).

Chamot and O'Malley (1987) list *selective attention*, *self-monitoring*, and *self-evaluation* as metacognitive strategies. Linguistic markers indicate the type information which will be presented subsequently. Chamot and O'Malley (1986: 11) give examples of such markers. For example, encountering a marker "The most important thing to remember …" indicates that the main idea is going to be presented. Although self-monitoring is not associated with the skill of reading by Chamot and O'Malley (1987), it is employed also by readers to check whether they comprehend the text they are reading or not. In addition, self-evaluation assists learning by helping students decide how well they have accomplished a learning task and whether they need to relearn or review any aspects of it.

Metacognition is believed to have a significant impact on improving reading comprehension either in L1 or in FL (Baker & Brown, 1984; Flavell, 1979; Flavell, Miller, & Miller, 2002; Mokhtari & Reichard, 2002; Sheorey & Mokhtari, 2001). Research studies on MRSs have posed the superiority of skilled and cognitively matured readers on the use of reading strategies effectively (MacLean & d'Anglejan, 1986; Mokhtari & Sheorey, 2002). Reading strategy research also presents considerable amount of strategy instruction studies which were conducted to scrutinize the efficacy of strategy instruction in the hope of stimulating reading comprehension (Carrell, 1985; Carrell et al. 1989). Carrell's (1985) results indicated that explicit instruction on the hierarchical structure of rhetorical organization had a significant impact on recalling the information; whereas Carrell et al.'s (1989) study pointed out a significant impact for both semantic mapping and experience-text-relationship training on L2 reading comprehension.

According to Silberstein (1994), readers are required both to know about their cognition, called *metacognition*, and be able to monitor their comprehension to achieve meaning. Therefore, they should be aware of their metacognition, such as knowing their goals and using a variety of different strategies for different reading texts. Grabe (1999) also identifies setting goals and combining appropriate reading strategies as essentials of reading process. Similarly, Aebersold and Field (1997: 95) defined the term metacognition as follows:

> [It] comes from the field of cognitive psychology and is increasingly used in language teaching and learning. Meta mans after or behind, and cognition means the act or process of knowing or perception. Thus, metacognition is understanding what is behind, what supports or informs, readers' knowledge and perception. In the simplest terms it means understanding the process of knowing, or how (not just what) readers know and perceive.

Providing an active discussion session in reading classes enables readers to exchange ideas about both the content and the language of the text (C. Wallace, 1992: 111). C. Wallace indicates that discussing the language of the text facilitates the development of a *metalanguage* which deals with the characteristics of texts along with the development of *metacognitive strategies* in which readers exhibit their awareness towards their own thinking and reading strategies. C. Wallace notes that "the metacognitive approach has tended to focus on thinking and learning behaviour in an individualistic way". In this respect she calls attention to the notion of 'reading as a social process' and criticises overloading target cultural knowledge through reading texts as it prevents comprehension. Integrating metacognitive awareness into reading instruction enables readers "to become more conscious of their own state of interlanguage"; therefore they can question themselves about what they know (Nara, 2003b: 179).

Cromley and Azevedo (2006) point out that during reading, skilled readers are expected to orchestrate a large number of cognitive and metacognitive mental activities which are defined as comprehension strategies such as summarizing or paraphrasing, generating questions and answering them, activating relevant background knowledge, and monitoring. Insufficient readers are unable to solve the

problems they encounter while reading a text as they lack declarative, procedural, and conditional knowledge (Baker & Brown, 1984; Mokhtari & Reichard, 2002; Paris & Jacobs, 1984) and are "less aware of effective strategies and of the counterproductive effects of poor strategies, and are less effective in their monitoring activities during reading" (Çubukçu, 2009: 3).

Cromley (2005: 188) indicates that as comprehension monitoring ability and metacognitive control progress in an uncontrolled manner irregularly in childhood, children should not be expected to check their comprehension inherently; instead they are required to be shown how to do it. He blames "poor decoding, limited background knowledge, low vocabulary, dysfunctional beliefs about reading, low strategy use, working memory issues, and motivational barriers" as probable causes low metacognitive monitoring.

Metacognitive strategies are believed to have an impact on FL reading performance (Jung, 2009). N. J. Anderson (1999a) and Grabe (1991) point out that metacognitive strategies require identifying organizational patterns, monitoring the use of cognitive strategies actively, and adjusting and orchestrating strategies to achieve definite goals. As metacognition is attributed to be deliberate, planned, intentional, goal directed and future-oriented mental processing (Flavell, 1971; Phakiti, 2003), readers use such strategies to foster reading comprehension.

Learners have a tendency to use metacognitive strategies to oversee, regulate or self-direct their learning process (Rubin, 1981). However, O'Malley and Chamot (1990) describe the process involved in metacognitive strategies as consisting of four elements, namely, 'planning', 'prioritising', 'setting goals', and 'self-management'. On the other hand, learners use metacognitive strategies to regulate their learning (Oxford, 1990). Carrell (1985) recommends integrating metacognitive training such as inference awareness, analogy, and comprehension monitoring skills into reading classes.

Metacognitive strategies also encourage learners to observe their environment rather than focusing their attention on learning (Willams & Burden, 1999).

Therefore, they need to be aware of what they are doing and also which strategies they are using. In this respect, it is also crucial to manage the strategies appropriately for different tasks. As learners become aware of their own learning process, they know about their knowing, a different level called *metacognition*. Willams and Burden conclude that providing metacognitive awareness is crucial for effective learning, pointing out the difference between strategies which allow direct and indirect contributions to learning. If learners memorize new vocabulary or guess the meaning of an unknown word, these then could be considered as making a direct contribution to learning the TL, which takes place at a cognitive level. However, if they a tendency to chat with foreigners on the Internet or walk around in order to make contact with tourists, then these could be exemplified as indirect strategies. Nevertheless, exposing to TL intensely may result in an increase in the use of metacognitive strategies (Carson & Longhini, 2002).

Metacognitive strategies are found to be extremely valuable in EFL contexts with reference to a number of studies conducted in various countries such as South Africa and Turkey (Oxford, 2001a). According to Ellis Ormrod (2006: 46), "[t]he term metacognition refers both to the knowledge people have about their own cognitive processes and to their internal use of certain cognitive processes to facilitate learning and memory", therefore metacognition is believed to maximize memory, for example by knowing the limitations of memory. In this respect, through *strategy schema* (Casaneve, 1988), the reader first monitors her understanding from the text and then decides which strategy is appropriate for her. Thus the reader is thought to be aware of the reading process before deciding on the appropriate strategy.

Metacognitive strategies are considered to be useful in reading by Oxford (1990). Alderson (2000) proposes that *skimming* is a metacognitive skill that is used by good readers which allow them to read for general understanding (Bachman & Cohen, 1998; Flowerdew & Peacock, 2001). Similarly, *skimming* and *scanning* are thought to be the most valuable reading strategies by H. D. Brown (2001). Nevertheless, Davies (1995) concludes that these two terms are confusing and gives examples from real life reading and points out that in daily life readers' scan with the

help of *skimming* and also *skipping*. Similarly, *skimming* is subcategorized together with *surveying* under the category of *scanning* by M. J. Wallace (1999). Therefore, it would not be wrong to identify *skimming* and *scanning* as good strategies used by successful readers; however, it is important to keep in mind the crucial difference between these two strategies, where scanning is used to get specific information from the text and skimming is used to get a general idea about the text.

Identifying the purpose in reading is considered to be one of the essential strategies of metacognitive reading which is an indicator of noticing the proficiency in English and assigning convenient tasks to maintain reading process (Aebersold & Field, 1997). Aebersold and Field highlight that readers' purpose in reading any text is dependent upon at a minimum of three factors namely the familiarity of the text's content, the teacher's aim in asking them to read it, and their own aim in reading it.

3.3.3.1 LITERATURE REVIEW ON METACOGNITIVE READING STRATEGIES

Several researchers aimed to develop inventories to measure metacognitive awareness or use of MRSs. For example, The Index of Reading Awareness was developed by Jacobs and Paris (1987) to measure metacognitive awareness of second to seventh grade students and consists of 22 multiple-choice items. Another researcher is Schmitt (1990) who developed a 12-item multiple-choice questionnaire to measure elementary students' awareness of strategic reading processes. Afterwards, Miholic (1994) developed a 10-item multiple-choice inventory on the awareness of MRSs. Subsequent to this, Pereira-Laird and Deane (1997) developed Reading Strategy Use (RSU) to identify cognitive and metacognitive strategies used by adolescents. Their scale consisted of 12 metacognitive items as well as 10 cognitive ones. Apart from these scales, Mokhtari and Reichard (2002) also developed The Metacognitive Awareness of Reading Strategies Inventory (MARSI) to identify metacognitive awareness of 6th- through 12th-grade students' use of reading strategies. Their scale consisted of 30 questions in three groups of global reading strategies, problem solving strategies, and support reading strategies. The Survey of Reading Strategies (SORS) was developed by Mokhtari and Sheorey

(2002) and is an adapted version of Mokhtari and Reichard's (2002) Metacognitive Awareness of Reading Strategies Inventory (MARSI). SORS aims to measure the MRSs of L2 readers. The SORS consists of three groups of reading strategies under the categories of global reading strategies, problem-solving strategies, and support reading strategies. Examples of global reading strategies are:

> [S]etting purpose for reading, activating prior knowledge, checking whether text content fits purpose, predicting what text is about, confirming predictions, previewing text for content, skimming to note text characteristics, making decisions in relation to what to read closely, using context clues, using text structure, and using other textual features to enhance reading comprehension. Examples [of problem-solving strategies] include reading slowly and carefully, adjusting reading rate, paying close attention to reading, pausing to reflect on reading, rereading, visualizing information read, reading text out loud, and guessing meaning of unknown words. Examples [of support reading strategies] include taking notes while reading, paraphrasing text information, revisiting previously read information, asking self questions, using reference materials as aids, underlining text information, discussing reading with others, and writing summaries of reading.
>
> (Mokhtari & Reichard, 2002: 259)

Finally, Taraban, Kerr, and Rynearson (2004) developed a 22-item the Metacognitive Reading Strategy Questionnaire (MRSQ) two measure analytic and pragmatic constructs (See Chapter 4, Rationale for administering the MRSQ for more on the MRSQ). Several researchers aimed to investigate metacognitive awareness and the use of MRSs by means of above mentioned inventories. The following paragraphs will present some of these studies.

Myers and Paris (1978) investigated second and sixth grades children's metacognitive knowledge about reading through an interview. Their results indicated differences between children's understanding and unavoidably usage of MRSs with reference to their grades. These differences were related with the aim of reading such as reading to get meaning or simply to decode. As expected, their results also pointed out that in case of difficulties, older learners were more aware of appropriate strategies when compared with the younger ones.

Carrell (1989: 127) investigated metacognitive awareness of L2 reader strategies in Spanish as a native language and in English as a second language. She also aimed to explore the relationship between metacognitive awareness and reading comprehension. The participants in the first group consisted of 45 native Spanish speakers of intermediate/high-intermediate ones who studied English as a second language at a university level. The second group consisted of native English speakers learning Spanish as an FL. The participants were delivered two texts both in their L1 and FL and answered multiple-choice comprehension questions about them. A metacognitive questionnaire was also delivered to examine their reading strategies. The findings of her study yielded some interesting results. The results indicated a correlation between strategy use and reading comprehension through which it was possible to conclude that more proficient readers regarded top-down/global strategies as being more effective. On the other hand, findings from Spanish as a FL group indicated that the participants who used local strategies showed negative correlation with reading performance and as a result lower proficiency learners employed more bottom-up/local strategies. The group consisting of more proficient ESL learners had a tendency of employing global or top-down strategies in contrast to the lower proficiency ones who depended more on local or bottom-up strategies. “One would expect this correlation for proficient L1 readers who have the requisite language decoding skills to process texts automatically (rather than attentionally) for effective reading comprehension”. However, Carrell calls attention to the requirement of further research in this area.

Brenna (1995) examined MRSs of fluently reading young learners. The findings of Brenna’s study revealed that very young readers were required to regard reading as a problem-solving process; and relatively MRSs assisted them to solve their problem along with providing the opportunity to control the task.

Pressley, Wharton-McDonald, Mistretta-Hampston and Echevarria (1998) conducted a study in which they interviewed 10 teachers of fourth- and fifth-grade and carried out observations. Pressley et al. indicated that use of metacognitive strategies developed by practice since they learned which strategies were appropriate to foster their comprehension. Their results also pointed out the ineffectiveness of

simply reading more texts. However, referring to a reading strategy enhanced their comprehension and respectively using more than one strategy resulted in better comprehension.

Hassan (2003) investigated the relation between metacognitive awareness in reading and reading ability in both L1 and L2. A number of forty secondary school students in Malaysia participated in her study by responding to a reading metacognitive awareness questionnaire. Additionally, the participants were also delivered four sets of reading comprehension tests so that Hassan was able to determine their competences in reading both in L1 and L2. Results indicated the contribution of metacognitive awareness on reading comprehension both in L1 and L2. Therefore, the participants are supposed to be aware of the components of efficient reading. The study also indicated the think aloud protocols as essential of effective reading classes since they encourage learners to gain more awareness about their thinking.

Berkowitz and Cicchelli (2004) investigated gifted NewYork City adolescent learners' use of MRSs. They collected data by the Metacognitive Awareness of Reading Strategies Inventory (MARSI; Mokhtari & Reichard, 2002), think-aloud protocols, and also interviews. Their results indicated heterogeneity for high achieving learners whereas underachieving ones reported to be homogeneous in specifically using the metacognitive strategy of monitoring. Their results also indicate that gifted high achievers can be regarded as more skilled strategy users than the underachievers. Another finding of their study indicates that the high achievers have a tendency to refer to a multitude of reading strategies in comparison to the underachievers. However, it is interesting to note that, all the participants in the study reported their awareness of reading strategies and their use of them as medium level.

Imtiaz (2004) investigated MRSs of ESL learners at university level at the department of English. Surprisingly, the majority of the participants reported that their reading speed in L2 is better than in L1. Besides, the participants also reported the easiness of culturally familiar texts as they provided them the opportunity to

anticipate the forthcoming information in the text. In addition, monitoring, skimming, and directing attention were also quite common among participants.

Ervin Dolly (2005) investigated the perception of reading process and use of MRSs by college freshmen in Michigan. Pre- and post- intervention surveys were used to collect data about participants' perceptions of reading process. She surveyed 48 participants at the beginning of the term and 37 at the end. She used a 49-item survey to learn about the participants' perceptions of reading process. Moreover, four of her participants also took part in the case study where the data was collected by means of interviews, audio recordings, and note-taking logs. The four participants and the researcher met five times during the term for think-aloud recordings. The results of the study indicated an increase in the participants' metacognitive behaviour. It is implicated that teachers should encourage their learners for metacognitive monitoring and strategic behaviour.

Wu (2005) investigated how EFL college students in Taiwan differ in their use of MRSs when they read in Chinese and English in parallel with their familiarity with the topics of the texts. She also explored whether proficiency made a difference in the use of such strategies. She delivered SORS to a number of 204 students and the results indicated the participants' more use of metacognitive strategies in Chinese than in English. The use of MRSs was regarded to be increasing by exposure to the TL. The limited use of support reading strategies can be prevented by teachers' modelling of them to the students. The implication of these findings is the direct integration of MRSs into reading classes.

Mohamed, Chew, and Kabilan (2006) aimed to investigate Malaysian learners' awareness and use of MRSs. Their study focused specifically on good readers in a setting where the use of MRSs was not encouraged. They delivered a reading comprehension test to a number of 100 students in a Chinese medium secondary school to identify the best 20 scores among them. Then they delivered SORS to these 20 participants and identified the most frequent users of strategies. Finally they interviewed 5 of these most frequent strategy users. Te findings indicated that the participants were aware of the MRSs and employed them to during

reading. The results provide additional evidence on the utilization of metacognitive strategies by good readers.

In her qualitative study, Marrapodi (2006) interviewed thirty native speakers of English who were regarded as low-literacy adults by means of a phenomenological approach in the U. S. She aimed to expose their metacognitive processes of thinking while reading, therefore it would be possible to reveal why they were prevented from reading properly. The results pointed out that the participants regarded the aim of reading as vocalizing rather than comprehending the text. Besides, when they encounter problems in comprehending the text, they have an intention of asking help from other people rather than rereading the text to correct comprehension problems. Marrapodi recommended instructing metacognitive skills to low-literacy adults which in turn resulted in altering their approach to read strategically. This would enable solving their comprehension problems on their own without asking help from other people. As adults are supposed to be aware of their weak and strong points, asking their cooperation throughout the instruction might be beneficial for the reading strategy instructor.

Taraban (2006) investigated any probable changes of engineering students between their freshman and senior years in terms of using more active and MRSs. He also aimed to reveal their orientation in beliefs about text, either as transmission or transaction oriented. His participants were one hundred forty-six engineering students at south-western university in the U. S. There were two in groups in his study, the Freshman-Sophomore group with an average age of 20 and the Junior-Senior group with an average age of 23. He delivered the MRSQ to measure their use of metacognitive comprehension strategies and additionally Taraban also delivered the Reader Belief Inventory (RBI) to learn their beliefs about text. The results indicated that the participants employed analytic strategies significantly more than the pragmatic ones. In addition, participants in the junior-senior years increased their use of analytic strategies compared to the ones in the freshman-sophomore years. Besides, the participants preferred transaction orientation to transmission orientation. Taraban maintains that the general tendency to solve comprehension problems is referring to strategies such as underlining or highlighting and also making notes in

the margins. Although such strategies are acknowledged to be beneficial in achieving short-term goals such as completing homework; they are supposed to be insufficient to solve real-life reading problems as opposed to analytic strategies such as visualizing text descriptions and inferring information.

Guo (2008) examined the impact of lexical knowledge along with the awareness of syntactic and MRSs on reading comprehension in L2 settings. A number of 278 college students from three different universities in China participated in her study. She aimed to reveal whether good L2 readers are superior to poor ones in syntactic awareness, vocabulary knowledge and metacognitive awareness of reading strategies. Therefore, correlations among these three constructs were calculated to compare poor readers to good ones. Besides the relation among these three constructs on reading comprehension were examined with reference to good and poor readers. Guo administered eight simultaneous assessments for lexical knowledge, syntactic awareness, metacognitive awareness, and reading comprehension. The MRSQ (Taraban, Kerr & Ryneason, 2004) and the Metacognitive Reading Awareness Inventory (Miholic, 1994) were used to learn about the participants' metacognitive awareness. The findings indicated that the impact of the relationship between vocabulary knowledge and syntactic awareness was greater than the impact of metacognitive awareness has. There were similar correlations between good and poor readers' groups of vocabulary knowledge / syntactic awareness and metacognitive awareness. Overall, the results indicated that vocabulary knowledge, syntactic awareness, and metacognitive awareness are woven together which makes it difficult to measure each one individually. In parallel with relevant research, Guo highlights the importance of lexical information and metacognitive awareness in L2 reading.

Li (2008) investigated Chinese EFL readers' metacognitive knowledge, vocabulary size, and comprehension in relation with academic reading to reveal the differences between poor and good readers in a two-phased study. Phase one compared five poor readers to five good ones by think-aloud procedures and interviews. Their metacognitive knowledge was grouped into 27 various types under two subtitles of person knowledge and strategy knowledge in accordance with

Flavell's (1979) framework. Li's findings were not in parallel with most of relevant literature since poor readers used were attributed to be more frequent users of most types of metacognitive knowledge in comparison with good ones. As expectedly, vocabulary was identified as one of the most problematic issues in preventing comprehension. Second phase of the study involved the participation of 548 students on a survey which investigated the relationships among metacognitive knowledge, lexical knowledge, and comprehension. The participants' lexical knowledge had an impact on comprehension of the texts, along with metacognitive knowledge. The study provided evidence for language threshold hypothesis and Li accepted 3000-word as a threshold level in lexical knowledge above which the impact of metacognitive knowledge was increasing.

In a more recent study, Çubukçu (2009) aimed to find any probable relation among self regulation, metacognition and autonomy. To investigate this, she conducted a semi-structured interview to a number of 82 junior level students at the department of ELT in a western Turkish state university aged from 20 to 22. The interviews aimed to reveal participants' opinions on self regulation and also how they referred to metacognitive strategies consciously. The results indicated participants' unreadiness for autonomous learning since they believed that it was the teachers' responsibility to design the teaching activity and evaluate the learning outcome. With reference to the results of her study, Turkish students can be regarded as not fully autonomous learners. Although the results of the study indicated their use of cognitive strategies, they reported less frequent use of metacognitive strategies.

Iwai (2009: 124) investigated the impact of metacognitive awareness in reading of ESL university learners in the U. S. along with the MRSs employed by these learners. She delivered the SORS to a number of 98 students to collect data for quantitative part of the study. Besides, Iwai also administered semi-structured interviews to six students to collect qualitative data. The quantitative results of the study indicated that English Language Institute participants report on the use of MRSs outperformed both undergraduate and graduate students. However, the findings did not indicate any significant correlations between their grade point averages (GPAs) and use of metacognitive strategies. In addition, their proficiency

seemed to have no significant impact on their use of metacognitive strategies. The most common strategies employed by the participants were “adjusting reading rate and strategies for various purposes, using background knowledge, inferring text, marking text, focusing on typographical features, and summarizing”. Moreover, the qualitative results of the study also highlighted the metacognitive awareness of participants at different academic levels. Another important finding of the study is that participants’ report of employing similar strategies while reading in L1 and L2. In the shed of the findings, Iwai concluded for the requirement of more intensive and explicit use of reading strategies by less proficient learners as more proficient ones employ them automatically and unconsciously.

Maghsudi and Talebi (2009) aimed to reveal any probable impact of linguality on the awareness and use of metacognitive, cognitive and total cognitive/metacognitive strategies in relation with learners’ proficiency levels. They had a total number of 157 monolingual and bilingual participants who were first-year college students with English as medium of instruction in India aged between 16 and 18. The results indicated the superiority of bilingual participants’ cognitive, metacognitive, and also cognitive/metacognitive strategy scores over monolingual ones. Moreover, higher proficiency participants also reported higher use of cognitive, metacognitive, and also cognitive/metacognitive strategies than the lower level ones. Nevertheless, the results did not indicate a significant interaction between linguality and proficiency.

Morley (2009: 142) investigated a number of 58 sixth-grade middle school students’ cognitive processes aged between 10 to 12 during reading and their interaction with the texts and activities. She also aimed to reveal the impact of metacognitive awareness on that interaction. Besides, Morley’s study examined the relationship between the participants’ awareness and comprehension in reading. Moreover, she had an intention of identifying how their metacognitive awareness affected their stance, self-selected strategies, and comprehension. The participants’ metacognitive awareness was measured by the MARSI and reading comprehension was evaluated by 10 multiple choice questions which were about the studied text. In the first phase of her study, Morley collected data in a classroom routine about

general reading and metacognitive awareness; and in the second phase she examined written protocols on metacognition, stance, and comprehension. The results indicated a very highly influential stance for the participants since readers "with a most efferent stance tendencies showed a higher level of metacognitive strategy/tactic use overall as compared to students who utilized a limited efferent stance". The findings also pointed out that the higher users of MRSs outperformed the lower performers.

P. R. Smith (2009) explored whether focusing on reading apprenticeship strategies and routines had an impact on metacognitive awareness and comprehension. A number of 141 junior college students participated and received training on reading apprenticeship strategies. The participants' responses on open-ended prompts were taken into consideration to score metacognitive awareness and comprehension. The results indicated that instructing reading apprenticeship strategies in a composition course resulted in an increase in metacognitive awareness of the participants along with their comprehension scores.

3.3.4 INSTRUCTING READING STRATEGIES

Examining the characteristics of successful learners and comparing their way of using strategies with unsuccessful ones has underpinned research studies to instruct learning strategies and the findings of such studies indicate progress in learning by the help of appropriate use of strategies (Chamot & Rubin,1994; Cohen, 1998; Wenden, 1991). Strategy training is defined as an "intervention which focuses on the strategies to be regularly adopted and used by language learners to develop their proficiency, to improve particular task performance, or both" (Hassan et al. 2005: 1).

Hassan et al. (2005) documented a number of 567 research studies related with strategies dating back to 1960, and they indicate the evidence of the effectiveness of LLS training; however they question whether such an impact is long lasting or not. The teachability of reading strategies have long been in interest of researchers who have conflicting ideas about how to teach them, either teaching a single strategy or multiple strategies at a time. Although the teachability of

communication strategies is attributed to be suspicious (Dörnyei, 1995; Dörnyei & Scott, 1997), literature on reading strategies demolishes such suspicion for reading strategies as the teachability of reading strategies is unquestionable (Garner, 1987). Moreover, in a subsequent study Garner (1994) lists the elements of effective MRS training and presents a guideline for teachers. Firstly, teachers are expected to pay attention to the processes in reading. Secondly, metacognitive strategies should be analyzed in relevance with reading and learning. Thirdly, strategies should be presented and more importantly modelled by the teacher. Fourthly, metacognition should be given importance throughout the term, not for a single lesson. Fifthly, to turn strategies into habits, they are required to be practised in a variety of situations.

O'Malley, Chamot, Stewner-Manzanares, Russo, and Küpper's (1985) study suggests careful selection of metacognitive strategies such as including planning and evaluation in strategy teaching programmes. Moreover, Lawrence (2007) identifies prior knowledge and vocabulary as the two critical elements of strategy training programmes. Then Flaitz, Feyten, Fox, Mukherjee (1995) recommend raising learners' awareness towards LLSs other than strategy instruction programmes. Their findings indicate that implementing strategy training programmes into the language learning curriculum results in more effective use of strategies by learners. Nassaji (2006) points out that in his study readers rarely referred to context-based evaluative strategies, therefore he suggests integrating this strategy into reading strategy instruction.

Grabe (1997) discusses instruction in text structure and reading strategy instruction overlap. The overlap points to the effect of text structure awareness on comprehension processes in reading. Besides he emphasises the three essential points in being aware of text structuring. Firstly, readers are able to develop higher-level comprehension processes. Secondly, they are allowed to infer meaning and interpret this information with the text. Thirdly, their existing knowledge may change in case of differences between their background knowledge and new knowledge derived from the text. Grabe's explanation presents an essential term 'inference' which can be defined as extra information used by the reader of the text to make the meaning

clear (Yule, 1996: 131). For instance, Yule's example of "I enjoy listening to Mozart" can be regarded as 'I enjoy listening to Mozart's songs on my computer'.

The impact of reading strategies on reading comprehension is highly accepted as strategy training studies enhance reading abilities. However, it should be noted that each struggling reader's need may be different from the others. As categorized by Valencia and Riddle Buly (2004), struggling readers may fall into the category of *automatic word callers* who experience problems in reading for meaning; *struggling word callers* who experience problems in identifying both the word and its meaning; *word stumblers* who have difficulty in identification but not in comprehension; *slow comprehenders* who are not fast enough to achieve the meaning; *slow word callers* who are not fast enough to identify the words; and disabled readers who experience problems in identifying the words, getting the meaning, and also fluency. Therefore, presenting a repertoire of reading strategies should be regarded as an essential component of reading classes as a single strategy does not fit all readers. As "early negative reading experiences" are supposed to be having everlasting and detrimental impacts on readers' comprehension, reading strategy instruction requires an enormous amount of practice (Applegate & Applegate, 2004: 561). In relevance to this, Stahl (2004) indicates that comprehension strategy instruction enhances reading comprehension.

Nara (2003a: 84) points to two types of knowledge namely declarative and procedural that are involved in strategy instruction which require the integration of teaching *declarative knowledge* that involves teaching what the strategy is to readers; *procedural knowledge* that indicates how to use the strategy, and *conditional knowledge* that defines the most useful time of the strategy (Duffy, 1993; Paris, Lipson, Wixson, 1983). Kuhn (2000: 179) questions the distinction between declarative and procedural knowledge. She claims that meta-level operations have their ultimate impact on procedural knowledge and she proposes another type of metacognitive knowledge namely *metastrategic knowing*. She explains that the "term refer[s] to metaknowing about procedural knowing, reserving *metacognitive knowing* … to refer to metaknowing about declarative knowing". Further, Kuhn divides metastrategic knowledge into two categories of *metatask* knowledge and

metastrategic knowledge. The former is attributed with the goals of the task whereas the latter refers to the essential strategies to achieve the goals of the task.

Hammerberg (2004) categorizes instructional approaches to reading in three categories of decoding and reading, getting the gist, and constructing knowledge. Pressley and Woloshyn et al. (1995) examine instructing reading strategies under two broad categories namely as 'instruction of reading strategies individually' and 'teaching repertoires of reading strategies'. If readers are able to employ all the strategies presented in this section, then Pressley and Woloshyn et al. regard them as strategic readers.

3.3.4.1 INDIVIDUAL READING STRATEGY INSTRUCTION

Pressley and Woloshyn et al. (1995) identify 'summary', 'mental imagery', 'representational imagery', 'mnemonic imagery', 'question generation and answering of self-generated questions', 'question-answering strategies', 'lookbacks', 'question-answer relationships', 'story grammar', and 'activating prior knowledge' as individual reading strategies. It should be noted that the instruction of individual strategies is perfect when each strategy is presented on its own one at a time.

Pressley and Woloshyn et al.'s (1995) first strategy 'summary' is attributed to efficient readers as they are supposed to be good at summarizing a text by ignoring the irrelevant details but referring to the macrostructures in it which is considered to be essential in competent reading (Kintsch & van Dijk, 1978). The second strategy of 'mental imagery' finds its roots in Paivio's (1971) *dual-coding theory* where images are considered to be assisting reading comprehension by activating verbal and imaginal memory codes. Therefore, constructing mental images in the reading process improves readers' memory (Pressley, 1977) which in turn results in better comprehension. To Pressley and Woloshyn et al., the third strategy 'representational imagery' requires drawing images after reading a text which is believed to be improving reading comprehension. Fourthly, 'mnemonic imagery' is proposed where key-words and pictures related with the text are provided to the readers. This strategy is supposed to be beneficial specifically while reading texts which are unfamiliar.

Fifthly, ‘question generation and answering of self-generated questions’ strategy aims to highlight any probable comprehension problems in the text with the help of think-type questions of more active readers. One of the proponents of this approach, Davey and McBride (1986) proposed a five-step procedure for the administration of this strategy namely explaining the rationale and its basis, teaching how to prepare questions, teaching how to determine significant information, teaching readers how to monitor their own uses of strategy, and providing practice and feedback. Sixthly, ‘question-answering strategies’ which require answering comprehension questions after reading a text is taken into consideration and Pressley and Woloshyn et al. point out that such a strategy might be to the advantage of adult readers. The opposite is valid for younger and also inefficient readers. Seventhly, the strategy of ‘lookbacks’ indicates rereading the relevant part of the text and integrating meaning across the sentences to answer a reading comprehension question. Eighthly, the strategy of ‘question-answer relationships’ aims to familiarize readers where to find the answers to the questions that accounts for improving comprehension questions. Ninthly, ‘story grammar’ strategy emphasizes the unique characteristics of conventional stories such as characters, plot, time and setting. Specifically inefficient readers are aimed at this strategy since it provides sufficient knowledge about the structure of the story. Finally, ‘activating prior knowledge’ is encouraged since readers who have relevant background knowledge and are able to activate it are considered to be favourable.

3.3.4.1.1 LITERATURE REVIEW OF INDIVIDUAL READING STRATEGY INSTRUCTION

Armbruster, Anderson, and Ostertag (1987) instructed summary strategy to 5th-grade students and compared their results with the students who received question-discussion instruction. Their results indicated the superiority of summary strategy instruction.

Taking notes is considered to be an essential reading strategy by Adams and Brody (1995) since it is impossible to remember everything which is read. They recommend a five-step process for note-taking. In the first step readers are directed

to read the text in smaller units such in paragraphs without taking any notes. However, the second step requires underlining the main ideas and also key phrases. In the third step terminological expressions and names are circled or drawn boxes around. Readers deal with the abbreviations of the text in the fourth step and they take notes about what they stand for. Also in this step they may write questions related with the relevant part of the text. Finally, in the fifth step they are required to write a summary of the relevant section by recalling it.

Meyer, Talbot, Poon, and Johnson (2001) instructed text structure strategies to adults with low reading comprehension. The participants improved their reading comprehension after receiving the training.

3.3.4.2 TEACHING REPERTOIRES OF READING STRATEGIES

By the 1970s, reading professionals, except Olshavsky (1976-1977), assumed that readers engaged in a single strategy throughout their reading process. However, the studies of 1980s which collected data mostly through think-aloud protocols provided strong evidence for the use of a variety of reading strategies that are employed previously, during, and after reading any text. N. J. Anderson (2005) points out that although strategies can be identified individually, they are not utilized in isolation and he resembles using a single strategy on its own to playing an instrument. He explains that an orchestra consists of a variety of instruments which results in beautiful music; therefore, he stresses the virtue of regarding strategies in relation to each other. In this respect, Pressley and Woloshyn et al. (1995) examine 'reciprocal teaching' as the best-known repertoire of reading strategy instruction and 'transactional strategies instruction' by considering three educator-developed programmes.

Palincsar and Brown's (1984) Reciprocal Teaching is known to be first record of multiple-comprehension-strategies in which readers expose four essential reading strategies namely prediction, questioning, clarification, and summarizing. The first step of reciprocal teaching involves activating relevant background knowledge whereas readers are encouraged to ask questions about the content of the

text in the next step. The third step requires clarifying any unclear meaning before moving to the final step of summarizing the text. Although reciprocal teaching is considered to be accelerating reading comprehension to some extent, Pressley and Woloshyn et al. (1995) mention the inflexibility of it as a drawback. Besides Hashey and Connors (2003) call attention to the requirement of practising these strategies through frequent practice. Rosenshine and Meister's (1994) review on sixteen reciprocal teaching studies clearly indicate the positive impact of reciprocal teaching on participants reading comprehension.

The second sample of multiple-comprehension-strategies instruction lists three transactional characteristics of these programmes. Pressley and Woloshyn et al. (1995) indicate that the first characteristic refers to the strategies that are used to integrate new information from the text with the existing one, the second one points out the vital importance of reading strategies as readers are unable to construct meaning without employing them, and the third one deals with the anticipation of readers' reaction to the use of strategies and indicates that in collaborative studies the reaction is directed by the other members of the group. In a typical transactional strategies instructional classroom Pressley and Woloshyn et al. expect the prediction of forthcoming information, reaction to the text, image construction, careful and slow reading in case of difficulty, question generation, and summarization.

A third example of multiple-strategy instruction programme is Concept-Oriented Reading Instruction (CORI), in which cognitive strategies are woven together with motivating activities such as daily life interactions and peer collaboration (Guthrie et al., 1998). Guthrie, Anderson, Alao, and Rinehart (1999) revealed that CORI assisted readers to improve their reading comprehension.

SQ3R (Survey, Question, Read, Recite, and Review) is a five-step systematic reading model (Chastain, 1988) which was developed by F. P. Robinson (1970) and assists readers to organize text into smaller manageable units. It is ideal for reading textbooks (Adams & Brody, 1995) although it might be adaptable to reading other texts (Flemming, 1997). Flemming points out that the first step *survey* requires a quick overview of the text such as examining the title, headings, introductory and

conclusion paragraphs to get a general idea about the text where the second step *question* involves focusing readers' attention on the important ideas in the text by turning statements into questions to be answered while reading. She explains that the third step *read* demands answering the questions which were constituted by readers in the previous step while the fourth step *recite* asserts that readers recall major points from the text and write them to show that they have comprehended the text. Flemming shows that finally in the fifth step *review*, readers are supposed to examine their questions related with the heading and checks whether they are able to remember the key points. Adams & Brody (1995) indicate that SQ3R accelerate reading comprehension. They also observe that readers may need to spend some extra time in developing skills in SQ3R when they feel themselves unfamiliar with this method but familiarization to the method will assist them to better spend their time. Although this model may not be applicable to readers in various levels, it functions as a manual for reading classes (H. D. Brown, 2001).

The SCROL (Survey the headings – Connect – Read the text – Outline – Look back) is a five-step procedure which was developed by Grant (1993: 483) with the aim of assisting middle and upper grade readers with the various stages of considering a text. Grant explains that text headings are taken into consideration to provide assistance in reading comprehension, locate and recall crucial information. In this respect, steps 3 to 5 are recommended to be repeated for each heading in the text. For the first step 'survey the headings', readers are supposed to be aware of the each heading in the text; activate their relevant schemata about them and draw expectations from the text. The second step 'connect' requires readers to examine the relations between heading and subheadings by examining the key words in them. In the third step 'read the text' readers are expected to maintain reading by paying attention to the related information with the headings. In this step marking significant ideas and details; pausing to check the understanding; and rereading in case of failure in understanding are also considered to be essential. The fourth step 'outline' requires using indentions in which the structure of the text is reverberated with its thesis statements and supporting details. After writing the heading, the readers are supposed to provide the outline by recalling the text. Finally in the fifth step 'look

back' the readers check faithfulness of their outline by the help of the marks they prepared in the third step and correct any fallacious information.

The Sheltered Instruction Observation Protocol (SIOP) was developed by Short and Echevarria (1999) and shows similarities to CALLA as it aims to develop students' language skills within content area subjects with the implementation of effective strategies with the assumption that foreign language learners are expected to associate their content knowledge with that of language objectives. Activating relevant schema is considered to be essential as it provides the opportunity of comprehending the text in a better way. Besides, students are also provided with key vocabularies. Metacognitive strategies play a vital role in this protocol; therefore students are expected to employ the strategies of predicting, organizing, summarizing, categorizing, evaluating, and self-monitoring along with self-evaluating their own strategy uses.

3.3.4.2.1 LITERATURE REVIEW ON INSTRUCTING METACOGNITIVE READING STRATEGIES

Carrell (1998) refers to the two dimensions of metacognitive ability. To her, the first one is knowledge of cognition and the second one is regulation of cognition. She then subcategorises the former into *declarative*, *procedural*, and *conditional* components as proposed by Paris et al. (1983). With reference to such components, Carrell attempts to list MRS instruction studies by evaluating the studies of Carrell (1985), Hamp-Lyons (1985), Sarig and Folman (1987), Carrell et al. (1989), Kern (1989), and Raymond (1993).

Carrell's (1998) overall conclusion on instructing MRSs calls attention to skilled readers' performances in real life reading. They are required to dispend much time in reading various texts and repeat their reading strategies recurrently along with monitoring their comprehension. As developing such a competence demands long periods of time in real life, Carrell maintains that such a long time is also essential in teaching MRSs. In addition to Carrell's ideas, it is also possible to infer that many reading researchers are aware of the importance of teaching procedural

and conditional knowledge as long as declarative knowledge since insufficient readers are supposed unable to solve their reading problems due to lack of declarative, procedural, and conditional knowledge (Baker & Brown, 1984; Mokhtari & Reichard, 2002; Paris & Jacobs, 1984). Table 2 is inspired from Carrell (1998) and accounts for a large number of MRS training studies by attempting to be exhaustive. Table 2 presents the MRS instruction studies in addition to Carrell's.

Table 2

Metacognitive Reading Strategy Training Studies in Chronological Order

Metacognitive Reading Strategy Training Studies	**Declarative**	**Procedural**	**Conditional**		
	What	***How to use***	***Why***	***When & where***	***Evaluate***
Carrell (1985)	+	+	+	+	+
Hamp-Lyons (1985)	+	–	–	–	–
Sarig & Folman (1987)	+	?	+	–	–
Carrell et al. (1989)	+	+	+	+	–
Kern (1989)	+	+	–	–	–
Raymond (1993)	+	+	+	+	+
Çubukçu (2008a)	+	+	+	+	+
Andre & Anderson (1978-1979)	+	+	+	+	+
Baumann et al. (1993)	+	+	?	+	+
Muñiz-Swicegood (1994)	+	+	–	–	–
Talbot (1995)	+	+	+	+	+
Allen (2006)	+	+	–	+	–
Chang (2006)	+	+	+	+	+
McMurray (2006)	+	+	+	+	+
Boulware-Gooden, Carreker, Thornhill, & Joshi (2007)	+	+	–	–	–
Handyside (2007)	+	+	+	+	+
Sheffield Nash (2008)	+	+	+	+	?
Teplin (2008)	+	+	+	+	+
Fan (2009)	+	+	+	+	+

'+' = provided; '–' = not provided; '?' = not clear

Self-interrogation can be facilitated by encouraging readers to generate questions about the text that are reading. Andre and Anderson (1978-1979) conducted a study which aimed to train readers how to generate such questions while they are reading. Their findings indicated the superiority of self-questioning on both simple reading of the text and rereading it on learning. They explain the effectiveness of self-questioning in relation to metacognition. To them, since self-questioning

requires integrating the elements of setting a purpose, identifying important information, generating questions in relation with the comprehension of the text, and considering possible answers to the questions; it involves an active participation of readers.

Carrell (1985) indicated that learners can be instructed to employ a range of strategies and such strategies assist them to improve their performances both on recalling and reading comprehension. In her strategy training study focused on text structure, Carrell instructed top level strategy training to ESL learners and her participants recalled more information from the text. Carrell's study was regarded to be innovative at that time since it included all five components of metacognitive training in it as presented in Table 2.

Hamp-Lyons (1985) aimed to train a long list of text characteristics in a training approach. However, her study is being criticised by Carrell (1998) as she provided clarification on declarative knowledge, but not on procedural or conditional knowledge.

Sarig and Folman's (1987) study focused on coherence strategy teaching and they indicated that their study incorporated declarative knowledge with procedural knowledge in relevance to strategy training. However, their study is also being criticised by Carrell (1998) since they do not elucidate any procedures related with conditional knowledge.

Carrell et al. (1989) conducted a four-day experimental study with a number of 26 students aged from 19 to 43 to examine the combined effects of cognitive and metacognitive strategy training on L2 reading comprehension. While experimental groups of participants received strategy training either in semantic mapping or in the ETR, the participants in control groups did not receive any specific strategy training. However, all the participants were delivered pre- and post-tests with a nine-day interval. They aimed to reveal whether metacognitive strategy training foster L2 reading. Besides, the impact of any type of strategy training on fostering L2 reading better than the others was also explored. They also aimed to connect the

effectiveness of metacognitive strategy training with the participants' learning styles. The findings of the study pointed out the effectiveness of metacognitive strategy training on reading comprehension. Besides, the way through which reading is measured determines the effectiveness of training. Unavoidably, the participants learning styles had an impact on the effectiveness of the training. Increasing the awareness of reading strategies resulted in better reading performance. The results indicated that the participants who were exposed to the ETR, enhanced their comprehension of the texts the most and along with creating semantic maps without scaffolding. Although it is common to use the approach with young and less proficient language learners, Carrell et al. identified it beneficial also for older and more proficient ones.

Kern's (1989) study aimed to investigate the impact of directly instructing reading comprehension strategies to a number of 53 intermediate level university students learning French. While 26 of the participants were placed in the experimental group to follow a reading strategy training programme during the semester, the rest of them functioned as control group participants by receiving their course conventionally. A *reading task interview* was administered as pre- and post-tests along with *comprehension* and *word inference* measures. The findings of the study indicated that reading strategy instruction had a significant positive impact on comprehension. Besides, the instruction also had an impact on inferring the meanings of unfamiliar words from context.

Metacognitive awareness covers questioning whether comprehension is occurring or not along with applying appropriate strategies to achieve comprehension (Baumann et al., 1993). Baumann et al. conducted an experimental study in which they implemented an instructional think aloud programme. Their findings indicated that using think alouds assist readers to monitor their comprehension and also refer to fix-up strategies when they encounter difficulties in getting the meaning.

Raymond (1993) aimed to partially replicate Carrell's (1985) study by exploring the impact of structure strategy training on reading comprehension of native English speakers. Her participants were learning French as a L2 and she

compared two groups to each other, control group with no strategy training, and the experimental group with the instruction on five structure strategies of description, collection, causation, problem solution, and comparison. After reading a text, the participants were asked to recall it and also delivered a questionnaire. Unsurprisingly, the results indicated the superiority of the experimental group of participants on recalling more idea units from the text indicating structure strategy as a characteristic of efficient readers. Raymond also calls attention to the difficulty in reading strategy instruction programmes in FL classes since the outcome of the programme do not reflect the impact of a particular strategy. To her, as readers are expected to have an interaction with the text, the strategy they use, their background knowledge, and their perception of the text; they all are supposed to have an impact on the success of the reader.

Muñiz-Swicegood (1994) instructed MRSs for a period of six weeks to a number of 95 bilingual Spanish dominant students aged between 8 and 9 while reading in Spanish. The findings pointed out an improvement in reading comprehension following the training. Besides, the results of post interview also indicated an increase in the frequency of Spanish reading strategies after the training. The study provides evidence for the transferability of reading strategies across languages.

Talbot (1995) investigated how an explicit metacognitive strategy training programme affected L2 learners' metacognitive awareness of text structure. To achieve his goal, he conducted an experimental study with a number of 244 Cantonese speaking university students at intermediate level of English language. The participants were divided in four groups and there of them functioned as interventions whereas one of them functioned as control. He trained the intervention groups in metacognitive awareness of text structure in English whereas the control group followed their standard syllabus. In addition to the pre- and post-tests which were administered in a five-week interval, he also repeated the post-test after four months. Talbot also explored the probable impact of participants' proficiency in English, gender, and learning approach. The findings reported positive results in only 3 out of 4 components of the text directed him to conclude that text structure should

be integrated in MRS training programmes at intermediate level. The findings indicated that the superiority of intervention groups over the control group, therefore strategy training in expository text structure was regarded to be efficient. Although it provides significant information with its delayed test, Talbot's findings should be carefully approached as his reading comprehension tests lack reliability analysis.

Allen (2006) aimed to investigate the development of metacognitive strategies in struggling 7 young readers in grades two to four. In her qualitative study, she collected data by field notes, formal and informal assessments, and surveys. Although she claims her instruction of metacognitive strategies throughout the study, no detailed explanation of this strategy instruction procedure is provided. Allen's conclusion asserts that developing metacognition improves reading comprehension; however it should be noted that the flawed methodology of the study and the abundance of informal features in it, attenuates the value of her findings.

Chang (2006) compared the impact of communicative reading instruction (CRI) method with traditional reading instruction (TRI) method on reading comprehension and the use of metacognitive strategy use. A total of 80 students in two intact classes from a private Taiwan university with an average age of twenty participated in the twelve-week study which required fifty-minute instruction twice a week. The experimental group participants were classified into three groups in accordance with their language competency levels to fulfil their communicative reading tasks. The SORS was used to collect data on the participants' use of MRSs and the participants were also delivered reading comprehension test. The results indicated CRI's superiority over TRI on both reading comprehension and metacognitive strategy use. Chang concludes that CRI may assist reading teachers to provide more active roles to their students.

McMurray (2006) aimed to investigate how Advanced Critical Thinking and Reading course affected learners' reading self-efficacy, comprehension, and subsequent grades in English College Writing course in the next term. He tabulated the relevant data between 1996 and 2004 at Utah Valley State College for a total number of 667 students. The participants of the experimental group received the

MRS instruction in their first term at the university by Professor Carter and were delivered the same pre- and post-tests between 1998 and 2004. Both the experimental and control group participants enrolled their English College Writing course in their second term. The findings of the study indicated progress for experimental group participants. The results also pointed out more variable self-efficacy scores for pre-test compared to post-test. Another important finding showed that MRS instruction increased participants' self-efficacy and comprehension.

Boulware-Gooden et al. (2007) investigated the impact of multiple metacognitive strategy instruction on reading comprehension and vocabulary achievement. 119 third-grade students participated in their study and received pre- and post-tests in addition to the 30 minutes of strategy instruction a day for a period of 25 days. Throughout the experimental study, both groups read the same text, answered almost the same questions, and were provided with similar activities including metacognitive strategies such as understanding the purpose for reading and activating background knowledge. However, the participants of experimental group engaged with metacognitive strategies more than the participants in the control group. Their results indicated the superiority of experimental group over the control one both in reading comprehension and vocabulary achievement. Although it is supposed to be easy to administer such an instruction, it is Boulware-Gooden et al. also consider it beneficial.

Handyside (2007) aimed to investigate the impact of metacognitive training on reading comprehension. She conducted a reading strategy training programme to a number of 33 native Spanish speaking ESL learners at basic and intermediate level s aged between 9 to 11. There were four treatment groups in the experimental study. The first two groups consisted of provided metacognitive strategy training only in English at either basic or intermediate level whereas the participants in the other two groups received strategy training either both English and Spanish. The participants were instructed through Chamot and Malley's (1987) CALLA model which lasted for eight weeks with an extra two-week practice in 90-minute sessions conducted twice a week. Schmitt's (1990) the Metacomprehension strategy index (MSI) was delivered before and after the instruction. The metacognitive awareness in the

targeted reading strategies of predicting, previewing, determining the purpose of reading, using background knowledge, self-questioning, and summarizing increased after the implementation. A significant relationship between metacognitive awareness and reading comprehension was reported. The findings also indicate the vital effect of language proficiency in reading comprehension.

Çubukçu (2008a) instructed native Turkish speaking trainee teachers at the department of ELT in their metacognitive awareness for reading comprehension in a five-week programme. A number of 130 trainee teachers participated in the study, half of them being in the experimental group and the other half being in the control one. The study mainly aimed to investigate the impact of direct instruction of multiple metacognitive strategies designed to assist students in comprehending text. Besides, the study also examined the impact of metacognitive strategy training on vocabulary retention. The experimental group participants received a 45-minute instruction session for each week and they practised two strategies weekly in accordance with Chamot and O'Malley's (1994) CALLA (See Chapter 2 CALLA for details) on the use of the strategies of 'using personal strengths', 'inferring meaning', 'using background information', 'evaluating', 'searching according to the goals', 'reading goals', 'distinguishing', 'deciding on the difficulty', 'revising', and 'guessing the later topics'. Çubukçu's results pointed out that metacognitive strategy training has a significant impact on fostering reading comprehension and developing vocabulary providing additional evidence of the benefits of metacognitive strategy training. Although all the participants of the study, either in experimental or control group, gained metacognitive awareness to some degree, the experimental group participants outperformed the control group participants. Therefore, reading comprehension can be regarded to be developing through systematic instruction of MRSs.

Sheffield Nash (2008) conducted a 10-week span case study with six students to investigate the impact of MRSs on college students' self-regulation abilities in New Jersey. Besides, the study also aimed to explore the participants' perceptions about reading. The participants were directly and explicitly instructed on reading comprehension strategies. Apart from the basic data provided by interviews,

Sheffield Nash also referred to observations, think aloud protocols, and reading comprehension assessments to collect additional data. The results indicated MRSs' impact on the participants' self-regulation skills which concurrently assisted them to change their self-efficacy and self-esteem towards reading. The participants also were motivated after the implementation of the programme. It can be implicated that an increase in participants' self-systems results in greater use of strategies which has a positive impact on comprehension.

Teplin (2008) aimed to identify the integration of metacognition into reading comprehension instruction by teachers in Los Angeles. To enable this, she conducted a nine-week intervention with a number of seven 3rd grade teachers who were expected to create a framework for metacognitive instruction. In addition to this, a number of 133 third graders also participated in the study as to constitute the experimental group whereas a number of 252 third graders constituted the control group. Teplin developed and administered a nine-week professional development intervention for the teachers on metacognition in reading comprehension instruction. She referred to pre and post classroom observations, interviews, written reflections, and a reading comprehension test to collect data on the impact of the intervention. The findings pointed out an increase in teachers' metacognitive awareness namely explaining strategies and modelling them; generating questions and responding to students; and talking to classroom. Besides, such a change in teachers' metacognitive awareness also had an impact on students' reading comprehension.

Fan (2009) explored the most effective way of instructing MRSs in Taiwan at university level. A number of 143 students aged from 18 to 23 participated in the 2-by-2 study. The experimental group participants were instructed to use the strategies of think-aloud, text structure, and summarization whereas the control group participants received no specific strategy training. Fan used the five instruments of data demographics, pre-test, post-test, metacognitive awareness of reading strategies inventory, and reading strategy satisfaction survey to collect data. The results indicated significant differences in the reading comprehension scores of experimental and control groups. Moreover, the more proficient participants' post-test scores were higher than lower-level ones. The implication of the study might be that self-

regulated learners aim to focus their attention on topic and monitor their progress. However, they may need assistance to evaluate whether they achieve their reading goals or not.

3.5 READING ACTIVITIES

Reading activities play a vital role in reading and they are usually subcategorised as *pre-reading*, *while-reading*, and *post-reading* activities (Ur, 1996; E. Williams, 1984). Hedge (2000: 209) maintains that although recently reading is regarded to be 'taught' with the help of activities, previously traditional texts intended to test readers' comprehension without dealing with activities except from pre-vocabulary teaching. For example, Bernhardt (1984) claims that an ideal three-step reading class needs to firstly employ a reading aloud session where pronunciation is taken into consideration; secondly silent individual reading of the text; and thirdly answering comprehension questions. However, reading activities are believed to support readers' interpretation of the text (C. Wallace, 1992). Karakaş (2002) suggests that reading classes should employ *previewing, predicting,* and *key-words* in pre-reading; *reciprocal teaching, inferring, re-reading, scanning, skimming,* and *clarifying* in while-reading; and *summarizing, question and answer, drawing conclusions, thinking aloud,* and *discussion* in post-reading activities stage. C. Wallace points out that it might be important to keep in mind that there are some factors which affect the success reading activities as they are considered to be social because of the interactions of learners and teachers.

3.5.1 PRE-READING ACTIVITIES

Motivation for the reading task can be provided by pre-reading activities – also called *prepassage activities* (Wilhite, 1983); *enabling activities* (Ringler & Weber, 1984); *pretext activities* (Levine et al., 1985), and *preliminary activities* (Wegmann & Knezevic, 2002) – which would enable them to feel themselves ready for the reading activity. If readers are motivated, doubtlessly they finalize the task better and with less effort and are eager to take part in the activity as they are confident (Chastain, 1988). Along with other course teachers, language teachers are

also recommended to encourage their learners to evaluate what they read (Lewin, 1984). In this respect, pre-reading activities may provide a chance to the teachers to facilitate this. Besides, such activities also assist readers to recognize their reason in reading the text (Bartram & Parry, 1989) and make the reading instruction closer to real-life reading situations (Nara, 2003b). In this respect H. D. Brown (2001) implies that introducing the topic to the readers should not be regarded as a time-consuming activity.

Aebersold and Field (1997) present three basic reasons to prepare readers for the reading task. Firstly, this enables them to set an aim for reading the text; secondly, activates their relevant background knowledge; and thirdly, constituting practical expectations about the content of the text.

H. D. Brown (2001) recommends the use of *scanning*, *skimming*, *predicting*, and also *schema activation* activities in the pre-reading stage. It is not uncommon to find pre-reading activities which require readers to find answers directly from the text however by the 1990s scanning activities also are integrated into pre-reading session (C. Wallace, 1992). C. Wallace identify the roles of pre-reading activities both as preparation for the difficulties in the text such as providing background knowledge and reminding existing knowledge which is called schema activation.

Evidence for the efficiency of pre-reading activities comes from the research investigating Bartlett's (1932) Schema theory which deals with both providing the outline for reading the text and teaching cultural key concepts. Activating readers' relevant background knowledge before reading may foster reading comprehension (Alderson & Urquhart, 1984; Carrell & Eisterhold, 1983; Grabe, 1991; Steffenson & Joag-Dev, 1984; Ur, 1996). In case of lack of relevant background knowledge, the reading teacher should provide it before they start reading. According to Ur, tasks make the activity more challenging as readers identify an aim in reading the text. She points out another benefit of activities as the indicator of comprehension.

Brainstorming is considered to be a very fashionable pre-reading activity by C. Wallace (1992) in which learners are required to tell the words related with the

topic. C. Wallace attached its fame to easiness in preparation without preparation beforehand; independency of talking on the issue relevant with students' background knowledge; and integrating all students. In the final step, brainstorming activity presents a semantic map to the learners. C. Wallace indicates that such a brainstorming activity is regarded as significant since they allow readers to see what they are able to bring to the text before they start reading which in turn assigns the strategies that they will use in the reading process. Semantic mapping is also a strategy recommended by N. J. Anderson (1999a) to establish background knowledge.

Besides, *pre-questioning* is also identified as another pre-reading activity (Ur, 1996; Wilhite, 1983) where the aim is asking a general question to readers before reading. They are supposed to find out some information related to the understanding of the text. In addition to this, *previewing* is also considered to be quite effective (Graves, Cooke, LaBerge, 1983; Chen & Graves, 1995) by helping activate readers' schemata as Chen and Graves' study proves it is more effective than providing background knowledge. Karakaş (2002) also recommends that *previewing*, *predicting*, and *key-word* activities may assist readers in terms of the cultural background.

Moreover, previewing the text before reading is also considered to be beneficial since it enables readers to develop their own expectations about the forthcoming information in the text (Aebersold & Field, 1997). Through previewing, readers also have an idea about the organization of the ideas in a text. Aebersold and Field indicate that, in order to preview readers may read the introduction of the text along with its conclusion, sample by reading the first sentences of each paragraphs in the body of the text, and also skim and scan.

Nara (2003b) encourages the use of pre-reading activities such as 'framing the text' in which readers are provided with written relevant background knowledge in L1 before the reading class and expected to answer teacher's questions related with the topic but not the content of the text; 'activating schemata' where readers' relevant schemata are activated to form expectations from the text; 'giving

information about the author' in which readers are provided with information about the author of the text such as her style, therefore readers may transfer this information to the other texts that belong to the same author; 'reviewing vocabulary and grammar' enables them to refresh their structural and lexical knowledge about the text; and 'skimming and scanning' whether to get a general idea about the text or to focus on a specific detail in it.

Hedge (2000: 210) recommends reading teachers to choose appropriate pre-reading activities from the following list in accordance with their aim.

> [T]alking about pictures accompanying the text; predicting from the title; agreeing or disagreeing with a set of proposals about the topic; answering a set of questions or a quiz; listing items of information they already know about the topic; or discussing the topic.

3.5.2 WHILE-READING ACTIVITIES

Traditional approaches prepared readers to the text by dealing with syntax and lexical items in pre-reading stage by neglecting schema activation and while reading activities (Hedge, 2000). Hedge points out that as the role of the reader changed with the emergence of top-down and interactive approaches, while-reading activities started to be considered inevitable as they encourage readers to become active. They principally function to stimulate readers to read in a flexible, active, and reflective way (C. Wallace, 1992). Being active and reflective requires integrating their background knowledge to the text where being flexible forces to them to use effective strategies in accordance with the text type. While reading activities are required to make readers aware of their reading aims (H. D. Brown, 2001).

Hyland (1990) considers *surveying* as an activity to develop reading efficiency and maintains that it enables the reader to preview the text content and organisation by using referencing and non-text material. The aim in surveying can be identified as quickly checking the relevant extra-text categories such as; referencing data, graphical data, and typographical data.

Waldman (1958) introduces 4-S technique of *selecting*, *skipping*, *skimming*, and *scanning* and maintains that they account for speed in reading. Selecting requires the examination of the title of the book and also author's name. Waldman recommends a very quick overlook of chapter headings and the preface which will help the reader to decide whether to continue reading the book or quit it.

Identified as top-down skills (Scrivener, 2005), *skimming* and *scanning* are considered to be the most precious reading activities (H. D. Brown, 2001). Skimming allows readers to get the general understanding, predict the purpose of the passage, and get the writer's message (Bachman & Cohen, 1998; Bartram & Parry, 1989; Baudoin et al., 1993; Flowerdew & Peacock, 2001; Waldman, 1958) when they are under time strains (Chastain, 1988) by predicting the whole text without reading it all. Limitation in time may help them become fast readers (Nara, 2003b).

However, H. D. Brown (2001) indicates that *scanning* – also called locational reading (Kottmeyer, 1947) – allows readers to get specific information in a text, such as names, dates, etc. According to Waldman, scanning resembles to close reading in which readers attempt to discover the hidden meaning. Recently, it will not be wrong to maintain that scanning leaves discovering the hidden meaning out of its aims. Baudoin et al. (1993) indicate that in scanning readers first decide the form of the information that they are searching such as names or dates. Then they decide the probable location of the information in the text and move their eyes quickly until they find the desired information. When they find it, they evaluate whether the found information is the desired one (Aebersold & Field, 1997). If it is the desired information there is no need to read any further. In scanning, readers are supposed to be familiar with graphic stimuli for the item being sought (Nara, 2003b).

Similarly, identified as superficial reading (Aebersold & Field, 1997), *skimming* is considered to be a metacognitive skill which is one the characteristics of good readers (Alderson, 2000) and combines surveying and scanning together (M. J. Wallace, 1999). Nara (2003b) indicates that reading teachers may ask readers to skim in order to test their hypothesis about the story line; to get the main idea of the text; to clarify the thesis statements; to pay attention to the details while reading it for the

next time; and to teach transition words to low proficiency readers while disregarding specific information. Taking the genre of the text into consideration is also considered to be essential in skimming by Nara. Baudoin et al. (1993) identify steps also for skimming in which reading carefully distinguished sentences is essential to get the main idea of the text. They maintain that it is not essential to read every individual word in a text; however referring to the title, headlines, textual clues might be profitable. After receiving the main idea of the text, Baudoin et al. recommend readers to read the whole text carefully or scan important parts of it. As an alternative approach Stoller (1994) maintains that it is possible to ask readers to the first paragraph and then the first sentences of the paragraphs in the rest of the text. Skimming is considered to be a more superior reading activity when compared with scanning (Levine et al., 1985). Nevertheless, Davies (1995) experiences difficulties in separating real life skimming and scanning since the former comprises the latter.

Skipping is also considered to be a beneficial activity for reading in which readers are able to by-bass the irrelevant information in a text (Waldman, 1958). However, Lubliner (2004) calls attention to the danger of over and misusing of the strategies of skipping and scanning. According to Lubliner, young readers have a tendency of skipping the difficult part of a text scanning the rest of it. Alternatively, Hedge (2000: 210) encourages the selection of appropriate while reading activities from the following list.

> [F]ollow the order of ideas in a text; react to the opinions expressed; understand the information it contains; ask themselves questions; make notes; confirm expectations or prior knowledge; or predict the next part of the text from various clues.

In addition to this, evaluation activities increase the effectiveness of scanning and skimming (Karakaş, 2002). According to Karakaş, if readers are challenged to exchange their ideas about the topic of the text and evaluate it; then this fosters their comprehension. She indicates that the activities of *reciprocal teaching*, *evaluating*, *inferring* and *re-reading* provide a dialogue between the reader and the writer while the activities of *scanning*, *skimming* and *clarifying* draw a clear mental picture for the

reader. Besides underlining the main ideas is also appreciated in while reading stage by Povstay (1984) since it can enable readers to discover the outline of the text.

3.5.3 POST-READING ACTIVITIES

The first aim of post-reading activities is pointed out to be assisting readers to clarify any unclear meaning by focusing on it, not on the grammatical or lexical aspects of the text (Chastain, 1988). Besides lexical items and also grammatical patterns from the text may be examined (H. D. Brown, 2001; Nara, 2003b). Typically in post-reading session the text is followed by a number of questions. Unfortunately for some instances such questions are far beyond comprehension question since it is possible to answer them without reading the text by simply relying on the background knowledge. C. Wallace (1992) indicates that such questions should be avoided since they are not relevant with the text.

Summarizing is a post-reading activity in which readers summarise the content in a sentence or two (Ur, 1996). This activity can also be administered in the mother tongue to prevent the integration of a productive skill of writing in the TL (S. Razı, 2007). Readers are able to interpret the text and illustrate the relationship between the questions and their answers by using activities such as *summarising, question and answer,* and *drawing conclusions* (Karakaş, 2002). She also maintains that it is possible to catch the missing parts of the mental picture through *thinking aloud, discussion* and *summarising*. Bartram and Parry (1989) point out that discussing the correct answers with the readers in the post-reading stage is tremendously beneficial rather than simply giving the correct answers by the teacher.

Hedge (2000: 210) emphasizes that post reading activities should be in parallel with pre and while reading activities and she proposes a list of post reading activities from which reading teachers select to employ in their classes relevant to their goals in reading the text. Then post reading activities emerge “by discussing their response to the writer’s opinions or by using notes for a writing activity, … debate, role-play, reading of contrasting texts, or focusing on its language … [and] vocabulary”.

3.6 SUMMARY

The sophisticated process of FL learning involves a great deal of factors which affect them and LLSs which are being defined as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (Oxford, 1990: 8) appear among of these factors. The study of successful learners accelerated the research on learning strategies and researchers aimed to identify the characteristics of sufficient learners which in turn be adopted by insufficient ones. The two widely-accepted categorizations of learning strategies date back to the early 1990s prominent publications belong to Oxford (1990) and O'Malley and Chamot (1990). Oxford's six types of learning strategies are broadly categorized in two groups; one dealing with *direct*, and the other dealing with *indirect* ones. The former is supposed to be directly involving the TL whereas the latter encourages the process of learning the TL without directly involving in it. Oxford (1990) lists *memory*, *cognitive*, and *compensation* strategies in the direct group; and *metacognitive*, *affective*, and *social* strategies in the indirect group. She indicates that there is an interaction between direct and indirect strategies; therefore learners may need to refer to their direct strategies in order to use an indirect strategy. Apart from LLSs, reading strategies are regarded as allowing readers to approach a text in a variety of ways by considering the nature of the text, their purposes, and the context of it by C. Wallace (1992). As in LLS research studies, the aim in reading research studies was to investigate good readers' characteristics and Hosenfeld (1977) is considered to be the first researcher in the relevant field. Metacognition refers to awareness of own learning, memory, and also thought processes (Flavell, 1976 & 1979). Metacognition has proven to have a significant impact on improving reading comprehension (Baker & Brown, 1984; Flavell, 1979; Flavell et al., 2002; Mokhtari & Reichard, 2002; Sheorey & Mokhtari, 2001) and MRS research studies have posed the superiority of skilled and cognitively matured readers on the use of reading strategies effectively (MacLean & d'Anglejan, 1986; Mokhtari & Sheorey, 2002). The impact of reading strategies on reading comprehension is highly accepted as strategy training studies enhance reading abilities. As indicated by Nara (2003b), such training should include

procedural and conditional knowledge as well as declarative knowledge. N. J. Anderson (2005) points out that although strategies can be identified individually, they are not utilized in isolation; therefore teaching repertoires of reading strategies are encouraged other than focusing on a single one.

CHAPTER FOUR

METHODOLOGY

4.0 INTRODUCTION

This chapter will briefly introduce the methodology that is generally used in the field of applied linguistics research and then describe the methodology of the present study by presenting rationale for an experimental study. It will first deal with the pilot study to provide validity and reliability to the instruments of the present study and report the development of METARESTRAP. Implications about the main study will be drawn before presenting the methodology of the main study. Setting and participants, procedures for data collection and analyses, and variables of the study will also be taken into consideration.

4.1 APPROACHES TO EDUCATIONAL RESEARCH

The general approach to classify research starts with the discrimination between *qualitative* and *quantitative* designs where the former deals with ungeneralisable single case studies as opposed to the latter one which deals with generalisable multiple case studies (Nunan, 1992). However, the classification in this section will primarily be based on J. D. Brown (1988) who advocates a distinction between primary and secondary research.

To J. D. Brown (1988), research is categorised into two arbitrary divisions of *secondary research*, which is derived from secondary sources such as library books about EFL learners; and *primary research*, which is derived from primary sources of information such as dealing with a group of EFL learners. Additionally, J. D. Brown categorizes primary research into two: *case studies* and *statistical studies* – also called *psychometric investigations* (Chaudron, 1988). The former type deals with one or a few individuals where a *longitudinal* study is required and in which the main goal is watching and studying a learner and then commenting about that learner. On

the other hand, that the latter type deals with group phenomena as well as individual behaviour where cross-sectional studies are required.

J. D. Brown's (1988) categorization of primary research have common points with several researchers such as Bell (1993), Burns (2005), Chaudron (1988), Harklau (2005), Hatch and Farhady (1981), Lazarton (2005), Mackey and Gass (2005), Nunan (1992 & 2005), and van Lier (2005). Moreover, *ethnographic research* (Chaudron, 1988; Harklau, 2005) and *action research* (Burns, 2005) can be regarded as the other two components of research. Nunan (1992) defines that the former aims to obtain data through uncontrolled observations while the aim in the latter one is obtaining data by classroom teachers rather than researchers which leads improvement. Since *classroom research* can be regarded as differing from action research as proposed by Nunan (2005), it is reasonable to subcategorize it under action research.

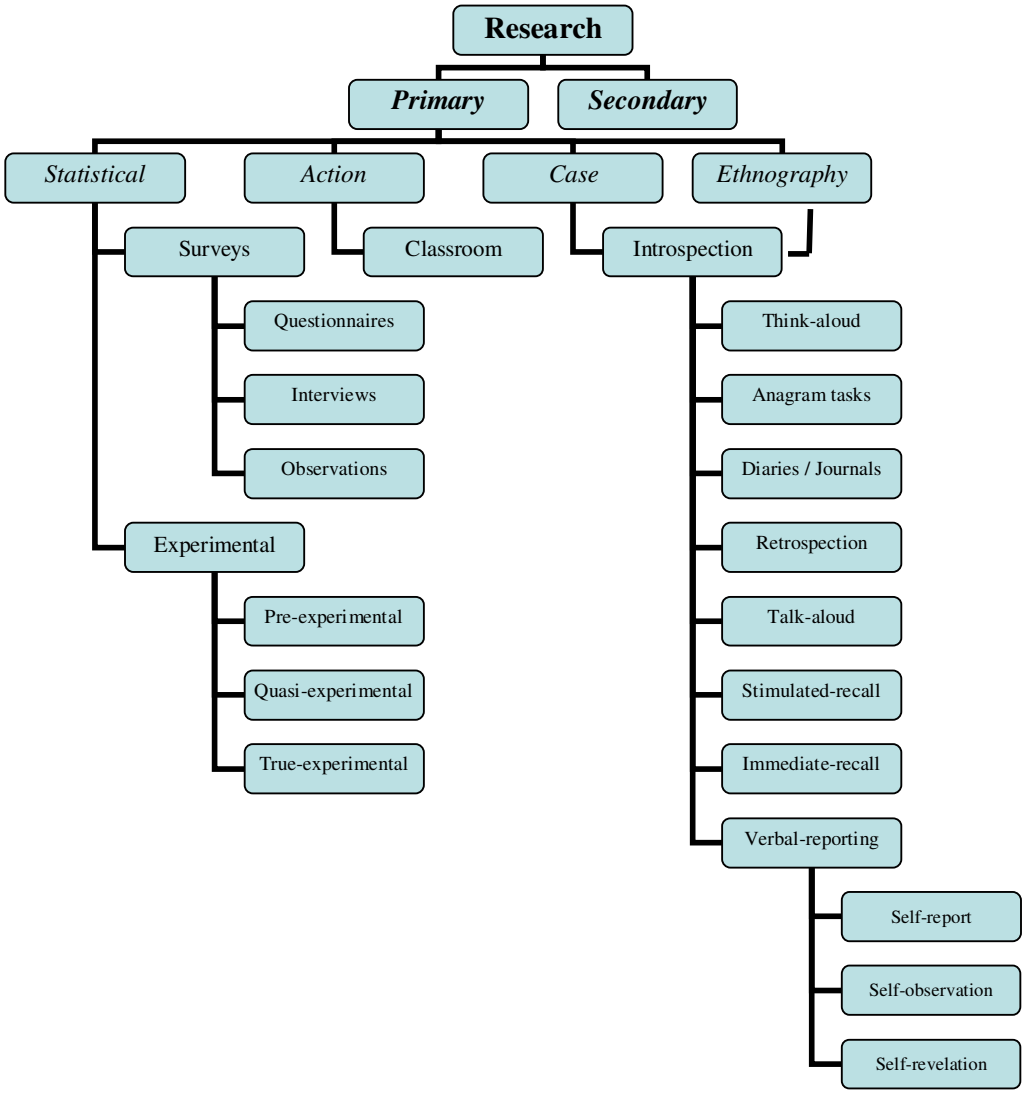
It is also rewarding to expand J. D. Brown's (1988) categorization of statistical studies namely *survey* and *experimental*. Bell indicates that the former collects data through *questionnaires*, *interviews*, and *observations* by focusing on a group's attitudes whereas experimental studies are subcategorised into three groups namely *pre-experimental*, *quasi-experimental*, and *true experimental studies*. On the other hand, although there are differences between *case studies* and *ethnography*, the common point between them can be regarded as the way of collecting data. For instance, both methods refer to introspection which can be subcategorised as think-aloud techniques, anagram tasks, diaries / journals, and retrospection by Nunan (1992); talk-aloud techniques, stimulated-recall, immediate-recall, and verbal reporting with the subcategories of self-report, self-observation, and self-revelation by Mackey and Gass (2005).

Figure 4 demonstrates research and its subcategories, as described by various researchers.

Figure 4

Types of Research

(Based on Bell, 1993; J. D. Brown, 1988; Burns, 2005; Chaudron, 1988; Harklau, 2005; Hatch & Farhady, 1981; Lazarton, 2005; Mackey & Gass, 2005; Nunan, 1992 & 2005; van Lier, 2005)



In the following sections, experimental studies will be reviewed respectively with relevance to the aims of the present study.

4.1.1 EXPERIMENTAL STUDIES

Experimental studies provide controlled conditions in order to investigate the language behaviour of individuals (J. D. Brown, 1988) where the main aim is setting participants into different treatment groups and comparing them to each other to find out any possible cause-and-effect relationship where it is possible to alter independent variable to examine the impact of treatment (Ekmekçi, 1997). Kamil (2004: 100) points out that "[e]xperimental research has as its goal the generation of theory by collecting data under a set of controlled, manipulated conditions". Experimental studies are usually examined under three categories: *pre-experimental*, *quasi-experimental*, and *true-experimental* studies. In the following sections the types of experimental studies will be defined.

4.1.1.1 PRE-EXPERIMENTAL STUDIES

Pre-experimental designs include basic experimental steps but they have only the experimental group where the aim is comparing pre- and post-test results (Larsen-Freeman & Long, 1991). The lack of a control group prevents comparisons between the two treatment groups; therefore the internal validity of such studies is questionable (Hatch & Farhady, 1981; Nunan, 1992). As they lack control groups, contrary to quasi-experimental and true-experimental ones, Hatch and Farhady do not consider such studies as model experiments. Moreover, such designs do not provide an answer as to whether the treatment group scores are higher than they would have been without the treatment due to the lack of a control group. Larsen-Freeman and Long regard such studies merely as 'hypothesis-generating'.

4.1.1.2 QUASI-EXPERIMENTAL STUDIES

Quasi-experimental study designs – also called *control group design* (MacKey & Gass, 2005) – involve at least two treatment groups and they are considered to be closer to true-experimental ones (Larsen-Freeman & Long, 1991). MacKey and Gass indicate that the experimental (treatment) group is treated in a different way from the control (non-treatment) group but the two groups receive the

same pre- and post-tests. Quasi-experimental designs lack random selection of participants in which treatment groups are constructed from intact classes (Seliger & Shohamy, 1989). As the researcher is unable to control group assignment, randomization of participants is not possible in quasi-experimental studies (Lomax, 2004). Larsen-Freeman and Long maintain that as pre-existing classes are quite common for EFL research settings, a quasi-experimental design seems to be the only alternative where it is impossible to conduct true-experimental studies. The pre- and post-test results of the two groups are compared to each other to find out any differences between groups.

4.1.1.3 TRUE-EXPERIMENTAL STUDIES

True-experimental study designs – also known as *randomised studies* (Lomax, 2004) – are considered the only way of measuring cause and effect relationship as they consist of experimental and control groups with randomly assigned participants (Nunan, 1992). The difference between quasi and true experimental studies resides in the forming of the groups. As researchers are forced to construct their own groups in order to control the study, true-experimental studies have the highest level of control (Ekmekçi, 1997). The aim is constructing at least two groups where control variables have no effect on the others. Ekmekçi maintains that such studies offer more reliable results than quasi-experimental ones as the dependent variables are not affected by other confounding variables and they are regarded to be internally and externally valid as participants are randomly assigned into treatment groups.

4.2 RATIONALE FOR AN EXPERIMENTAL RESEARCH DESIGN

This study was designed as quasi-experimental research with an experimental and a control group of participants consisting of intact classes where the aim was to treat experimental group through METARESTRAP and control group in a traditional way to find out the effectiveness of implanting 'metacognitive reading strategies' on the use of MRSs and reading comprehension. Since control group was necessary in order to compare the effectiveness of METARESTRAP, a pre-experimental design

was not appropriate for the present study. Nevertheless, a quasi-experimental study design was considered to be appropriate for the sake of the present study. Since implementing METARESTRAP took six weeks, it would be problematic to perpetuate it by providing full attendance of the participants in non-natural classes.

This study consists of one pilot and one main study. The details of the pilot study will be explained in the following sections before moving to the presentation of the main study.

4.3 RESEARCH QUESTIONS AND HYPOTHESES OF THE STUDY

4.3.1 Research Questions

This study aims to answer the following main research question.

RQ Does METARESTRAP affect the use of metacognitive reading strategies and reading achievement?

The seven sub research questions are as follows with reference to the previous main research question.

RQ1 Is there a difference between reading comprehension scores of experimental and control group participants after the implementation of METARESTRAP?

RQ2 Is there a difference between metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ3 Is there a difference between analytic metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ4 Is there a difference between pragmatic metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ5 What are the most common metacognitive reading strategies employed by advanced EFL learners?

RQ6 Which metacognitive reading strategies are accelerated after the implementation of METARESTRAP?

RQ7 What is the impact of METARESTRAP on different types of reading comprehension questions?

4.3.2 Hypotheses

The study had the following main hypothesis related with the main research question. However, its pair as a null hypothesis is also provided.

H_a Experimental group participants will outperform control group participants in using metacognitive reading strategies and reading achievement after the implementation of METARESTRAP.

H_0 There will not be any significant differences in using metacognitive reading strategies and reading achievement of experimental and control group participants after the implementation of METARESTRAP.

The study also had four alternative hypotheses related with the first four research questions. However, their pairs as null hypotheses are also provided below.

$H1_a$ Experimental group participants will outperform control group participants in reading comprehension after the implementation of METARESTRAP.

$H1_0$ There will not be any significant differences between reading comprehension test scores of experimental and control group participants after the implementation of METARESTRAP.

$H2_a$ Experimental group participants will outperform control group participants in using metacognitive reading strategies after the implementation of METARESTRAP.

$H2_0$ There will not be any significant differences between metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H3_a$ Experimental group participants will outperform control group participants in using analytic metacognitive reading strategies after the implementation of METARESTRAP.

$H3_0$ There will not be any significant differences between analytic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H4_a$ Experimental group participants will outperform control group participants in using pragmatic metacognitive reading strategies after the implementation of METARESTRAP.

$H4_0$ There will not be any significant differences between pragmatic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

4.4 PILOT STUDY

Prior to the implementation of METARESTRAP, a pilot study was conducted by the researcher to ensure that the main study ran smoothly. The pilot study had two main aims. Firstly, it aimed to establish the validity and reliability of the instruments. Secondly, it aimed to collect data through METARESTRAP so that it would be possible to draw implications about the procedures of collecting data for the main study. Therefore, this section will focus on these issues.

4.4.1 Setting

The pilot study was conducted in the ELT Department at the Faculty of Education of Çanakkale Onsekiz Mart University with four first year classes. The pilot study was carried out over the fall semester of the 2008-2009 academic year. All the intact classes were taught by the researcher himself in Advanced Reading and Writing I Course in the ELT Department. The pilot study was conducted in the ELT Department because the high English language proficiency of the participants would

enable the researcher to compare and contrast the effects of METARESTRAP on reading comprehension and use of MRSs.

4.4.2 Participants

All the participants were considered advanced Turkish learners of English as they had to take the placement test of Foreign Language Examination (YDS) which is administered once every year by Higher Education Council Students Selection and Placement Centre of Turkey (ÖSYM), to study at the ELT Department. Apart from YDS, in order to enrol first year courses, the students were required to take an exemption examination on the registration of the department which tested their proficiency in English by dealing with all language skills along with grammar and vocabulary. Those who were considered to be inefficient in their TL proficiency to study at the department were expected to follow preparation class courses for a year. Therefore, the four intact first year classes consisted of both students coming from preparation classes who had registered at the university in 2007-2008 academic year and the students who were assigned to be proficient in 2008-2009 academic year exemption examination.

As the groups were intact classes, there were absentees from each group. A total number of 39 students who failed to attend Advanced Reading and Writing I Course during the experiment either in experimental or control group were excluded from the study. Retaking students were also excluded from the study since their probable differences from the rest of the participants had a risk to spoil the results. Besides, the two Erasmus exchange students from a university in Poland and a foreign national full time student from Kazakhstan were excluded from the study as learner characteristics are regarded to be culture-specific (M. L. Abbott, 2006; Harmer, 2001; Oxford, 2001b).

The full details of participants who were excluded from the study are shown in Table 3.

Table 3

Distribution of Participant Elimination

Treatment Groups	Intact Classes	Absentees	Retake	Erasmus	Foreign National	Class Total	Group Total
Experimental	***1A Day***	9	5	2	1	17	27
	1B Evening	10	0	0	0	10	
Control	***1B Day***	12	0	0	0	12	24
	1A Evening	8	4	0	0	12	
	Total	**39**	**9**	**2**	**1**	**51**	**51**

Several LLSs research studies investigated the impact of gender differences on the use of strategies and indicated the superiority of females in using more strategies when compared to males (Ehrman & Oxford, 1988; Hong-Nam & Leavell, 2006; Oxford, 1990; Oxford & Ehrman, 1988, 1995; Politzer, 1983; Oxford & Nyikos, 1989; Green and Oxford, 1995) apart from the Young and Oxford's (1997) study. As the department of ELT is a female dominant one, a vast majority of the participants were females. However, the indiscrete distribution of male participants between the two groups provides the homogeneity of gender. Gender distribution of the participants in the pilot study is shown in Table 4.

Table 4

Gender Distribution of Participants

Treatment Groups	Intact Classes	Female	Male	Class Total	Group Total
Experimental	***1A Day***	16	7	23	46
	1B Evening	21	2	23	
Control	***1B Day***	19	3	22	47
	1A Evening	18	7	25	
	Total	**74**	**19**	**93**	**93**

Age is attributed as an important contributor of reading (Nara, 2003a; Grabe, 1991) and also considered to be an effective factor in the use of strategies (Aebersold & Field, 1997; Chamot & El-Dinary, 1999; Singhal, 2001); therefore participants' age was taken into consideration. Table 5 shows the average age of participants at the time they participated into the pilot study.

Table 5

The Average Age of Participants

Treatment Groups	Intact Classes	Female	Female Mean	Male	Male Mean	Classes Mean	Groups Mean
Experimental	***1A Day***	18.5625	18.5405	18.2857	18.3333	18.4783	18.5000
	1B Evening	18.5238		18.5		18.5217	
Control	***1B Day***	18.2632	18.7568	19.3333	19.7000	18.4091	18.9574
	1A Evening	19.2778		19.8571		19.44	
	Mean	**18.6486**	**18.6486**	**19.0526**	**19.0526**	**18.7312**	**18.7312**

As Table 5 indicates, the treatment groups consisted of 93 students at the average age of 18.7. The average ages of participants in the two treatment groups were similar to each other.

Some reading strategies cannot be employed by all readers until they achieve a certain level of proficiency (Cziko, 1980) and there is supposed to be positive correlation with the use of metacognitive strategies and FL proficiency level (Carrell, 1989; Cohen, 1998). Therefore, participants' exposure to FL was also taken into consideration. Table 6 shows participants' period of study of English before they participated into the pilot study.

Table 6

Period of Participants' Study of English

Treatment Groups	Intact Classes	Period	SD	Mean	SD
Experimental	***1A Day***	8.9130	1.53484	8.6739	1.70038
	1B Evening	8.4348	1.85438		
Control	***1B Day***	8.1364	2.33596	8.8085	2.06037
	1A Evening	9.4000	1.60728		
	Mean	**8.7419**	**1.88185**	**8.7419**	**1.88185**

As indicated in Table 6, the treatment groups in the pilot study had very similar periods of English study which would undoubtedly be beneficial to achieve reliable results.

As relevant research on lateralization suggests that an individual's handedness is opposite from the specialized hemisphere implying that a right-handed person probably has a left-hemispheric language specialization whereas this is not the case for left-handers since they seem to have a left-hemispheric brain specialization for language abilities (Larsen-Freeman & Long, 1991). Therefore, the pilot study investigated handedness of participants as their nonhomogenous distribution between treatment groups may bias the findings. Table 7 indicates handedness of participants among intact classes and also between treatment groups.

Table 7

Participants' Distribution of Handedness

Treatment Groups	Intact Classes	Left-Handed	Right-Handed	Classes Total	Groups Total
Experimental	***1A Day***	1	22	23	46
	1B Evening	2	21	23	
Control	***1B Day***	2	20	22	47
	1A Evening	1	24	25	
	Total	**6**	**87**	**93**	**93**

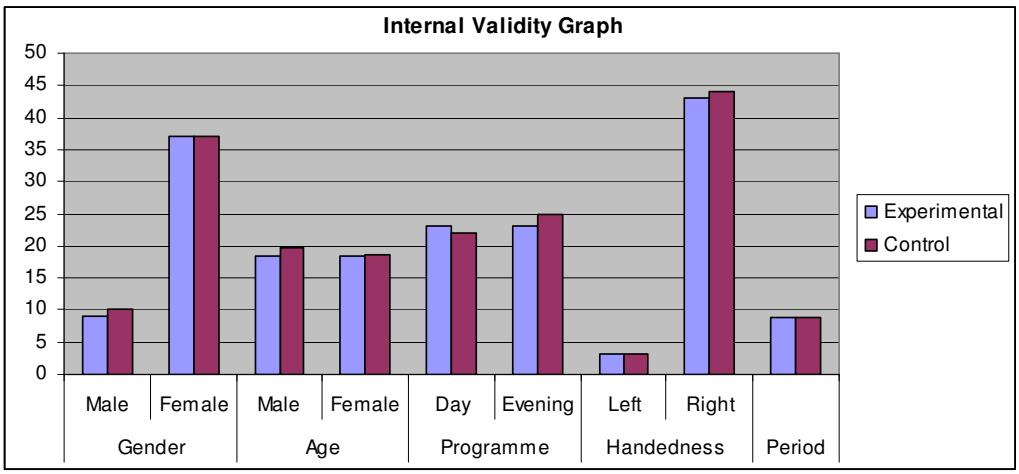
As indicated in Table 7, there were very limited number of participants, only six, who indicated themselves as left-handed. By sheer coincidence, their distribution was homogenous between treatment groups.

To summarize, with reference to the previous tables the results of which are demonstrated in Figure 5, participants' similarity in English proficiency and their almost similar period of study of English up to the pilot study, the exclusion of inappropriate participants, almost homogenous distribution of limited number of male participants between treatment groups, the similar average ages of participants in the treatment groups, and very similar appearance of participants' handedness which is attributed with using left or right hemisphere of the brain altogether provide internal validity for the pilot study.

Figure 5 demonstrates the criteria that were taken into consideration to provide internal validity for the pilot study.

Figure 5

Pilot Study Internal Validity Graph



Additionally, the students were asked orally whether they had previously been implemented any strategy training programmes and their responses indicated that none of them had participated in such a training. Moreover, oral permission had previously been sought from the students to use their pre- and post-tests for research purposes. On this occasion, they were reminded that the data to be collected was for research purposes only; it would be kept confidential, and would have no bearing on assessment of the course.

4.4.3 Materials and instrumentation

4.4.3.1 The reading test: A four-section, 32-item reading test which was developed by the researcher was supposed to be administered both as pre- and post-tests to test reading comprehension of the participants. However, before administering it to the participants, it was required to be *valid* and *reliable* to be used in the study.

4.4.3.1.1 Validity of the reading test: To provide validity of the reading test, it was first evaluated by the supervisor of this present study in terms of its *content*, *face*, and *criterion-related* validities. Since the questions in the test focused on a variety of aspects regarding reading comprehension such as ‘implication’, ‘opinion’,

'main idea', 'detail', 'attitude', 'cohesion', 'coherence', 'text structure', 'global meaning', 'comparison', and 'reference' in either multiple-choice or multiple-matching style, the test was regarded to be valid in terms of its content. Moreover, as the participants of the study were familiar with such texts and question types, it was also valid in terms of its face. As the reading test was quite similar to University of Cambridge Local Examinations Syndicate (UCLES) Examinations in English as a Foreign Language Certificate of Proficiency in English (CPE) Reading Paper, apart from the replacement of a section in accordance with the aims of the present study, it was regarded valid in terms of criterion-related.

Following the inspection of the supervisor, the reading test was evaluated by two native English speakers of Çanakkale Onsekiz Mart University, one of whom employed as an Instructor of English at the Department of ELT and the other employed as an English Language Specialist. Both the texts and the questions in the test were proofread and also the texts were ranked from 1 to 10 according to their difficulty by these two native speakers. The recommendations of the native speakers' on the language of the texts and questions were taken into consideration. Besides, the mean values of the two native speakers' text difficulty scores gave an overall idea about the texts. Table 8 indicates native English speaking colleagues' evaluation.

Table 8

Text Difficulty Evaluation of Native Speakers

Reading Test		**Text Difficulty**		
		Native Speaker 1	**Native Speaker 2**	**Mean**
	Text 1	8	8	8
	Text 2	9	8	8.5
Part 1	*Text 3*	7	5	6
	Text 4	6	5	5.5
	Mean	7.5	6.5	7
Part 2		8	6	7
Part 3		10	8	9
Part 4		7	7	7
Mean		**8.13**	**6.88**	**7.5**

The native speakers' evaluation of the texts indicates that the language of the texts shows a difficulty level ranging from 5 to 10 on a difficulty scale of 10. The

two native speakers' evaluation of the texts shows a high and significant correlation ($r = .782$; $p < .05$). Although there are some slight differences between the difficulty levels of the texts in different sections of the test, this does not affect the validity of it since each section functions independently it the test. To conclude, an overall score of 7.5 on a scale 10 indicates that the test is appropriate to be used at proficiency level in accordance with the aims of the present study.

Moreover, readability analyses were administered for each text in the reading test by using Microsoft® Word for the scores of counts and averages. Readability analyses were presented with the results of standard tests namely Flesch reading ease and Flesch-Kincaid grade level which were calculated by using Microsoft® Word. Besides Fog scale level was calculated online at http://www.readabilityformulas.com/free-readability-formula-assessment.php along with and SMOG readability formula which was calculated online at http://www.harrymclaughlin.com/SMOG.htm. Table 9 presents the readability scores of the texts along with the details on counts and averages.

Table 9

Scores of Readability Analyses

		Reading Test								
	Readability Analyses	**Part 1**								
		Text 1	**Text 2**	**Text 3**	**Text 4**	**Part 1**	**Part 2**	**Part 3**	**Part 4**	**Total/ Mean**
Counts	***Words***	247	265	279	215	1006	1109	708	1245	4068
	Characters	1188	1470	1451	1152	5261	5827	3652	6198	20938
	Paragraphs	5	4	4	3	16	18	8	10	52
	Sentences	10	13	10	10	43	54	30	58	185
Averages	***Sentences per paragraph***	2.5	4.3	3.3	5.0	3.78	3.6	4.2	6.4	4.49
	Words per sentences	24.2	20.2	27.6	20.7	23.18	20.1	23.2	21.4	21.97
	Characters per word	4.7	5.3	5.0	5.1	5.03	5.1	5.0	4.8	4.98
Readability	***Passive Sentences***	20%	30%	50%	0%	25%	20%	6%	15%	16.5%
	Flesch reading ease	49.0	30.1	38.7	37.4	38.8	36.2	42.4	40.7	39.53
	Flesch-Kincaid grade level	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
	Fog scale level	14.10	16.94	12.63	9.11	13.2	13.84	15.20	12.41	13.66
	SMOG readability formula	14.49	15.53	14.75	15.85	15.16	15.14	15.77	15.14	15.30

Table 9 indicates that the texts in the reading test consist a total of 4,068 words in four parts. Readability analyses were presented with the results of standard tests namely Flesch reading ease, Flesch-Kincaid grade level, Fog scale level, and SMOG (Simple Measure of Gobbledygook) readability formula. Firstly, Flesch reading ease scores which measure readability by using the average sentence length and the average number of syllables per word indicate similarities among the texts in the test. As higher rating scores indicate the easiness of texts and the scores between 30 and 49 are considered to be difficult in Flesch reading ease scale (G. H. McLaughlin, 1969); all the texts are attributed to be difficult with reference to Flesch reading ease scores. However, Flesch reading ease scores are attributed to be most reliable for upper elementary and secondary reading materials.

Secondly, Flesch- Kincaid grade level indicates the grade level of a text by measuring textual difficulty and the scores above 12 are demonstrated as 12 in Flesch- Kincaid grade level, Table 9 points out that all the texts in the reading test appear at the level of 12 or above. It is worth to mention that Flesch- Kincaid grade level stands for a grade-school level. Therefore, like Flesch reading ease scores, Flesch- Kincaid grade level scores are also considered to be reliable for upper elementary and secondary reading materials.

Although the scores of two readability analyses of Flesch reading ease and Flesch-Kincaid grade level provide a general idea about the texts, they lack of reliability. Therefore, subsequent analyses are required such as the third analysis of Fog scale level which is mainly used to measure readability of non-educational texts. Similar to the Flesch scale, the Fog scale also compares syllables and sentence lengths and words with three or more syllables are considered to be ‘foggy’. Fog scale level scores indicate that the texts are hard and almost difficult to understand which makes it an appropriate instrument for proficient level of EFL learners in accordance with the aims of the present study.

Moreover, a fourth readability analysis of SMOG readability formula was administered to predict the difficulty level of texts. Like the Fog scale, the SMOG formula also identifies words which have three or more syllables as polysyllabic

which make the text difficult to read. The average SMOG level of the texts indicates that, the reading test is at a level between college and university degree with reference to the scale provided by G. H. McLaughlin (1969). This score is also in accordance with the aims of the present study.

The scores of readability analyses gave a clear picture of the texts' difficulty levels by examining them with reference to linguistic features. However, the nature of such readability analyses does not allow the contextual investigation of lexical items vocabularies in the text. Unavoidably, such a factor plays a crucial role in reading comprehension. Therefore, the lexical items in the reading test were also evaluated.

To enable this evaluation, all the vocabulary in the texts of the reading test was listed except for numbers and proper nouns. Repetitive occurrences of existing words were not taken into consideration. Then, these vocabulary in the list was ranked according to their frequency of usage by the help of a computer programme WordCount™ which presents the 86,800 most frequently used English words by ranking them in an order of commonness where the data is based on the British National Corpus® (See Appendix G for the lists of vocabulary frequencies). The vocabulary which does not appear in WordCount™ were ranked in the 86,801st place in the list. Table 10 presents the mean values of frequency of the words in the reading test.

Table 10

Mean Value of Frequency of Words in the Reading Test

Reading Test		**Frequency of Words**	
	Text 1	3009.24	
	Text 2	3438.70	
Part 1	*Text 3*	2261.30	
	Text 4	2517.53	
	Mean		2806.70
Part 2			6740.02
Part 3			3399.97
Part 4			3987.75
Mean			**4233.61**

Table 10 above reveals that on average the words appear in a frequency rank of 4234 in the reading test. This average score implies that the texts include less frequently used word along with very common ones. Moreover, the frequencies of the words in the test show high and significant correlations between Part 1 and Part 2 ($r = .503$; $p < .01$); Part 1 and Part 3 ($r = .545$; $p < .01$); Part 1 and Part 4 ($r = .840$; $p < .01$); Part 2 and Part 3 ($r = .625$; $p < .01$); Part 2 and Part 4 ($r = .824$; $p < .01$); and Part 3 and Part 4 ($r = .439$; $p < .01$).

To conclude with reference to Table 11, four parts of the reading test show similarities in terms of the scores of difficulty levels of native speakers, readability analyses, and word frequency levels. The scores indicate it as an appropriate material to be used with proficient readers of EFL; therefore it can be considered to be valid in accordance with the aims of the present study. Table 11 displays the evaluation scores of the reading test for its validity in terms of difficulty levels of native speakers, readability scores, and word frequency analyses.

Table 11

Reading Test Validity Evaluation

		Native speaker			**Readability**				
Reading Test		***1***	***2***	***Mean***	***Flesch reading ease***	***Flesch-Kincaid grade level***	***Fog scale level***	***SMOG readability formula***	**Frequency**
	Text 1	8	8	8	49.0	12.0	14.10	14.49	3009.24
	Text 2	9	8	8.5	30.1	12.0	16.94	15.53	3438.70
Part 1	*Text 3*	7	5	6	38.7	12.0	12.63	14.75	2261.30
	Text 4	6	5	5.5	37.4	12.0	9.11	15.85	2517.53
	Mean	7.5	6.5	7	38.8	12.0	13.20	15.16	2806.70
Part 2		8	6	7	36.2	12.0	13.84	15.14	6740.02
Part 3		10	8	9	42.4	12.0	15.20	15.77	3399.97
Part 4		7	7	7	40.7	12.0	12.41	15.14	3987.75
Mean		8.13	6.88	7.5	39.53	12.0	13.66	15.30	4233.61

4.4.3.1.2 Reliability of the reading test: In order to test the reliability of the reading test, item analysis was employed. Therefore, the 32-questioned reading test was administered to a group of 100 participants in the department of ELT for item analysis in terms of *item difficulty* and *item discrimination*.

To administer item analysis process, first the participants' answers were marked by the researcher. The marking process was completely objective since it was done by computer. To enable this, the researcher formulized an Excel spreadsheet to feed the data into computer. In this respect, the correct answers were given '1' point where the wrong ones were given '0' point. As all the items were totally objective in terms of marking process, there was no need for an interrater reliability score. Then the participants' total scores' were listed in descending order. The answers of the 27 participants who were at the top of the list and the 27 participants who were at the bottom of the list were taken into consideration in the next step. Later each item in the reading test was calculated in terms of correct answers in the top 27-participant group and in the bottom 27-participant group.

To calculate item difficulty the number of correct answers in the top 27-participant group was added to the number of correct answers in the bottom 27-participant group. The sum was divided by 54 and indicated the item difficulty score for each item in the reading test.

On the other hand, to calculate item discrimination, the number of correct answers in the bottom 27-participant group was subtracted from the number of correct answers in the top 27-participant group. The amount was then divided by 27 and indicated 'item discrimination'. Table 12 shows the rationale used for the evaluation of the items in the reading test.

Table 12

Rationale for the Item Analysis Process

Group	(p) Item Difficulty	(r) Item Discrimination	Interpretation
1	>0.90	No value	Preferable if there is an effective teaching process
2	0.60-0.90	>0.20	Typically fine item
3	0.60-0.90	<0.20	Needs to be revised
4	<0.60	>0.20	A difficult but discriminative item; fine for high standards
5	<0.60	<0.20	A difficult but non-discriminative item; cannot be used

Table 13 presents the results of reading test on item analysis in terms of 'item difficulty' and 'item discrimination'.

Table 13

Item Analysis of the Reading Test

Items	(p) Item Difficulty	(r) Item Discrimination	Group
Item 1	0.796296	0.407407	2
Item 2	0.870370	0.259259	2
Item 3	0.796296	0.407407	2
Item 4	0.851852	0.296296	2
Item 5	0.777778	0.444444	2
Item 6	0.740741	0.444444	2
Item 7	0.611111	0.703704	2
Item 8	0.796296	0.407407	2
Item 9	0.629630	0.592593	2
Item 10	0.648148	0.333333	2
Item 11	0.611111	0.629630	2
Item 12	0.611111	0.259259	2
Item 13	0.611111	0.407407	2
Item 14	0.611111	0.333333	2
Item 15	0.814815	0.370370	2
Item 16	0.648148	0.555556	2
Item 17	0.777778	0.296296	2
Item 18	0.611111	0.481481	2
Item 19	0.759259	0.407407	2
Item 20	0.722222	0.333333	2
Item 21	0.629630	0.592593	2
Item 22	0.611111	0.259259	2
Item 23	0.685185	0.629630	2
Item 24	0.722222	0.555556	2
Item 25	**1**	**0**	**1**
Item 26	0.611111	0.481481	2
Item 27	0.740741	0.296296	2
Item 28	0.759259	0.259259	2
Item 29	**0.462963**	**0.111111**	**5**
Item 30	0.740741	0.444444	2
Item 31	0.740741	0.518519	2
Item 32	0.648148	0.555556	2

The 32 items in the reading test were evaluated with reference to the rationale presented in Table 12. The results in Table 13 indicate that all the items in the reading test, except from the items 25 and 29 were appropriate to be used in the present study. Therefore, the two items of 25 and 29 were removed from the reading test. The answers of the participants on the remaining 30 items were then analyzed to

find out the reliability of the reading test. Reliability analysis revealed a Cronbach's alpha score of α = .81 over 30 items in the reading test. This score enabled the researcher to use the 30-itemed reading test in the present study (See Appendix B for Reading Test).

4.4.3.2 Rationale for Administering the MRSQ: In the search of an assessment tool for measuring students' use of metacognitive strategies to comprehend and study at the college level, Taraban, Kerr and Rynearson (2004) developed a self-report instrument the Metacognitive Reading Strategies Questionnaire (MRSQ) constituting of 22 statements in two broad categories of analytic and pragmatic. Although several researchers have attempted to develop related assessment tools previously, according to Taraban, Kerr and Rynearson, none of them were convenient for assessing the use of metacognitive strategies in college settings.

For example, Mokhtari and Reichard's (2002) very famous instrument of MARSI was developed to identify the strategies in Grades 6 to 12. Therefore, administering such MARSI in college settings attenuates the validity of the instrument. On the other hand, Taraban, Kerr and Rynearson (2004) regard the Learning and Study Strategies Inventory (LASSI; Weinstein, Schulte, & Palmer, 1987) and the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, McKeachie, 1991, 1993) inappropriate since they aim to measure motivational and learning factors in a broad manner by presenting listening and reading strategies in conjunction rather than focusing on reading strategies separately.

Taraban, Kerr, and Rynearson (2004) identified reading and study strategies from the relevant literature with a specific attention on their previous instrument which aimed to measure the strategies that were taught at elementary and secondary school levels to expert readers. They borrowed 35 Likert items from Taraban, Rynearson, and Kerr (2000) and thereto added 8 more. They explain it that the studies of Pressley and Afflerbach (1995); Pressley, Brown, El-Dinary, and

Afflerbach (1995); Wyatt et al. (1993); Nist and Holschuh (2000), and Nist and Simpson (1996) provide basis for their statements in their instrument.

Taraban, Kerr and Rynearson (2004: 80) recommend the use of the MRSQ in college settings with an expectation of a relation between higher use of analytic strategies and higher expected grades. They also recommend administering the MRSQ to participants whose age, ethnicity, occupation, and geographical location are different from theirs. Although their study does not explain "which strategies to teach, when, and to whom", they aim to increase researchers' awareness on this issue. Therefore, administering the MRSQ to young adult advanced native Turkish speaking learners of English at university level would fulfil their expectation.

4.4.3.3 Reliability of the MRSQ: To collect data on the use of MRSs, Taraban, Kerr and Rynearson's (2004) the MRSQ was administered as pre- and post-tests in relevance with METARESTRAP. The scale was administered to a number of 205 students at the Department of Foreign Language Teaching of Çanakkale Onsekiz Mart University, consisting of English Language Teaching, German Language Teaching, and Japanese Language Teaching programmes, during the fall semester of 2007-2008 academic year (See S. Razı, 2008 for details of the study) . Reliability analysis revealed a Cronbach's alpha score of α = .83 over 22 items in the MRSQ (See Appendix A for the MRSQ). This score was sufficient to use the scale in the present study (Özdamar, 2004).

4.4.4 Procedures for Data Collection

A quasi-experimental research design where different groups of students were given different treatments was pursued. The four groups in this study were intact classes.

Two days prior to the onset of the training, all participants were delivered a reading comprehension pre-test. Immediately after the training, all the participants of the study were delivered the same instrument as a post-test. The rationale for using exactly the same test was to provide almost similar tests (Carrell et al., 1989) rather

than running the risk of basing the findings that depend on unequal pre- and post-tests. During the pre- and post-tests of reading comprehension, none of the participants was allowed to refer to dictionaries. However, in accordance with the aim of the present study, the format of the reading test allowed participants to refer to the reading texts to answer the comprehension questions rather than recalling the presented information. The details of METARESTRAP are explained in the following section (See Appendix D for the sample reading test which was used to practise MRSs).

Table 14 below illustrates the procedures followed with each group of students.

Table 14

Procedures for Treatment Groups

TREATMENT 1 **Experimental Group** **1A Day & 1B Evening Classes**	**TREATMENT 2** **Control Group** **1B Day & 1A Evening Classes**
Before the implementation of METARESTRAP, the participants of the experimental group were delivered the reading test in a 90 minute session. Following this, they were also delivered the MRSQ which aimed to investigate their use of MRSs in relevance with both their way of answering the questions in the reading test and their general reading habits. The six-week METARESTRAP was administered to the experimental group of participants in the two intact classes of 1A Day and 1B Evening in the 3-hour course of Advanced Reading and Writing I. After the implementation of METARESTRAP, the participants of the experimental group were delivered the reading test once more in a 90 minute session again along with the MRSQ in relevance with both their way of answering the questions in the reading test and their general reading habits.	The participants of the control group were delivered the reading test in a 90 minute session at the same time with the experimental group of participants. They were also delivered the MRSQ which aimed to investigate their use of MRSs in relevance with both their way of answering the questions in the reading test and their general reading habits. Control group of participants which consists of two intact classes of 1B Day and 1A Evening did not follow any specific strategy training programme. They pursued the 3-hour course of Advanced Reading and Writing I conventionally. After the implementation of METARESTRAP to the experimental group of participants, control group of participants were delivered the reading test once more in a 90 minute session again along with the MRSQ in relevance with both their way of answering the questions in the reading test and their general reading habits.

4.4.4.1 Rationale for METARESTRAP

Participants of the experimental group followed METARESTRAP, which was developed by the researcher of the present study, for six weeks throughout their Advanced Reading and Writing I Course. Experimental group participants were implemented on the use of MRSs through METARESTRAP in a weekly 60-minute sessions for six weeks. The strategies were practised with the help of the book 'Reading Practice Tests' (Razı & Razı, 2008). The participants were expected to apply the following principles throughout the implementation of METARESTRAP:

- When you learn a new strategy, tell what the strategy is, demonstrate how to use it, explain why you need it, when and where you can use it, and how you can evaluate your use of the strategy.
- Prepare yourself for reading the text by activating your relevant schemata before reading the text, engage in reading actively while reading it, and reduce information in accordance with its importance while retaining important information after reading it.
- Read as much as possible after school on a wide range of topics which are appropriate to your level by practising newly learned strategies to transfer them to new situations.
- Read individually and silently. Do not subvocalize while reading.
- Read different texts by using various strategies and also adjust strategies in accordance with your aims and/or problems you encounter in reading.
- Guess unknown words by getting help from the content and also by paying attention to prefixes, suffixes, familiar roots, grammar which may indicate information, and semantic clues related with the topic. Use a dictionary only as a last resort in case of a prevention of overall meaning.
- Pay attention to discourse markers in the text since they indicate relations and discriminations of ideas.
- Tolerate ambiguity in a text and try to maintain reading for a while even if you are unsuccessful.

Table 15 presents the pilot version of METARESTRAP.

Table 15

Pilot Version of METARESTRAP

Pre Test

- Administering reading test (90 minutes)
- Administering the MRSQ (15 minutes)

WEEK 1

Introduction to metacognitive reading strategies

- Introduction to metacognition and metacognitive reading strategies.
- Why do we need to learn metacognitive reading strategies?
- Principles of METARESTRAP.

Planning strategies

- Plan your time, identify your goals, and motivate yourself to read the text.
- Preview the text to find out information relevant to your reading goals (skimming, scanning, skipping)

WEEK 2

Background knowledge strategies

- Identify the genre of the text
- Activate your relevant schema (e.g.: refer to the title or pictures)
- Distinguish between already known and the new information.
- Check the text against your schemata.

WEEK 3

Question generation and inference strategies

- Form questions from headings and sub-headings.
- Anticipate/Self-question the forthcoming information in the text.
- When information critical to your understanding of the text is not directly stated, try to infer that information from the text.
- Infer pronoun referents.

WEEK 4

Annotating strategies

- Underline/highlight important information.
- Paraphrase the author's words in the margins of the text.
- Summarize.
- Write questions/notes in the margins to better understand the text.

WEEK 5

Visualizing strategies

- Draw graphic logs.
- Refer to graphic organizers (semantic mapping / clustering).

WEEK 6

Context-based evaluative strategies

- Answer your questions / clarify your predictions while reading the text.
- Re-read the text in case of difficulty.
- Read the text in short parts and check your understanding.
- Determine the meaning of critical unknown words.
- Distinguish main ideas from minor ones.

Post Test

- Administering reading test (90 minutes)
- Administering the MRSQ (15 minutes)

The six-week METARESTRAP was developed with reference to the relevant literature. The first week started with an introduction into metacognition and MRSs. After the participants familiarized themselves with the notion of metacognition and MRSs, they were instructed why they need to employ these strategies. Subsequently, the principles of METARESTRAP were adopted. They were also presented planning strategies through which they were able to plan their time, set their reading goals, motivate themselves to read the text, and search out information relevant to their reading goals in the text. To enable this, they were also encouraged to skim to get a general idea, scan to learn specific details, and skip to omit irrelevant parts of the text.

In the second instructional week, they were provided with background knowledge strategies through which they would refer to their relevant schema and integrate it with the new information in the text. They were expected to draw on their existing background knowledge to help them understand the text. Therefore, they were encouraged to activate their relevant schemata before reading the text by identifying its genre and by referring to its title, subtitles, and pictures.

The aim of the third instructional week was familiarizing them with question generation and inference strategies to monitor their comprehension. Therefore, they were expected to self-question on the text's content by adding adjunct questions such as about the author's message. To enable this, they were guided to form their questions from headings and also sub-headings of the text. They were also animated to anticipate the forthcoming information in the text with reference to title, subtitles, and cause and effect relationship in the text. Besides, in case of critical information which is not directly stated, they were leaded to infer that information from the text. They were expected to identify what pronoun referents referred in the text by combining information across sentences.

In the fourth instructional week, they were instructed on annotating strategies. Therefore, apart from underlining or highlighting important information in the text, they were reminded to paraphrase the author's words in the margins of the text. For

longer parts, they were instructed to summarize the relevant part rather than paraphrase. Alternatively, they were also expected to write questions or take notes in the margins to better understand the text.

Throughout the fifth instructional week, they were instructed on how to use visualizing strategies through which they were able to visualize the scenes in the text and refer to their senses for anticipation. When they encounter with problems in comprehending any part of the text, they were guided to draw graphic logs by quoting the relevant part of the text and then respond with a symbol in order to correspond it. To observe the idea units and flow of ideas in the whole text, they were instructed to refer to graphic organizers such as semantic mapping and clustering.

Context-based evaluative strategies were rendered in the sixth instructional week with an aim of enabling them to understand the relationships between the parts of a text and to monitor their comprehension more effectively by using context. Then, they were expected to pause while or after reading the text in order to construct meaning. Hence, they were instructed to answer their previous questions about the text while reading the text. Besides, they were also expected to clarify their predictions about it. They were asked to monitor their comprehension of the text and in case of difficulty they were reminded to re-read the problematic parts of it.

Alternatively, they were guided to read the text in short parts and check their understanding. When they encounter unknown critical words, they were asked to determine their meanings. In order to distinguish main ideas from the minor ones, they were asked to pay attention specifically to the introduction and conclusion parts of the text along with the thesis statements in each paragraph.

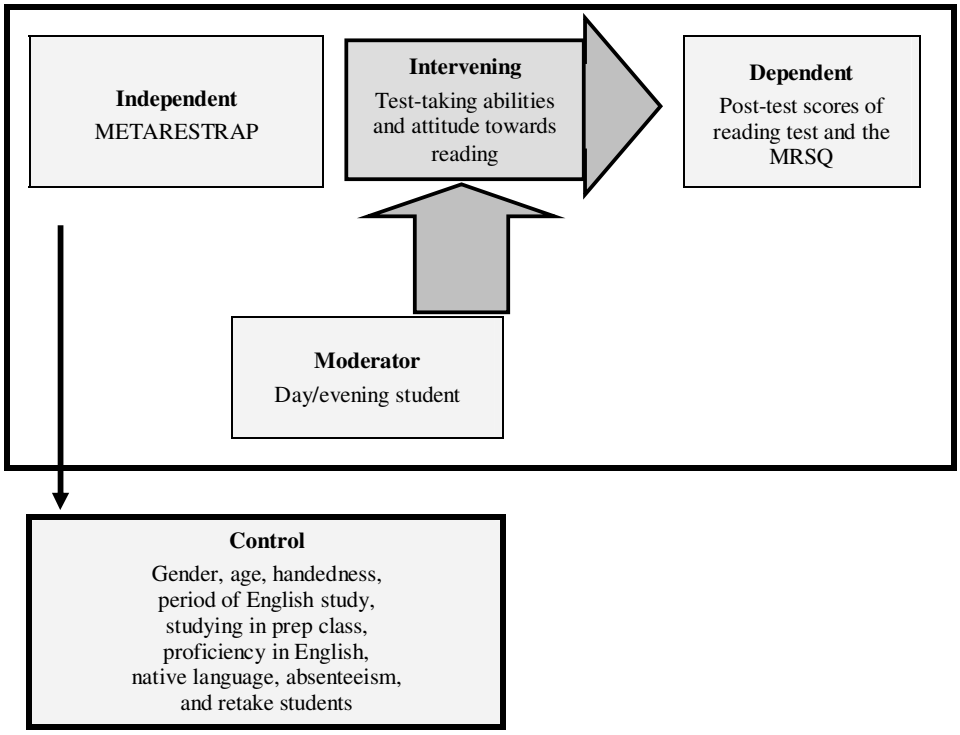
4.4.4.2 Variables of the study

Identified as a measurable characteristic in an experimental study, a variable has six common types namely dependent, independent, intervening, moderator, control, and extraneous variables. As Figure 6 illustrates, METARESTRAP

functions as an independent variable in the pilot study whereas participants' post-test scores of reading test and the MRSQ perform as dependent variables. However, as it is not possible to control every variable, participants' test-taking abilities and their attitude towards reading can be regarded as intervening variables. Besides, the present study aims to investigate the impact of METARESTRAP by comparing pre- and post-tests scores of the participants along with investigating any probable differences between day and evening groups. Therefore, being in day or evening class is interpreted as a moderator variable. Furthermore, the present study aims to control the impact of participants' gender, age, handedness, period of English study, studying in preparation class at university, proficiency in English, native language, absenteeism, and condition of the course of Advanced Reading and Writing I regarding whether taking the course for the first time or as a retake student. Last but not least, the present study does not involve any extraneous variables that might be dangerous on its validity. Figure 6 demonstrates how each variable in the pilot study interact with each other.

Figure 6

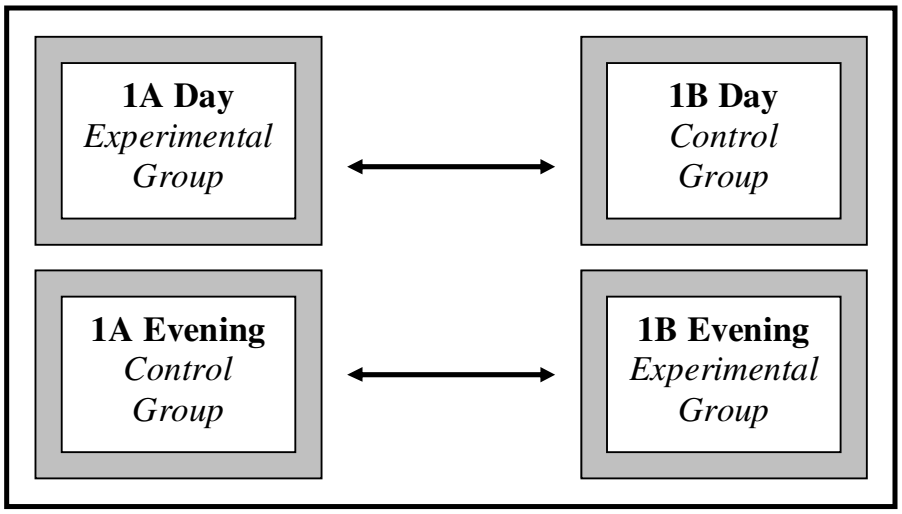
Variables in the Pilot Study (Adapted from J. D. Brown, 1988)



To provide construct validity for the pilot study, it was aimed to remove any probable effects which would result in biased results. Therefore, the pilot study was conducted with four intact classes rather than two treatment groups consisting of two intact classes. Figure 7 demonstrates how the variable of being in a day and evening student is controlled in the study to provide construct validity.

Figure 7

Controlling the Variable of Day / Evening Students



As illustrated in Figure 7, both experimental and control groups consist of two intact classes each with a day and an evening group. The aim of integrating a combination of day and evening classes into treatment groups was eliminating any probable proficiency differences between day and evening classes as day students register at the university with a higher YDS score. Therefore, this combination provided a balance between treatment groups in terms of their proficiency in English. Nevertheless, it would be unreasonable to conduct the pilot study with two intact classes consisting of either two day or two evening classes since 1A Day and 1A Evening classes involve students who studied in the preparation class in 2007-2008 academic year.

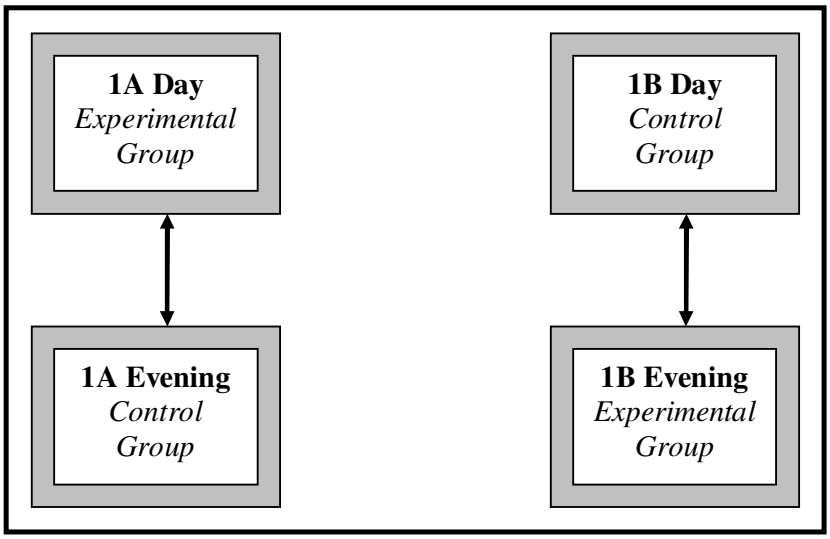
Figure 8 demonstrates that both experimental and control groups involve participants who studied in the preparatory class at the university. Therefore, this variable will not have an impact on the results of the pilot study. With reference to

the previous two figures, it can be concluded that the experimental intact class of '1A Day' and '1B Evening' are controlled by two intact classes of '1B Day' and '1A Evening'. Therefore, construct validity for the pilot study was provided.

Figure 8 demonstrates how the variable of having studied in the preparatory class at the university is controlled in the study.

Figure 8

Controlling the Variable of Preparatory Class



Moreover, the participants in four intact classes were also evaluated with reference to their proficiency in English. To provide this, their YDS scores for university entrance were taken into consideration. Besides, they were also evaluated with reference to their reading exemption examination scores that they took when they registered in the ELT Department.

An Analysis of Variance (ANOVA) test indicated that the differences observed among intact classes were statistically significant [F (3, 89) = 36.53, p = .000] according to their YDS scores. Group differences were examined through a post hoc Scheffe Test the results of which are illustrated in Table 16 and Table 17.

Table 16

Clusters of Intact Classes According to their YDS Scores

Intact Classes	YDS (Mean)	N	SD	Minimum	Maximum
1A Day (A)	350.1304	23	4.98456	343.00	358.00
1B Day (B)	350.9545	22	1.98752	344.00	353.00
1A Evening (C)	342.0000	25	4.78714	336.00	350.00
1B Evening (D)	343.4348	23	.58977	343.00	345.00
Total	346.4839	93	5.36618	336.00	358.00

Table 17

YDS Score Differences between Four Clusters

	Sum of Squares	df	Mean Square	F	Sig.	Direction of differences
Between Groups	1462.010	3	487.337	36.533	.000	C<A *p*=.000
Within Groups	1187.215	89	13.339			D<A *p*=.000
Total	2649.226	92				C<B *p*=.000
						D<B *p*=.000

* The mean difference is significant at the .05 level.

As expected, Post Hoc Tests indicate significant differences between day and evening classes. For example, there are significant differences between the class sets of '1A Day – 1A Evening' (p = .000); '1A Day – 1B Evening' (p = .000); '1B Day – 1A Evening' (p = .000); and '1B Day – 1B Evening' (p = .000). Although the participants of the four intact classes had taken YDS either in 2007 or in 2008 in different sessions, this does not seem to spoil the homogenous distribution of the participants. The post hoc Scheffe test analysis examines the differences among intact classes and provides evidence for the existence of four intact classes rather than two which function as the treatment groups of experimental and control. As the aim of the present study resides in comparing experimental group to control group, T-Test aims to indicate any prospective differences between these two treatment groups.

Table 18 below illustrates the findings of T-test with reference to their YDS scores.

Table 18

Independent Samples T-Test Statistics of Treatment Groups' YDS Scores

Treatment groups	N	$\overline{X}$	SD	df	t	p
Experimental	46	346.7826	5.12472	91	.516	.607
Control	47	346.1915	5.89266			

Table 18 gives the mean values of YDS results and does not indicate significant differences between experimental and control groups [t = .516; p = .607] with a very small effect size (d = .11; r = .05).

Since the evaluation of YDS scores which were obtained in different years by taking distinctive examinations does not yield a homogenous distribution of the participants, a second analysis was executed. Therefore, reading course final examination scores of the participants who studied at the preparatory class in 2007-2008 academic year were used whereas reading exemption examination scores were referred for those who registered at the university in 2008-2009 academic year. Both reading final examination in 2007-2008 academic year and reading exemption examination in 2008-2009 academic year were prepared, administered, and marked by the researcher of the present study and the two examinations were completely identical to each other. Therefore, comparing the two scores resulted in reliable consequences. An ANOVA test was performed to observe the differences between intact classes and the results indicated that they were significant [F (3, 89) = 3.65, p = .016]. Group differences were examined through a post hoc Scheffe Test. Table 19 and Table 20 illustrate the results of the post hoc Scheffe test.

Table 19

Clusters of Intact Classes According to their Reading Test Scores

Intact Classes	Reading Test (Mean)	N	SD	Minimum	Maximum
1A Day (A)	60.0435	23	11.24713	39.00	77.00
1B Day (B)	53.4545	22	9.41492	31.00	70.00
1A Evening (C)	56.8800	25	11.57699	34.00	71.00
1B Evening (D)	50.5652	23	8.67507	34.00	73.00
Total	55.2903	93	10.77798	31.00	77.00

Table 20

Reading Test Differences between Four Intact Class Clusters

	Sum of Squares	df	Mean Square	F	Sig.	Direction of differences
Between Groups	1170.458	3	390.153	3.649	.016	D<A *p*=.026
Within Groups	9516.703	89	106.929			
Total	10687.161	92				

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on group differences with reference to reading test, there are no significant differences among intact classes except from the significant difference between '1A Day – 1B Evening' (p = .026). However, this difference does not affect the reliability of the study since neither '1A Day' nor '1B Evening' class functions as a control group. Moreover, the participants of 1A Day and 1B Evening classes are not compared to each other; instead 1A Day class functions as an experimental group together with 1B Evening class.

Further analysis of T-test was administered to examine the differences between experimental and control groups. Table 21 below illustrates the findings of T-test with reference to their reading test scores.

Table 21

Independent Samples T-Test Results of Treatment Groups'

Reading Test Scores

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	46	55.3043	11.02698	91	.012	.990
Control	47	55.2766	10.64793			

Table 21 gives the mean values of reading test results and does not indicate significant differences between experimental and control groups [t = .012; p = .990] with large magnitudes of effect (d = 1.11; r = .49) while pointing out an almost similar mean values gained from reading test for the two treatment groups.

With reference to YDS and reading test scores it can be concluded that the intact classes in the pilot study are equal to each other in terms of the participants' proficiency in English.

4.4.5 Procedures for Data Analysis

The pre and post test reading test and the MRSQ results of the participants were fed into a computer through the Statistical Package for Social Sciences (SPSS) data editor. Pre and post test scores of the participants were analysed by using an ANOVA procedure on SPSS to find out any between-intact class differences and a post-hoc Scheffe Test procedure to find specific differences, if any, between intact classes. Additionally, paired and independent sample T-tests were also administered to find out any differences between pre and post test results of the two treatment groups. Moreover, descriptive and frequency statistics were also used to analyze demographic data and frequency of MRSs.

The reading test was consisting of two types of questions namely multiple-choice and multiple-matching questions; therefore, interrater reliability was not required as the two testing techniques were both considered to be objective since they are machine-markable.

4.4.6 Implications for the Main Study

This section covers two potentially problematic aspects of the pilot study that needs to be considered before commencing on the main study.

1. The study was conducted in the ELT department with the participants of freshmen of four intact classes. Administering the pilot study with four intact classes required careful analyses of participants' proficiency. A similar care needs to be paid also for the main study that will be conducted at preparatory classes of ELT and English Language and Literature Departments with three intact classes. As concluded by Bossers (1992), there is a relation between L2 knowledge and L2 reading comprehension. Therefore, there is a need for

careful examination of the participants' proficiency in English for the main study.

2. Advanced Reading and Writing I Course required a 3-hour study per week. The course included also studying the skills of writing, therefore dealing with writing skills, reduced the amount of time spent on MRS training. However, Reading Comprehension Course at preparatory classes requires a 6-hour study of reading skill per week which would allow the researcher to practise strategies in a more detailed manner.

3. It would be beneficial to revise the strategies and their interaction with each other in METARESTRAP.

4. The length of the time needed to administer pre and post reading tests was justified as 90 minutes as it had previously been predicted before the pilot study. Besides, an extra period of 15 minutes was affirmed to be sufficient for pre and post tests of the MRSQ.

5. Since the data from the pilot study does not seem to be spoiled, its findings also are presented in Chapter 5.

4.5 MAIN STUDY

The main study aimed to collect data through the revised version of METARESTRAP. The following sections will introduce the methodology of it.

4.5.1 Setting

The main study was conducted under the auspices of the ELT Department at the Faculty of Education of Çanakkale Onsekiz Mart University on the premises of Anafartalar Campus with three preparation classes. However the preparation classes involved in the study constituted of students from ELL Department of Faculty of Sciences and Arts along with the participants from the ELT Department. The main

study was carried out over the spring semester of the 2008-2009 academic year. The participants in the experimental group were taught by the researcher himself whereas the participants in the control group in the other two intact preparation classes were taught by another reading instructor throughout their Reading Comprehension Course.

The main study was conducted in the ELT Department because the high English language proficiency of the participants and a six-hour of Reading Comprehension Course would enable the researcher to compare and contrast the effects of METARESTRAP on reading comprehension and the use of MRSs.

4.5.2 Participants

All the participants were considered advanced Turkish learners of English as they had to take the placement test of YDS which is administered once every year by ÖSYM, to study at either the ELT or ELL Departments. Apart from YDS, students of ELT and ELL Departments were delivered an exemption examination following their registration. The exemption examination tested their proficiency in English by dealing with all language skills along with grammar and vocabulary. Those who were considered to be insufficient in their TL proficiency to study at the department were expected to follow preparation class courses for a year. Therefore, the three intact classes in the main study constituted of the ELT and ELL Departments students who were assigned to be insufficient in their English proficiency to enrol first year departmental courses. However, this does not imply that the participants were not advanced learners of English since their YDS scores indicate their proficiency.

As the groups were intact classes, there were absentees from each of them. A total number of 30 students who failed to attend Reading Comprehension classes regularly during the experiment either in experimental or control group were excluded from the study. A retaking student was also excluded from the study since his probable difference from the rest of the participants had a risk to spoil the results. Learner characteristics are regarded to be culture-specific (M. L. Abbott, 2006;

Harmer, 2001; Oxford, 2001b) therefore; a total number of 8 foreign national students from Kazakhstan, Greece, Bulgaria, Iraq, and Georgia were excluded from the study. Totally, a number of 39 students were excluded from either experimental or control group to achieve reliable results. The full details of participants who were excluded from the main study are shown in Table 22.

Table 22

Distribution of Participant Elimination

Treatment Groups	Intact Classes	Absentees	Retake	Foreign National	Class Total	Group Total
Experimental	***Prep A Day***	1	0	0	1	1
Control	***Prep B Day***	9	0	8	17	38
	Prep A Evening	20	1	0	21	
	Total	**30**	**1**	**8**	**39**	**39**

Several LLSs research studies investigated the impact of gender differences on the use of strategies and indicated the superiority of females in using more strategies when compared to males (Ehrman & Oxford, 1988; Hong-Nam & Leavell, 2006; Oxford, 1990; Oxford & Ehrman, 1988, 1995; Politzer, 1983; Oxford & Nyikos, 1989; Green and Oxford, 1995) apart from the Young and Oxford's (1997) study. As the ELT department is female dominant, a vast majority of the participants were females. However, the indiscrete distribution of male participants between the experimental and the control groups provides the homogeneity of gender. Gender and departmental distribution of the participants is shown in Table 23.

Table 23

Gender and Departmental Distribution of the Participants

Treatment Group	Intact Classes	Female	Male	ELT	ELL	Total	Total
Experimental	***Prep A***	21	2	14	9	23	23
Control	***Prep B***	12	1	4	9	13	23
	Prep Evening	9	1	10	0	10	
	Total	**42**	**4**	**28**	**18**	**46**	**46**

Table 23 indicates, the treatment groups consisted a total of 46 students. Since age is attributed as an important contributor of reading (Nara, 2003a; Grabe, 1991) and also considered to be an effective factor in the use of strategies (Aebersold

& Field, 1997; Chamot & El-Dinary, 1999; Singhal, 2001); participants' age was taken into consideration. The average ages of participants at the time they participated into the main study are presented in Table 23.

Table 24

The Average Age of Participants

Treatment Groups	Intact Classes	Female	Female Mean	Male	Male Mean	Classes Mean	Groups Mean
Experimental	***Prep A***	19.1905	19.1905	20.5000	20.5000	19.3043	19.3043
Control	***Prep B***	18.8333	19.0000	20.0000	19.5000	18.9231	19.0435
	Prep Evening	19.2222		19.0000		19.2000	
	Mean	**19.0952**	**19.0952**	**20.0000**	**20.0000**	**19.1739**	**19.1739**

Table 24 indicates almost the same average age of participants in the treatment groups. Besides their average ages show similarities also between genders. Therefore, age variable is eliminated from the main study.

Some reading strategies cannot be employed by all readers until they achieve a certain level of proficiency (Cziko, 1980) and there is supposed to be positive correlation with the use of metacognitive strategies and FL proficiency level (Carrell, 1989; Cohen, 1998). Therefore, participants' exposure to FL was also taken into consideration. Table 25 shows participants' period of study of English before they participated into the study.

Table 25

Period of Participants' Study of English

Treatment Groups	Intact Classes	N	Period	SD	Group Mean	SD
Experimental	***Prep A***	23	9.4348	1.59049	9.4348	1.59049
Control	***Prep B***	13	9.8462	.37553	9.5652	.72777
	Prep Evening	10	9.2000	.91894		
	Mean	**46**	**9.5000**	**1.22474**	**9.5000**	**1.22474**

As indicated in Table 25, the intact classes in the study and as a result of this the experimental and the control groups had a very similar period of study of English which would undoubtedly be beneficial to achieve reliable results.

As relevant research on lateralization suggests that an individual's handedness is opposite from the specialized hemisphere implying that a right-handed person probably has a left-hemispheric language specialization whereas this is not the case for left-handers since they seem to have a left-hemispheric brain specialization for language abilities (Larsen-Freeman & Long, 1991). Therefore, the main study investigated handedness of participants as their nonhomogenous distribution between treatment groups may bias the findings. Table 26 indicates handedness of participants among intact classes and also between treatment groups.

Table 26

Participants' Distribution of Use of Handedness

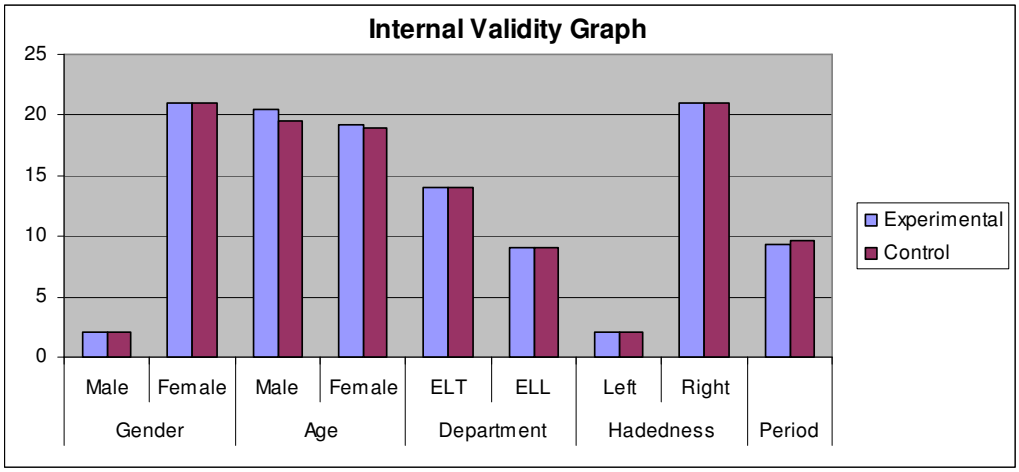
Treatment Groups	Classes	N	Left-Handed	Right-Handed	Groups Total
Experimental	***Prep A***	23	2	21	23
Control	***Prep B***	13	1	12	23
	Prep Evening	10	1	9	
	Total	**46**	**4**	**42**	**46**

As indicated in Table 26, there were very limited number of participants, only four, who indicated themselves as left-handed and by sheer coincidence, their distribution was homogenous between treatment groups. Figure 9 demonstrates the criteria that were taken into consideration to provide internal validity for the main study.

To summarize, with reference to previous tables and the results of which are presented in Figure 9, participants' similarity in English proficiency and their almost similar period of study of English up to the pilot study, the exclusion of inappropriate participants, almost homogenous distribution of limited number of male participants between treatment groups, the similar average ages of participants in the treatment groups, and very similar appearance of participants' handedness which is attributed with using left or right hemisphere of the brain altogether provide internal validity for the main study.

Figure 9

Main Study Internal Validity Graph



Additionally, the students were asked orally whether they had previously been implemented any strategy training programmes and their responses indicated that none of them had participated in such a training. Moreover, oral permission had previously been sought from the students to use their pre- and post-tests for research purposes. On this occasion, they were reminded that the data to be collected was for research purposes only; it would be kept confidential, and would have no bearing on assessment of the course.

4.5.3 Materials and instrumentation

4.5.3.1 The reading test: A five-section and 30-item reading test which was developed by the researcher was administered both as pre- and post-tests to test reading comprehension of the participants. The reading test was previously evaluated for its validity and reliability with a Cronbach's alpha score of α = .81 over 30 items as explained in the methodology of the pilot study.

4.5.3.2 The MRSQ: To collect data on the use of MRSs, Taraban, Kerr and Rynearson's (2004) the MRSQ was administered before and after METARESTRAP. The scale was previously evaluated for its reliability with a Cronbach's alpha score of α = .83 over 22 items as explained in the methodology of the pilot study.

4.5.4 Procedures for Data Collection

Table 27 illustrates the procedures followed with each group of students (See Appendix D for the sample reading test which was used to practise MRSs and Appendix E and F for lesson plans followed with experimental and control groups).

Table 27

Procedures for Each Group of Participants

TREATMENT 1 ***Experimental Group*** **Prep A Class**	**TREATMENT 2** ***Control Group*** **Prep B & Prep Evening Classes**
Before the implementation of METARESTRAP, experimental group participants were delivered the reading test in a 90 minute session. Following this, they were also delivered the MRSQ which aimed to investigate their use of MRSs in relevance with both their way of answering the questions in the reading test and their general reading habits. The six-week METARESTRAP was administered to the experimental group of participants in the intact class of Prep A in the 6-hour course of Reading Comprehension. After the implementation of METARESTRAP, the participants of the experimental group were delivered the reading test once more in a 90 minute session again along with the MRSQ.	The control group of participants were delivered the reading test in a 90 minute session at the same time with the experimental group of participants. They were also delivered the MRSQ which aimed to investigate their use of MRSs in relevance with both their way of answering the questions in the reading test and their general reading habits. Control group of participants which consists of two intact classes of Prep B and Prep Evening did not follow any specific strategy training programme. They pursued the 6-hour course of Reading Comprehension conventionally. After the implementation of METARESTRAP to the experimental group of participants, control group of participants were delivered the reading test once more in a 90 minute session again along with the MRSQ.

A quasi-experimental research design where different groups of students were given different treatments was pursued with intact classes. While experimental group participants followed their Reading Comprehension Course by means of METARESTRAP, control group participants pursued their course as recommended in Upstream Proficiency (Evans & Dooley, 2002) teachers' book. Two days prior to the onset of the training, all participants were delivered the reading pre-test and immediately after the training, they were delivered the same instrument as a post-test. The rationale for using exactly the same test was to avoid the risk of basing the findings that depend on unequal tests (Carrell et al., 1989). During the pre and post

tests, none of the participants in any group was allowed to use their dictionaries. However, in accordance with the aim of the present study, the format of the reading test allowed them to refer to the reading texts in order to answer the comprehension questions rather than recalling the presented information.

4.5.4.1 Rationale for revising METARESTRAP

Participants of the experimental group followed the revised version of METARESTRAP which was developed by the researcher of the present study throughout their Reading Comprehension Course. Experimental group participants were implemented on the use of MRSs through METARESTRAP in 60-minute sessions twice a week for six weeks. As in the pilot study, they were supposed to administer the principles of METARESTRAP which were identified previously in the pilot study.

The strategies were modelled by the researcher and were expected to be practised with the help of the book 'Upstream Proficiency' (Evans & Dooley, 2002) in classroom setting. Besides, the participants were also expected to practise these newly learned strategies after school by studying the texts in the book 'Reading Practice Tests' (Razı & Razı, 2008) (See 'Appendix E, Experimental group lesson plans; and Appendix F, Control group lesson plans for details of running the implementation). Following the implementation of the pilot version of METARESTRAP, the strategies in it were revised by taking the pilot study into consideration. As the third instructional week aimed to generate questions and infer meaning, 'answering students' own questions and clarifying their predictions' would be better studied at the third week rather than the sixth one. That was the single difference between the pilot and main study versions of METARESTRAP since the rest of it had run smoothly in the pilot study (See 'Rationale for METARESTRAP' for details of running the implementation).

The main study version of the six-week METARESTRAP is presented in Table 28.

Table 28

Main Study Version of METARESTRAP

Pre Test

- Administering reading test (90 minutes)
- Administering the MRSQ (15 minutes)

WEEK 1

Introduction to metacognitive reading strategies

- Introduction to metacognition and metacognitive reading strategies.
- Why do we need to learn metacognitive reading strategies?
- Principles of METARESTRAP.

Planning strategies

- Plan your time, identify your goals, and motivate yourself to read the text.
- Preview the text to find out information relevant to your reading goals (skimming, scanning, skipping)

WEEK 2

Background knowledge strategies

- Identify the genre of the text
- Activate your relevant schema (e.g.: refer to the title or pictures)
- Distinguish between already known and the new information.
- Check the text against your schemata.

WEEK 3

Question generation and inference strategies

- Form questions from headings and sub-headings.
- Anticipate/Self-question the forthcoming information in the text.
- Answer your questions / clarify your predictions while reading the text.
- When information critical to your understanding of the text is not directly stated, try to infer that information from the text.
- Infer pronoun referents.

WEEK 4

Annotating strategies

- Underline/highlight important information.
- Paraphrase the author's words in the margins of the text.
- Summarize.
- Write questions/notes in the margins to better understand the text.

WEEK 5

Visualizing strategies

- Draw graphic logs.
- Refer to graphic organizers (semantic mapping / clustering).

WEEK 6

Context-based evaluative strategies

- Re-read the text in case of difficulty.
- Read the text in short parts and check your understanding.
- Determine the meaning of critical unknown words.
- Distinguish main ideas from minor ones.

Post Test

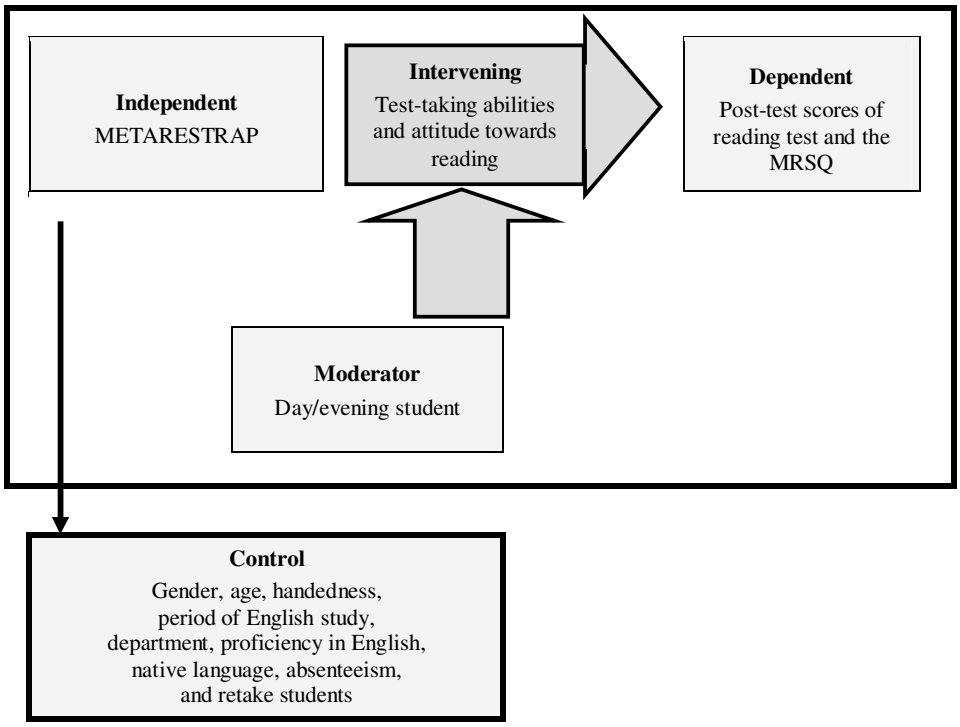
- Administering reading test (90 minutes)
- Administering the MRSQ (15 minutes)

4.5.4.2 Variables of the study

The common six common types of variables namely dependent, independent, intervening, moderator, control, and extraneous variables are demonstrated in Figure 10 with their interaction with each other.

Figure 10

Variables in the Main Study (Adapted from J. D. Brown, 1988)



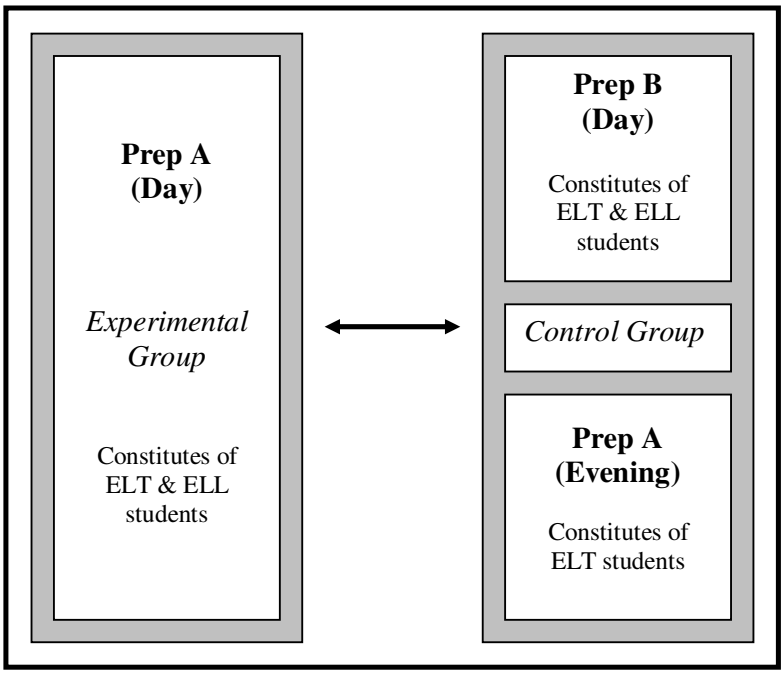
As Figure 10 illustrates, METARESTRAP functions as an independent variable in the main study whereas participants' post-test scores of reading test and the MRSQ perform as dependent variables. However, as it is not possible to control every variable, participants' test-taking abilities and their attitude towards reading can be regarded as intervening variables. Besides, although the present study aims to experiment the impact of METARESTRAP by comparing pre- and post-tests scores of the participants, it also aims to investigate any probable differences between day and evening groups. Therefore, being in day or evening class is interpreted as a moderator variable. Furthermore, the present study aims to control the impact of participants' gender, age, handedness, period of English study, department,

proficiency in English, native language, absenteeism, and condition of the course of Reading Comprehension regarding whether taking the course for the first time or as a retake student. Last but not least, the present study does not involve any extraneous variables that might be dangerous on its validity.

Figure 11 below demonstrates the constitution of the treatment groups in the main study.

Figure 11

Intact Classes and Treatment Groups in the Main Study



To provide construct validity for the main study, it was aimed to remove any probable effects which would result in biased results. Therefore, the main study was conducted with three intact classes rather than two treatment groups consisting of two intact classes. Figure 11 demonstrates how the variable of being a student in the departments of either in ELT or ELL is controlled in the main study to provide construct validity. As indicated in Figure 11, the main study constituted of three intact classes two of which function as a control group. The aim in controlling the experimental group by two control groups is to eliminate any prospective variable

during the experiment. As the participants in the control group were not taught by the researcher, integrating two classes as a control group provided more objective results. Another factor which entailed working with two intact classes was the existence of foreign national learners of English in Prep B class. Since employing strategies are regarded to be culture-specific (M. L. Abbott, 2006; Harmer, 2001; Oxford, 2001b), the strategies used by these participants might be different from strategies used by the rest of their class-mates. Therefore, in order not to bias the results of the present study, the foreign national learners were excluded which resulted in a reduced number of participants that would be insufficient to function as a control group. However, working with only Prep Evening class students was not a preferable alternative since their proficiency in English may slightly differ from the day group of students. Therefore, a combination of day and evening students as a control group seemed to be the best option.

The aim of integrating a combination of day and evening classes into control group was eliminating any probable proficiency differences between ELT and ELL evening classes as ELT department students register at the university with higher YDS scores when compared to ELL department students. Therefore, this combination provided a balance between the treatment groups in terms of their proficiency in English since it would be unreasonable to conduct the main study with two intact classes. With reference to Figure 11, it can be concluded that the experimental intact class of 'Prep A Day' is controlled by two intact classes of 'Prep B Day' and 'Prep A Evening'. Therefore, construct validity for the main study was provided.

Moreover, the participants in all three groups were also evaluated with reference to their proficiency in English. To provide this, their YDS scores were taken into consideration. Besides, they were also evaluated with reference to their reading exemption examination scores that they took when they registered at the university.

An ANOVA test indicated that the YDS score differences observed between intact classes were not significant [F (2, 43) = .22, p = .805] which were examined

through a post hoc Scheffe Test. Table 29 and Table 30 illustrate the results of the post hoc Scheffe test.

Table 29

Clusters of Intact Classes According to their YDS Scores

Intact Classes	YDS (Mean)	N	SD	Minimum	Maximum
Prep A Day (A)	346.9130	23	5.35056	340.00	353.00
Prep B Day (B)	345.8462	13	5.82875	342.00	358.00
Prep A Evening (C)	346.1000	10	2.07900	344.00	350.00
Total	346.4348	46	4.91552	340.00	358.00

Table 30

YDS Score Differences between Three Clusters

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.886	2	5.443	.217	.805
Within Groups	1076.418	43	25.033		
Total	1087.304	45			

* The mean difference is significant at the .05 level.

The results do not indicate significant differences among 'Prep A', 'Prep B' and 'Prep Evening' classes. The post hoc Scheffe test analysis examines the differences among intact classes. As the aim of the present study resides in comparing experimental group to control group, T-Test indicates any prospective differences between these two treatment groups. Table 31 illustrates the findings of T-test with reference to their YDS scores.

Table 31

Independent Samples T-Test Statistics of Treatment Groups on YDS Scores

Treatment groups	**N**	$\overline{X}$	**SD**	**t**	**df**	**p**
Experimental	23	346.9130	5.35056	.656	44	.515
Control	23	345.9565	4.50735			

Table 31 gives the mean values of YDS results and does not point out any significant differences [$t = 656$; $p = .515$] with a small effect size ($d = .19$; $r = .10$).

Apart from the analysis of participants' YDS scores, their reading exemption examination scores which was delivered at the beginning of 2008-2009 academic year with the aim of identifying learners who were proficient enough in English to study at the Departments of either ELT or ELL by the researcher of the present study were used. An ANOVA test indicated that the differences observed among intact classes were not significant [F (2, 43) = .15, p = .861]. Group differences were examined through a post hoc Scheffe Test. Table 32 and Table 33 illustrate the results of the post hoc Scheffe test.

Table 32

Clusters of Intact Classes According to Reading Exemption Examination Scores

Intact Classes	Exemption Exam (Mean)	N	SD	Minimum	Maximum
Prep A Day (A)	40.1304	23	6.68312	27.00	50.00
Prep B Day (B)	38.2308	13	7.14322	31.00	49.00
Prep A Evening (C)	42.4000	10	9.78888	22.00	57.00
Total	40.0870	46	7.53606	22.00	57.00

Table 33

Reading Exemption Examination Score Differences between Three Clusters

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.233	2	7.116	.150	.861
Within Groups	2044.251	43	47.541		
Total	2058.484	45			

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to reading exemption examination results, there are no significant differences among groups. To examine the differences between experimental and control groups on reading exemption examination, T-test was administered.

Table 34 illustrates the findings of T-test with reference to their reading exemption examination scores.

Table 34

Independent Samples T-Test Statistics for Treatment Groups

Treatment groups	N	$\overline{X}$	SD	t	df	p
Experimental	23	40.1304	6.68312	.039	44	.969
Control	23	40.0435	8.45565			

Table 34 gives the mean values of reading exemption examination results and does not indicate significant differences between experimental and control groups [t = .039; p = .969] with a very small effect size (d = .01; r = .01) while pointing out an almost similar mean values gained from reading exemption examination for the two treatment groups.

With reference to YDS and reading exemption examination scores it can be concluded that the intact classes in the main study are equal to each other in terms of their English language proficiency.

4.5.5 Procedures for Data Analysis

The data collected through the pre and post reading tests and the MRSQ were fed into a computer through SPSS. Pre and post test scores of the participants were analysed by using ANOVA procedure on SPSS to find out any between-intact class differences and a post-hoc Scheffe Test procedure to find specific differences, if any, between intact classes. Additionally, paired sample T-test was also administered to find out any differences between pre and post test results of the two treatment groups.

Since the reading test was consisting of two types of questions namely multiple-choice and multiple-matching questions, interrater reliability was not required as the two testing techniques were both considered to be objective since they are machine-markable.

4.6 SUMMARY

This chapter presented the different paradigms of educational research and provided rationale for the administration of a quasi-experimental design in the present study. Following the presentation of the aim and the research questions of the study, the pilot was introduced with reference to its setting, participants, materials and instrumentation, and procedures for data collection and analyses. Subsequently, implications for the main study were drawn and the methodology of the main study presented similar to the pilot study.

CHAPTER FIVE

FINDINGS

5.0 INTRODUCTION

This chapter deals with the findings of the statistical analysis of the data that was collected through the pilot and the main studies. It first introduces the research questions and the hypotheses of the study and then aims to answer these questions and check hypotheses in relevance with the collected data.

5.1 RESEARCH QUESTIONS AND HYPOTHESES OF THE STUDY

This study aims to answer the following main research question.

RQ Does METARESTRAP affect the use of metacognitive reading strategies and reading achievement?

The seven sub research questions are as follows with reference to the previous main research question.

RQ1 Is there a difference between reading comprehension scores of experimental and control group participants after the implementation of METARESTRAP?

RQ2 Is there a difference between metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ3 Is there a difference between analytic metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ4 Is there a difference between pragmatic metacognitive reading strategies of experimental and control group participants after the

implementation of METARESTRAP?

RQ5 What are the most common metacognitive reading strategies employed by advanced EFL learners?

RQ6 Which metacognitive reading strategies are accelerated after the implementation of METARESTRAP?

RQ7 What is the impact of METARESTRAP on different types of reading comprehension questions?

5.1.1 Hypotheses

The study had the following main hypothesis related with the main research question. However, its pair as a null hypothesis is also provided.

H_a Experimental group participants will outperform control group participants in using metacognitive reading strategies and reading achievement after the implementation of METARESTRAP.

H_0 There will not be any significant differences in using metacognitive reading strategies and reading achievement of experimental and control group participants after the implementation of METARESTRAP.

The study also had four alternative hypotheses related with the first four research questions. However, their pairs as null hypotheses are also provided below.

$H1_a$ Experimental group participants will outperform control group participants in reading comprehension after the implementation of METARESTRAP.

$H1_0$ There will not be any significant differences between reading comprehension test scores of experimental and control group participants after the implementation of METARESTRAP.

$H2_a$ Experimental group participants will outperform control group participants in using metacognitive reading strategies after the implementation of METARESTRAP.

$H2_0$ There will not be any significant differences between metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H3_a$ Experimental group participants will outperform control group participants in using analytic metacognitive reading strategies after the implementation of METARESTRAP.

$H3_0$ There will not be any significant differences between analytic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H4_a$ Experimental group participants will outperform control group participants in using pragmatic metacognitive reading strategies after the implementation of METARESTRAP.

$H4_0$ There will not be any significant differences between pragmatic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

5.2 FINDINGS OF THE PILOT STUDY

The pilot study aimed to discover the effects of METARESTRAP on the use of MRSs and reading comprehension. Two of the groups in the study were trained on how to use MRSs effectively. To identify the effects of METARESTRAP, a reading test and the MRSQ were administered to all participants before and after the implementation of METARESTRAP.

5.2.1 Research Question 1 and Hypothesis 1

The first research question aimed to answer whether there was a difference between experimental and control group participants' reading comprehension scores. An ANOVA test indicated that the differences observed between four intact classes before METARESTRAP were not significant in terms of their scores that they received from pre reading test [F (3, 89) = 1.55, p = .208]. Group differences were examined through a post hoc Scheffe Test the results of which are presented in Table 35 and Table 36.

Table 35

Clusters of Intact Classes According to their Pre Reading Test Scores

Intact Classes	Pre Reading Test (Mean)	N	SD	Minimum	Maximum
1A Day (A)	57.9565	23	6.48234	48.00	78.00
1B Day (B)	58.1818	22	5.38858	46.50	66.50
1A Evening (C)	55.7400	25	7.50433	41.00	74.00
1B Evening (D)	54.9565	23	4.85216	46.50	66.50
Total	56.6720	93	6.23912	41.00	78.00

Table 36

Pre Reading Test Score Differences among Four Intact Class Clusters

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	177.502	3	59.167	1.547	.208
Within Groups	3403.746	89	38.244		
Total	3581.247	92			

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to pre reading test before METARESTRAP, there were no significant differences among groups. However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' pre reading test scores as illustrated in Table 37.

Table 37

Independent Samples T-Test Results of Treatment Groups'

Pre Reading Test Scores

Treatment groups	N	$\overline{X}$	SD	df	t	p
Experimental	46	56.4565	5.86120	91	-.328	.744
Control	47	56.8830	6.64488			

The T-test results indicate very similar mean values for experimental and control group and the slight difference is regarded as insignificant [t = -,328; p = .744] with small effect size (d = -.07; r = -.03). As there were no significant differences between treatment groups before METARESTRAP in terms of reading comprehension; their comparison would provide reliable results.

To test the first hypothesis, an ANOVA test indicated that the differences observed between different intact classes after METARESTRAP were significant in terms of post reading test [F (3, 89) = 13.99, p = .000]. Group differences were examined through a post hoc Scheffe Test the results of which are presented in Table 38 and Table 39.

Table 38

Clusters of Intact Classes According to Post Reading Test Scores

Intact Classes	Post Reading Test (Mean)	N	SD	Minimum	Maximum
1A Day (A)	69.7609	23	7.12210	56.00	82.50
1B Day (B)	61.1818	22	4.20755	52.00	70.50
1A Evening (C)	59.1000	25	6.78233	69.00	69.00
1B Evening (D)	64.1087	23	5.28926	52.00	72.00
Total	63.4677	93	7.16225	44.00	82.50

Table 39

Post Reading Test Score Differences between Four Intact Class Clusters

	Sum of Squares	df	Mean Square	F	Sig.	Direction of differences
Between Groups	1512.217	3	504.072	13.988	.000	B<A p=.000
Within Groups	3207.186	89	36.036			C<A p=.000
Total	4719.403	92				D<A p=.021
						C<D p=.046

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to post reading test following the implementation of METARESTRAP, there are significant differences between '1A Day – 1B Day' (p = .000), '1A Day – 1A Evening' (p = .000), '1A Day – 1B Evening' (p = .021), and '1A Evening – 1B Evening' (p = .046). Table 38 and Table 39 indicate that the experimental intact classes of '1A Day' and '1B Evening' outperformed the control intact classes of '1B Day' and '1A Evening' where the differences are significant.

However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' post reading test scores as illustrated in Table 40.

Table 40

Independent Samples T-Test Results of Treatment Groups' Post Reading Test Scores

Treatment groups	N	$\overline{X}$	SD	df	t	p
Experimental	46	66.9348	6.82936	91	5.241	.000
Control	47	60.0745	5.76060			

T-test results indicate significant differences between experimental and control group participants' post reading test scores after METARESTRAP [t = 5.241; p = .000] with large magnitudes of effect (d = .41; r = .58).

Besides, the paired sample T-test results of experimental group participants' pre and post reading test scores also explore the first research question. Table 41 shows paired sample T-test results of experimental group of participants on pre and post reading tests.

Table 41

Experimental Group Paired Sample T-Test Statistics of Pre and Post Reading Test Scores

Tests	N	$\overline{X}$	SD	df	t	p
Pre-test	46	57.8043	10.42991	45	-7.206	.000
Post-test	46	69.5870	7.43737			

Table 41 indicates higher results obtained from the post reading test of the experimental group after the implementation of METARESTRAP [t = -7.206; p = .000] with large magnitudes of effect (d = .96; r = .43). Table 42 shows paired sample T-test results of control group of participants on pre and post reading tests.

Table 42

Control Group Paired Sample T-Test Statistics of Pre and Post Reading Test Scores

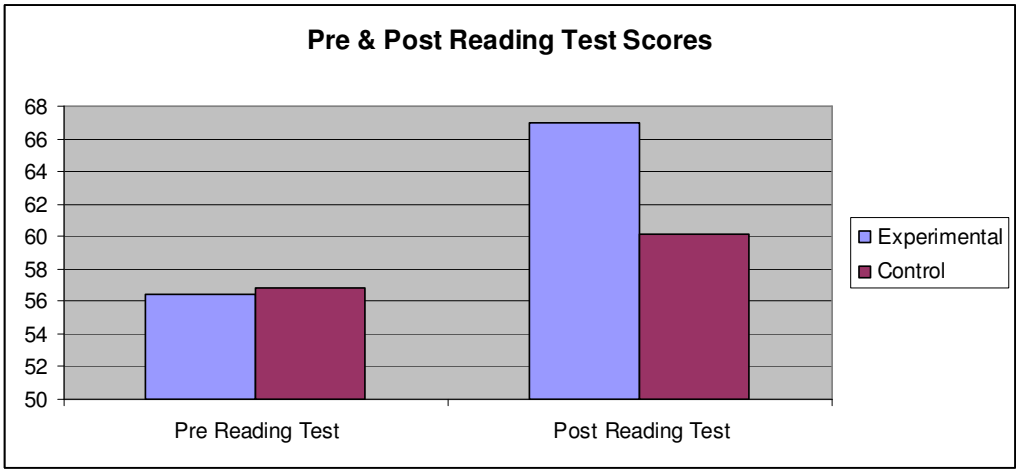
Tests	N	$\overline{X}$	SD	df	t	p
Pre-test	47	58.1489	8.12398	46	-3.066	.004
Post-test	47	61.3617	6.83159			

Table 42 indicates higher results obtained from the post reading test of the control group participants during Advanced Reading and Writing Course I within a six-week interval as result of learning effect [t = -3,066; p = .004] with medium sized effects (d = -.43; r = -.21). Although it is indicated as significant, the mean difference between pre- and post-tests is much smaller than the mean difference in experimental group.

Figure 12 demonstrates pre and post reading test scores of experimental control groups.

Figure 12

Pre and Post Reading Test Scores



These findings confirm the first alternative hypothesis that 'experimental group participants will outperform control group participants in reading comprehension'.

5.2.2 Research Question 2 and Hypothesis 2

The second research question aimed to answer whether there was a difference between experimental and control group participants use of MRSs. An ANOVA test indicated that the differences observed between four intact classes before METARESTRAP were not significant in terms of metacognitive strategy use [F (3,

89) = .52, p = .672]. Group differences were examined through a post hoc Scheffe Test the results of which are presented in Table 43 and Table 44.

Table 43

Clusters of Intact Classes Pre Use of MRSs

Intact Classes	Pre Strategy (Mean)	N	SD	Minimum	Maximum
1A Day (A)	3.6304	23	.22657	3.09	3.95
1B Day (B)	3.6157	22	3.14	4.18	3.6157
1A Evening (C)	3.5673	25	2.73	4.00	.30720
1B Evening (D)	3.5217	23	2.82	4.27	.45966
Total	3.5831	93	.32658	2.73	4.27

Table 44

Pre MRS Score Differences among Four Clusters

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.168	3	.056	.516	.672
Within Groups	9.645	89	.108		
Total	9.812	92			

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to pre use of MRSs before METARESTRAP, there were no significant differences among groups. As indicated in Table 43, each intact class has very similar mean values of MRS usage before METARESTRAP.

However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' pre scores of metacognitive strategy usage as presented in Table 45.

Table 45

Independent Samples T-Test Results of Treatment Groups' Pre Use of MRSs

Treatment groups	N	$\overline{X}$	SD	df	t	p
Experimental	46	3.5761	.36251	91	-.203	.839
Control	47	3.5899	.29097			

The T-test results do not indicate significant differences between experimental and control group in terms of participants' MRS usage [t = -,203; p = .839] with small effect size (d = .04; r = .02). As there were no significant differences between treatment groups before METARESTRAP in using MRSs; their comparison would provide reliable results.

To test the second hypothesis, an ANOVA test indicated that the differences observed between different intact classes after METARESTRAP were significant in terms of using MRSs [F (3, 89) = 19.72, p = .000]. Group differences were examined through a post hoc Scheffe Test the results of which are presented in Table 46 and Table 47.

Table 46

Clusters of Intact Classes According to Post Use of MRSs

Intact Classes	Post Strategies (Mean)	N	SD	Minimum	Maximum
1A Day (A)	4.0316	23	.28035	3.59	4.73
1B Day (B)	3.6054	22	.33296	3.05	4.36
1A Evening (C)	3.5582	25	.39551	2.73	4.23
1B Evening (D)	4.1818	23	.32403	3.64	4.64
Total	3.8407	93	.42796	2.73	4.73

Table 47

Post MRS Use Differences between Four Intact Class Clusters

	Sum of Squares	Df	Mean Square	F	Sig.	Direction of differences
Between Groups	6,728	3	2,243	19,722	,000	B<A p=.001
Within Groups	10,121	89	,114			C<A p=.000
Total	16,850	92				B<D p=.000
						C<D p=.000

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to metacognitive strategy use after METARESTRAP, there are significant differences between '1A Day – 1B Day' (p = .001), '1A Day – 1A Evening' (p = .000), '1B Day – 1B Evening' (p = .000), and '1A Evening – 1B

Evening' (p = .000). Table 46 and Table 47 indicate the superiority of experimental intact classes on the control ones.

However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' post scores of metacognitive strategy usage as presented in Table 48.

Table 48

Independent Samples T-Test Results of Treatment Groups' Post Use of MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	46	4.1067	.30906	91	7.506	.000
Control	47	3.5803	.36440			

The T-test results indicate significant differences between experimental and control group participants' post use of MRSs after METARESTRAP [t = 7.506; p = .000] with large magnitudes of effect (d = 1.49; r = .60).

Besides, the paired sample T-test results of experimental group participants' pre and post reading test scores also explore the second research question. Table 49 shows paired sample T-test results of experimental group of participants' pre and post MRS use.

Table 49

Experimental Group Paired Sample T-Test Statistics of Pre and Post Use of MRSs

Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	46	3.5761	.36251	45	-9.168	.000
Post-test	46	4.1067	.30906			

Table 49 indicates higher results obtained from the post MRSQ of the experimental group after the implementation of METARESTRAP [t = -9.168; p = .000] with large magnitudes of effect (d = -1.58; r = -.62).

Table 50 shows paired sample T-test results of control group of participants' pre and post MRS use.

Table 50

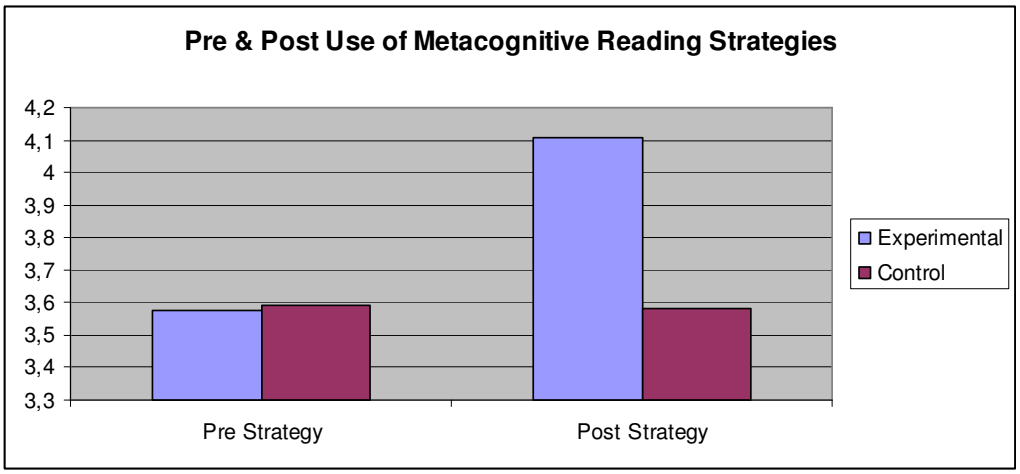
Control Group Paired Sample T-Test Statistics of Pre and Post Use of MRSs

Tests	N	$\overline{X}$	SD	df	t	p
Pre-test	47	3.5899	.29097	46	.170	.886
Post-test	47	3.5803	.36440			

Table 50 compares pre- and post-test results of the control group participants' use of MRSs and it indicates almost similar mean values for both pre- and post-tests [t = 170; p = .886] with small effect size (d = .03; r = .01). Figure 13 demonstrates pre and post reading test scores of experimental control groups.

Figure 13

Pre and Post Use of MRSs



These findings confirm the second alternative hypothesis that 'experimental group participants will outperform control group participants in using metacognitive reading strategies'.

5.2.3 Research Question 3 and Hypothesis 3

The third research question aimed to answer whether there was a difference between experimental and control group participants' use of analytic MRSs. T-test

was administered on the participants' pre scores of analytic metacognitive strategy usage before the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 51.

Table 51

Independent Samples T-Test Results of Treatment Groups' Pre Use of Analytic MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	46	3.5313	.41348	91	.430	.668
Control	47	3.4987	.31182			

The T-test results do not indicate any significant differences between experimental and control group participants' use of analytic MRSs before the implementation of METARESTRAP [t = .430; p = .668] with small effect size (d = .09; r = .04). As there were no significant differences between treatment groups before METARESTRAP in terms of using analytic MRSs; their comparison would provide reliable results.

To test the third hypothesis, T-test was administered on the participants' post scores of analytic metacognitive strategy usage after the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 52.

Table 52

Independent Samples T-Test Results of Treatment Groups' Post Use of Analytic MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	46	4.1535	.31367	91	8.844	.000
Control	47	3.5160	.37781			

The T-test results indicate a significant difference between experimental and control group participants' use of analytic MRSs after the implementation of METARESTRAP [t = 8.844; p = .000] with large magnitudes of effect (d = 1.84; r = .68).

Besides, the paired sample T-test results of experimental group participants' pre and post analytic MRSs also explore the third research question as presented in Table 53.

Table 53

Experimental Group Paired Sample T-Test Statistics of Pre and Post Analytic MRS Use

Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	46	3.5313	.41348	45	-9.981	.000
Post-test	46	4.1535	.31367			

Table 53 indicates higher employment of analytic MRSs in the post-test after the implementation of METARESTRAP [t = -9.981; p = .000] with large magnitudes of effect (d = -1.7; r = -.65). These findings confirm the third alternative hypothesis that 'experimental group participants will outperform control group participants in using analytic metacognitive reading strategies'.

5.2.4 Research Question 4 and Hypothesis 4

The fourth research question aimed to answer whether there was a difference between experimental and control group participants' use of pragmatic MRSs. T-test was administered on the participants' pre scores of pragmatic metacognitive strategy usage before the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 54.

Table 54

Independent Samples T-Test Results of Treatment Groups' Pre Use of Pragmatic MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	46	3.6957	.58087	91	-1.156	.251
Control	47	3.8333	.56786			

The T-test results do not indicate any significant differences between experimental and control group participants' use of pragmatic MRSs before the

implementation of METARESTRAP [t = -.1.156; p = .251] with small effect size (d = -.24; r = -.12). As there were no significant differences between treatment groups before METARESTRAP in terms of using pragmatic MRSs; their comparison would provide reliable results.

To test the fourth hypothesis, T-test was administered on the participants' post scores of pragmatic metacognitive strategy usage after the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 55.

Table 55

Independent Samples T-Test Results of Treatment Groups' Post Use of Pragmatic MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	46	3.9819	.59028	91	2.012	.047
Control	47	3.7518	.51060			

The T-test results indicate a significant difference between experimental and control group participants' use of pragmatic MRSs after the implementation of METARESTRAP [t = 2.012; p = .047] with medium-sized effect (d = .42; r = .20).

Besides, the paired sample T-test results of experimental group participants' pre and post pragmatic MRSs also explore the fourth research question. Table 56 shows paired sample T-test results of experimental group of participants pre and post pragmatic MRSs.

Table 56

Experimental Group Paired Sample T-Test Statistics of Pre and Post Pragmatic MRS Use

Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	46	3.6957	.58087	45	-2.771	.008
Post-test	46	3.9819	.59028			

Table 56 indicates higher employment of pragmatic MRSs in the post-test after the implementation of METARESTRAP [t = -2.771; p = .008] with medium-sized effect (d = -.49; r = -.24). These findings confirm the fourth alternative hypothesis that 'experimental group participants will outperform control group participants in using pragmatic metacognitive reading strategies'.

5.2.5 Research Question 5

The fifth research question aimed to identify the most common MRSs employed by advanced EFL learners. Table 57 presents experimental and control group of participants' use of MRSs in a descending order according to their pre MRSQ scores.

Table 57

Descriptive Statistics of Participants Use of MRSs

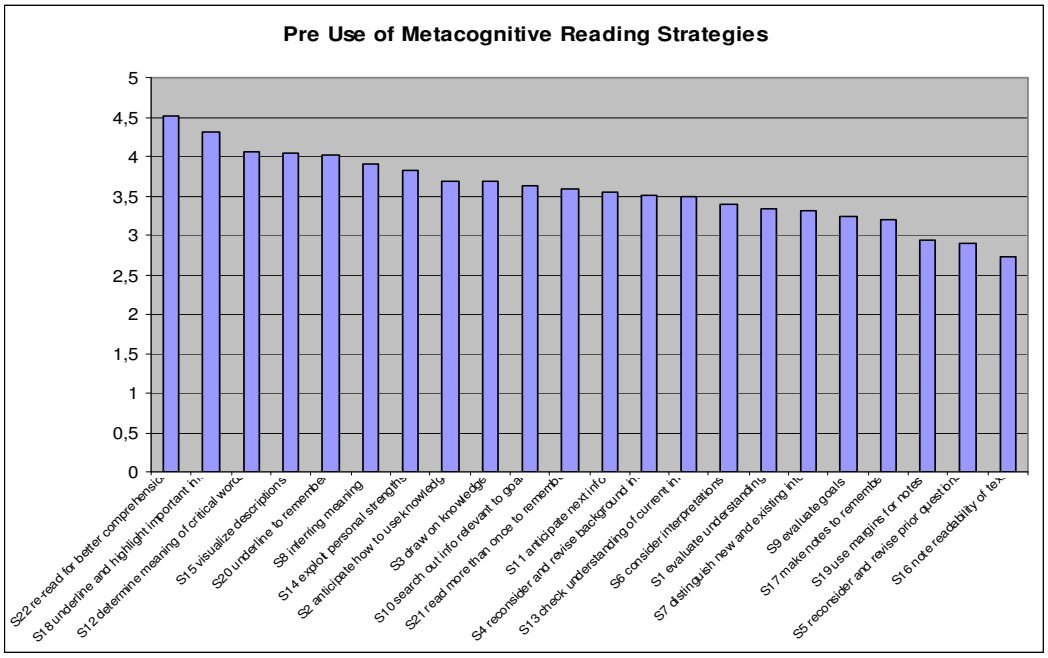
Metacognitive reading strategies	N	Minimum	Maximum	Mean	SD
S22 re-read for better comprehension	93	3.00	5.00	4.5161	.63610
S18 underline and highlight important info	93	2.00	5.00	4.3226	.83616
S12 determine meaning of critical words	93	2.00	5.00	4.0538	.74258
S15 visualize descriptions	93	2.00	5.00	4.0323	.87789
S20 underline to remember	93	1.00	5.00	4.0215	.97778
S8 inferring meaning	93	1.00	5.00	3.9032	.89764
S14 exploit personal strengths	93	1.00	5.00	3.8172	.85905
S2 anticipate how to use knowledge	93	2.00	5.00	3.6882	.75150
S3 draw on knowledge	93	1.00	5.00	3.6774	.80974
S10 search out info relevant to goals	93	2.00	5.00	3.6237	.98812
S21 read more than once to remember	93	1.00	5.00	3.5914	.91172
S11 anticipate next info	93	2.00	5.00	3.5484	.86623
S4 reconsider and revise background info	93	2.00	5.00	3.5054	.85496
S13 check understanding of current info	93	2.00	5.00	3.4946	.61897
S6 consider interpretations	93	1.00	5.00	3.3978	.92242
S1 evaluate understanding	93	1.00	5.00	3.3333	.75661
S7 distinguish new and existing info	93	1.00	5.00	3.3226	.79620
S9 evaluate goals	93	1.00	5.00	3.2258	.72425
S17 make notes to remember	93	1.00	5.00	3.2043	1.15682
S19 use margins for notes	93	1.00	5.00	2.9355	1.13066
S5 reconsider and revise prior questions	93	1.00	4.00	2.8925	.68306
S16 note readability of text	93	.00	5.00	2.7204	1.33812

As pointed out in Table 57 and demonstrated in Figure 14, the participants of the pilot study either in experimental or control group, indicated before the

implantation of METARESTRAP that they employed the MRSs of ‘re-reading for better comprehension’, ‘underlining and highlighting important info’, and ‘determining meaning of critical words’ more than the others; whereas their responses revealed that they employed the MRSs of ‘using margins for notes’, ‘reconsidering and revising prior questions’, and ‘noting readability of text’ less than the others. Figure 14 demonstrates the use of MRSs by the participants of the pilot study either in experimental or control group in descending order before the implantation of METARESTRAP.

Figure 14

Participants’ Pre Use of MRSs



5.2.6 Research Question 6

The sixth research question aimed to identify the MRSs which were accelerated after the implementation of METARESTRAP. Table 58 presents experimental group of participants’ use of MRSs in a descending order according to their mean differences by comparing pre and post test the MRSQ scores.

Table 58

Descriptive Statistics of Experimental Group's Comparative Use of MRSs

Metacognitive reading strategies	N	Pre Mean	Pre SD	Post Mean	Post SD	Mean Dif.
S4 Reconsider and revise background info	46	3.6087	.80217	4.7174	.45524	1.1087
S9 Evaluate goals	46	3.1957	.71863	4.3043	.66230	1.1086
S1 Evaluate understanding	46	3.2174	.69644	4.3043	.66230	1.0869
S7 Distinguish new and existing info	46	3.5000	.91287	4.4565	.65681	0.9565
S3 Draw on knowledge	46	3.6522	.79491	4.5652	.62011	0.9130
S11 Anticipate next info	46	3.5435	.86169	4.4130	.65238	0.8695
S5 Reconsider and revise prior questions	46	2.9565	.69782	3.8043	.83319	0.8478
S13 Check understanding of current info	46	3.4783	.62322	4.1304	.71829	0.6521
S16 Note readability of text	46	2.9783	1.46802	3.5652	.86029	0.5869
S8 Inferring meaning	46	3.8261	.90196	4.3478	.73688	0.5217
S18 Underline and highlight important info	46	4.1957	.88492	4.6522	.73688	0.4565
S19 Use margins for notes	46	2.7609	1.01510	3.2174	.94076	0.4565
S20 Underline to remember	46	3.9783	.97728	4.3913	.95402	0.4130
S12 Determine meaning of critical words	46	4.0435	.75884	4.4130	.65238	0.3695
S15 Visualize descriptions	46	3.8913	.94817	4.1739	.87697	0.2826
S17 Make notes to remember	46	3.1739	1.17954	3.4348	1.10860	0.2609
S10 Search out info relevant to goals	46	3.5435	.91181	3.7826	.94076	0.2391
S6 Consider interpretations	46	3.5217	.93664	3.6739	.87062	0.1522
S14 Exploit personal strengths	46	3.7609	.82151	3.8913	.73721	0.1304
S2 Anticipate how to use knowledge	46	3.7826	.72765	3.9130	.75502	0.1304
S21 Read more than once to remember	46	3.5870	1.00169	3.6522	.99370	0.0652
S22 Re-read for better comprehension	46	4.4783	.65791	4.5435	.58525	0.0652

As pointed out in Table 58, experimental group of participants indicated that their use of each MRS was accelerated after the implementation of METARESTRAP. Yet, the greatest changes between pre- and post-test scores of MRS usage occur in the strategies of 'reconsidering and revising background information', 'evaluating goals', and 'evaluating understanding'. However, minimal differences appear 'reading more than once to remember' and 're-reading for better comprehension'.

Figure 15 demonstrates experimental group of participants' use of each MRS by comparing the mean values of pre and post test scores gained from the MRSQ along with their mean differences.

Figure 15

Descriptive Statistics of Experimental Group's Comparative Use of MRSs

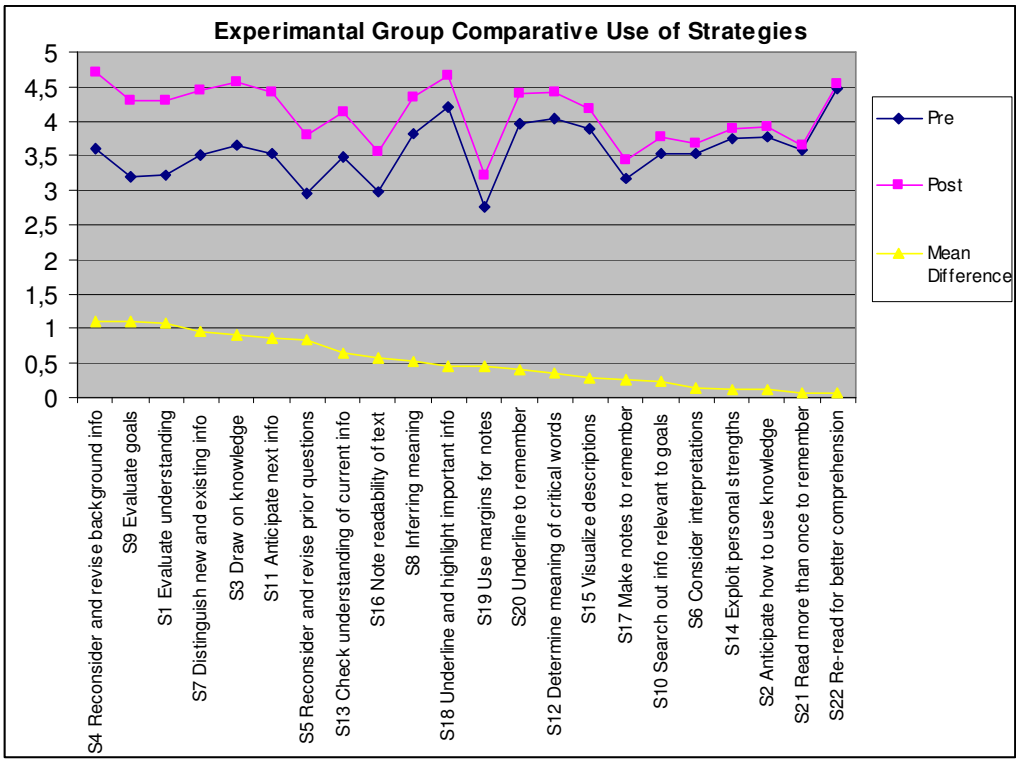


Table 59 presents control group of participants' use of MRSs in a descending order according to their mean differences by comparing pre and post test the MRSQ scores. As Table 59 points out, control group of participants indicated that their use of MRSs in seven items increased slightly during Advanced Reading and Writing Course I within a six-week interval. However, their use of two MRSs remained stable while 13 of them decreased slightly.

Table 59

Descriptive Statistics of Control Group's

Comparative Use of MRSs

		Pre		Post		Mean
Metacognitive reading strategies	**N**	**Mean**	**SD**	**Mean**	**SD**	**Dif.**
S5 Reconsider and revise prior questions	47	2.8298	.66982	3.4894	.85649	0.6596
S4 Reconsider and revise background info	47	3.4043	.90071	3.9574	.80643	0.5531
S16 Note readability of text	47	2.4681	1.15817	2.9787	1.13232	0.5106
S7 Distinguish new and existing info	47	3.1489	.62480	3.5745	.71459	0.4256
S6 Consider interpretations	47	3.2766	.90174	3.4255	.77304	0.1489
S1 Evaluate understanding	47	3.4468	.80240	3.5106	.58504	0.0638
S9 Evaluate goals	47	3.2553	.73627	3.2979	.68888	0.0426
S2 Anticipate how to use knowledge	47	3.5957	.77065	3.5957	.90071	0
S21 Read more than once to remember	47	3.5957	.82514	3.5957	.94776	0
S17 Make notes to remember	47	3.2340	1.14612	3.2128	.99861	-0.0212
S18 Underline and highlight important info	47	4.4468	.77484	4.3830	.70874	-0.0638
S20 Underline to remember	47	4.0638	.98696	4.0000	.80757	-0.0638
S22 Re-read for better comprehension	47	4.5532	.61885	4.4681	.54578	-0.0851
S8 Inferring meaning	47	3.9787	.89660	3.8511	.85919	-0.1276
S3 Draw on knowledge	47	3.7021	.83184	3.5532	.74625	-0.1489
S11 Anticipate next info	47	3.5532	.87993	3.3617	.73501	-0.1915
S13 Check understanding of current info	47	3.5106	.62109	3.2766	.64949	-0.234
S14 Exploit personal strengths	47	3.8723	.89969	3.6383	.73501	-0.234
S15 Visualize descriptions	47	4.1702	.78903	3.9362	.79137	-0.234
S19 Use margins for notes	47	3.1064	1.22002	2.8511	.95505	-0.2553
S12 Determine meaning of critical words	47	4.0638	.73438	3.6170	.84835	-0.4468
S10 Search out info relevant to goals	47	3.7021	1.06148	3.1915	.85053	-0.5106

5.2.7 Research Question 7

The seventh research question aimed to reveal the impact of METARESTRAP on different types of reading comprehension questions. Table 60 indicates that experimental group participants' responses to the questions in the reading test made a progress in 24 questions after the implementation of METARESTRAP. However, their responses did not make any progress in 3 questions and they deteriorated very slightly in 3 questions. On the other hand, control group participants' responses to 18 questions were also prone to increase while they gained lower scores on 8 questions along with stable scores on 4 questions. Examining the total scores pointed out that the total progress in experimental group was 138 whereas this rate was restricted with 55 in control group.

Table 60 compares the correct answers given by experimental and control group participants' in pre and post reading tests by regarding questions individually.

Table 60

Frequency Statistics of Experimental and Control Group's Correct Answers in Pre and Post Reading Test in Individual Questions

	Experimental			Control		
Questions	**Pre**	**Post**	**Mean Difference**	**Pre**	**Post**	**Mean Difference**
Q1	36	38	2	41	39	-2
Q2	39	39	0	42	41	-1
Q3	45	45	0	46	44	-2
Q4	35	42	7	37	42	5
Q5	30	31	1	32	34	2
Q6	34	39	5	29	35	6
Q7	16	19	3	15	23	8
Q8	39	43	4	37	43	6
Q9	7	31	24	8	5	-3
Q10	25	36	11	27	25	-2
Q11	21	30	9	19	23	4
Q12	10	12	2	6	11	5
Q13	12	21	9	16	17	1
Q14	17	32	15	21	21	0
Q15	25	25	0	30	27	-3
Q16	19	20	1	20	22	2
Q17	33	37	4	38	32	-6
Q18	13	16	3	14	14	0
Q19	24	31	7	23	24	1
Q20	31	32	1	33	31	-2
Q21	5	4	-1	2	3	1
Q22	33	32	-1	29	32	3
Q23	43	45	2	43	44	1
Q24	43	46	3	43	46	3
Q25	24	27	3	19	31	12
Q26	27	35	8	29	35	6
Q27	38	42	4	43	43	0
Q28	45	43	-2	45	45	0
Q29	32	38	6	36	38	2
Q30	18	26	8	19	27	8
Total	819	957	138	842	897	55

Table 61 compares pre and post reading test mean values of experimental and control group participants' by considering four parts of the test.

Table 61

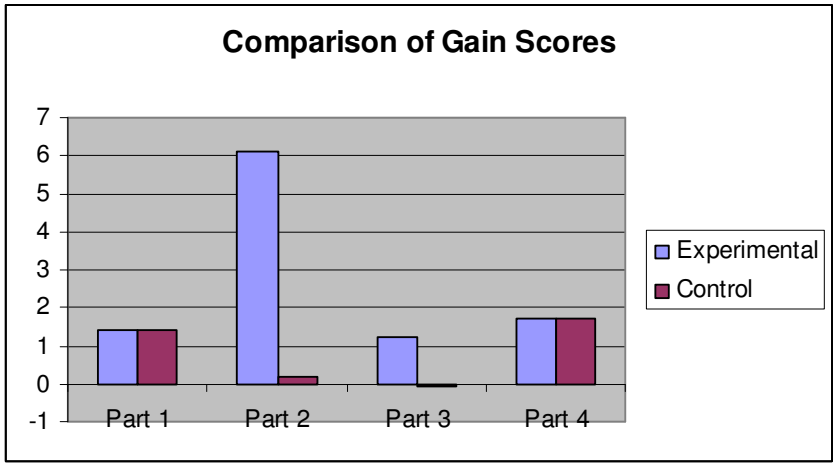
Experimental and Control Group Participants' Mean Values on Four Parts of Pre and Post Reading Test

Treatment Groups			Parts of Reading Test			
			Part 1	Part 2	Part 3	Part 4
Experimental	Pre	Mean	17,8696	10,1739	13,7391	14,6739
		SD	3,46159	5,24639	4,01350	3,10057
	Post	Mean	19,3043	16,2609	14,9565	16,4130
		SD	2,24964	4,80016	4,16843	2,82116
	Mean Difference		1,43470	6,08700	1,21740	1,73910
Control	Pre	Mean	17,8085	10,8085	13,5319	14,7340
		SD	3,44925	5,71283	4,13285	2,81852
	Post	Mean	19,2128	10,9787	13,4468	16,4362
		SD	3,22986	4,20915	5,23703	2,93705
	Mean Difference		1,40430	0,17020	-0,08510	1,70220

Table 61 indicated that the mean values of the participants both in experimental and control groups enhanced in four parts of the test except from control group participants' performance in Part 3. Moreover, the results connoted that experimental groups' gain scores were greater than the control groups' and the greatest melioration occurred with the second part of the test. Figure 16 demonstrates the gain scores of the two treatment groups in four different parts of the reading test.

Figure 16

Comparison of Experimental and Control Groups Gain Scores in Four Parts of the Reading Test



5.3 FINDINGS OF THE MAIN STUDY

Similar to the aims of the pilot study, the main study also aimed to discover the effects of METARESTRAP on the use of MRSs and reading comprehension. The participants of one of the intact classes in the main study were trained on how to use MRSs effectively. To control the effectiveness of the treatment, two other intact classes functioned as control group. To identify the effects of METARESTRAP, a reading test and the MRSQ were administered to all participants before and after the implementation of METARESTRAP.

5.3.1 Research Question 1 and Hypothesis 1

The first research question aimed to answer whether there was a difference between experimental and control group participants' reading comprehension scores. An ANOVA test indicated that the differences observed between four intact classes before METARESTRAP were not significant in terms of their scores that they received from pre reading test [F (2, 43) = .15, p = .861]. Table 62 and Table 63 examine group differences through a post hoc Scheffe Test.

Table 62

Clusters of Intact Classes According to Pre Reading Test Scores

Intact Classes	Pre Reading Test (Mean)	N	SD	Minimum	Maximum
Prep A Day (A)	50.0435	23	6.87372	34.00	62.50
Prep B Day (B)	51.3077	13	7.55408	41.50	64.00
Prep A Evening (C)	50.8500	10	5.96308	41.00	58.50
Total	50.5761	46	6.76344	34.00	64.00

Table 63

Pre Reading Test Score Differences between Three Clusters

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.233	2	7.116	.150	.861
Within Groups	2044.251	43	47.541		
Total	2058.484	45			

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to pre reading test before METARESTRAP, there were no significant differences among groups.

However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' pre reading test scores as illustrated in Table 64.

Table 64

Independent Samples T-Test Results of Treatment Groups' Pre Reading Test Scores

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	23	50.0435	6.87372	44	-.530	.599
Control	23	51.1087	6.76212			

The T-test results indicate very similar mean values for experimental and control group and the difference is regarded as insignificant [t = -,530; p = .599] with a very small effect size (d = -.16; r = -.08). As there were no significant differences between treatment groups before METARESTRAP in terms of reading comprehension; their comparison would provide reliable results.

To test the first hypothesis, an ANOVA test indicated that the differences observed between different intact classes after METARESTRAP were significant in terms of post reading test [F (2, 43) = 6.06, p = .005]. Group differences were examined through a post hoc Scheffe Test the results of which are presented in Table 65 and Table 66.

Table 65

Clusters of Intact Classes According to their Post Reading Test Scores

Intact Classes	**Post Reading Test (Mean)**	**N**	**SD**	**Minimum**	**Maximum**
Prep A Day (A)	62.5000	23	5.40833	54.00	72.50
Prep B Day (B)	55.5769	13	7.23374	41.50	67.00
Prep A Evening (C)	56.2500	10	7.68205	43.50	71.50
Total	59.1848	46	7.16578	41.50	72.50

Table 66

Post Reading Test Score Differences between Three Clusters

	Sum of Squares	df	Mean Square	F	Sig.	Direction of differences
Between Groups	508.131	2	254.066	6.061	.005	B<A *p*=.014
Within Groups	1802.548	43	41.920			C<A *p*=.049
Total	2310.679	45				

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to reading test after the implementation of METARESTRAP, there were differences with between 'Prep A – Prep B' (p = .014) and 'Prep A – Prep Evening' (p = .049). Table 65 and Table 66 indicate that the experimental intact class of 'Prep A' outperformed the control intact classes of 'Prep B' and 'Prep Evening' where the differences are significant.

However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' post reading test scores as illustrated in Table 67.

Table 67

Independent Samples T-Test Results of Treatment Groups'

Post Reading Test Scores

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	23	62.5000	5.40833	44	3.510	.001
Control	23	55.8696	7.26639			

T-test results indicate significant differences between experimental and control group participants' post reading test scores after METARESTRAP [t = 3.510; p = .001] with large magnitudes of effect (d = 1.04; r = .46).

Besides, the paired sample T-test results of experimental group participants' pre and post reading test scores also explore the first research question. Table 68 shows paired sample T-test results of experimental group of participants on pre and post reading tests.

Table 68

Experimental Group Paired Sample T-Test Statistics of Pre and Post Reading Test Scores

Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	23	50.0435	6.87372	22	-9.976	.000
Post-test	23	62.5000	5.40833			

Table 68 indicates higher results obtained from the post reading test of the experimental group after the implementation of METARESTRAP [t = -9.976; p = .000] with large magnitudes of effect (d = -2.01; r = -.71).

Table 69 shows paired sample T-test results of control group of participants on pre and post reading tests.

Table 69

Control Group Paired Sample T-Test Statistics of Pre and Post Reading Test Scores

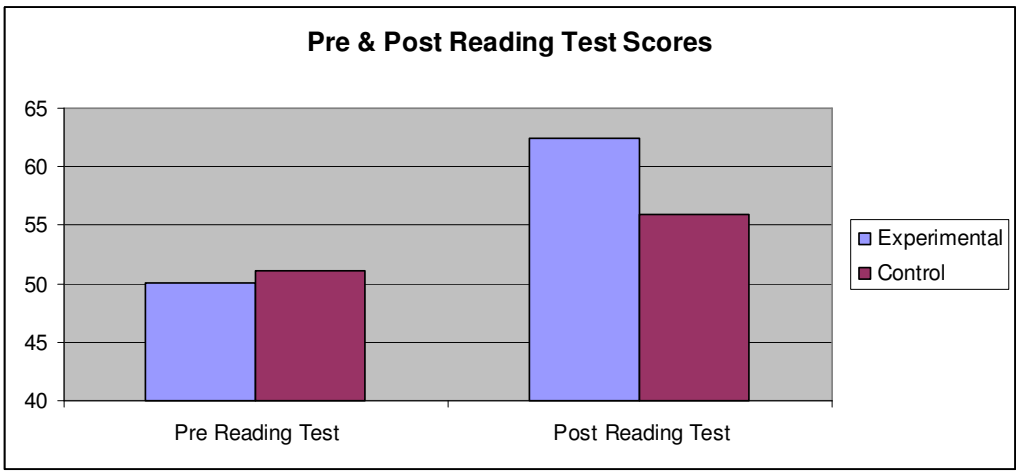
Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	23	51.1087	6.76212	22	-4.912	.000
Post-test	23	55.8696	7.26639			

Table 69 indicates higher results obtained from the post reading test of the control group participants during Reading Comprehension Course within a six-week interval as result of learning effect [t = -4.912; p = .000] with large magnitudes of effect (d = 1.11; r = .49). Although it is indicated as significant, the mean difference between pre- and post-tests is much smaller than the mean difference in experimental group.

Figure 17 demonstrates pre and post reading test scores of experimental control groups.

Figure 17

Pre and Post Reading Test Scores



These findings confirm the first alternative hypothesis that 'experimental group participants will outperform control group participants in reading comprehension'.

5.3.2 Research Question 2 and Hypothesis 2

The second research question aimed to answer whether there was a difference between experimental and control group participants use of MRSs. An ANOVA test indicated that the differences observed between four intact classes before METARESTRAP were not significant in terms of metacognitive strategy use [F (2, 43) = .297, p = .745]. Group differences were examined through a post hoc Scheffe Test the results of which are presented in Table 70 and Table 71.

Table 70

Clusters of Intact Classes Pre Use of MRSs

Intact Classes	Pre Strategies (Mean)	N	SD	Minimum	Maximum
Prep A Day (A)	3.3656	23	.48503	2.09	4.05
Prep B Day (B)	3.3462	13	.25208	3.00	3.77
Prep A Evening (C)	3.4682	10	.34950	2.77	3.82
Total	3.3824	46	.39818	2.09	4.05

Table 71

Pre MRS Score Differences among Three Clusters

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.097	2	.049	.297	.745
Within Groups	7.037	43	.164		
Total	7.135	45			

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to pre use of MRSs before METARESTRAP, there were no significant differences among groups. As indicated in Table 70 and Table 71, each intact class has very similar mean values of MRS usage before METARESTRAP.

However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' pre scores of metacognitive strategy usage.

Table 72

Independent Samples T-Test Results of Treatment Groups' Pre Use of MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	23	3.3656	.48503	44	-.283	.778
Control	23	3.3992	.29742			

The T-test results do not indicate significant differences between experimental and control group in terms of participants' MRS usage [t = -,283; p = .778] with large magnitudes of effect (d = 1.19; r = .51). As there were no significant differences between treatment groups before METARESTRAP in using MRSs; their comparison would provide reliable results.

To test the second hypothesis, an ANOVA test indicated that the differences observed between different intact classes after METARESTRAP were significant in terms of using MRSs [F (2, 43) = 36.66, p = .000]. Group differences were examined through a post hoc Scheffe Test the results of which are presented in Table 73 and Table 74.

Table 73

Clusters of Intact Classes According to Post Use of MRSs

Intact Classes	Post Strategies (Mean)	N	SD	Minimum	Maximum
Prep A Day (A)	4.2213	23	.36654	3.27	4.73
Prep B Day (B)	3.3531	13	.24418	3.05	3.86
Prep A Evening (C)	3.5091	10	.28491	3.05	4.05
Total	3.8211	46	.51438	3.05	4.73

Table 74

Post MRS Use Differences between Three Intact Class Clusters

	Sum of Squares	df	Mean Square	F	Sig.	Direction of differences
Between Groups	7,505	2	3,752	36,655	,000	B<A p=.000
Within Groups	4,402	43	,102			C<A *p*=.000
Total	11,907	45				

* The mean difference is significant at the .05 level.

According to the results of Post Hoc Scheffe Test on intact class differences with reference to metacognitive strategy use after METARESTRAP, there are significant differences between 'Prep A – Prep B' (p = .000) and 'Prep A – Prep Evening' (p = .000) intact classes. Table 73 and Table 74 indicate the superiority of experimental intact classes on the control ones.

However, to make the comparison applicable for experimental and control groups, T-test was administered on the participants' post scores of metacognitive strategy usage as presented in Table 75.

Table 75

Independent Samples T-Test Results of Treatment Groups' Post Use of MRSs

Treatment groups	N	$\overline{X}$	SD	df	t	p
Experimental	23	4.2213	.36654	44	8.451	.000
Control	23	3.4209	.26829			

The T-test results indicate significant differences between experimental and control group participants' post use of MRSs after METARESTRAP [t = 8.451; p = .000] with large magnitudes of effect (d = 2.49; r = .78).

Besides, the paired sample T-test results of experimental group participants' pre and post reading test scores also explore the second research question. Table 76 shows paired sample T-test results of experimental group of participants' pre and post MRS use.

Table 76

Experimental Group Paired Sample T-Test Statistics of Pre and Post Use of MRSs

Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	23	3.3656	.48503	22	-19.632	.000
Post-test	23	4.2213	.36654			

Table 76 indicates higher results obtained from the post MRSQ of the experimental group after the implementation of METARESTRAP [t = -19.632; p = .000] with large magnitudes of effect (d = .96; r = .43).

Table 77 shows paired sample T-test results of control group of participants' pre and post MRS use.

Table 77

Control Group Paired Sample T-Test Statistics of Pre and Post Use of MRSs

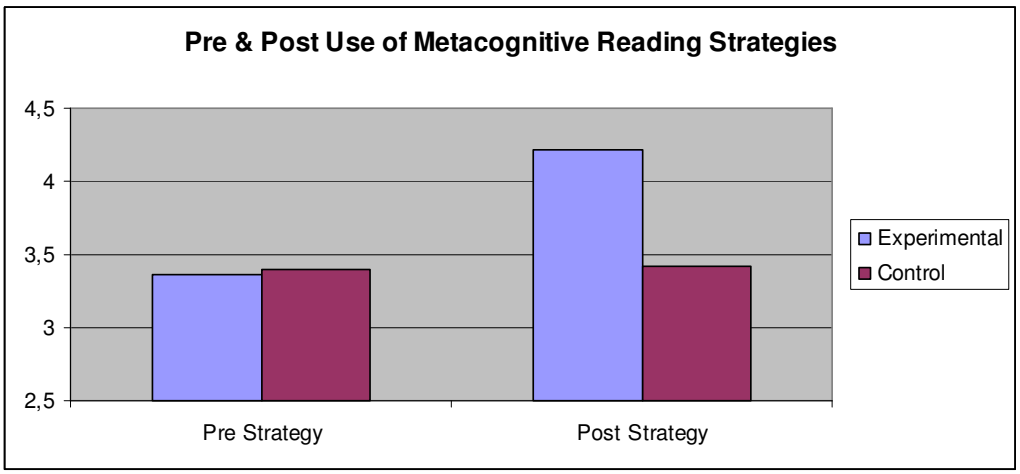
Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	23	3.3992	.29742	22	-.668	.511
Post-test	23	3.4209	.26829			

Table 77 compares pre- and post-test results of the control group participants' use of MRSs and it indicates almost similar mean values for both pre- and post-tests [t = -.668; p = .511] with small effect size (d = -.09; r = -.04).

Figure 18 below demonstrates pre and post reading test scores of experimental control groups.

Figure 18

Pre and Post Use of MRSs



These findings confirm the second alternative hypothesis that 'experimental group participants will outperform control group participants in using metacognitive reading strategies'.

5.2.3 Research Question 3 and Hypothesis 3

The third research question aimed to answer whether there was a difference between experimental and control group participants' use of analytic MRSs. T-test was administered on the participants' pre scores of analytic metacognitive strategy usage before the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 78.

Table 78

Independent Samples T-Test Results of Treatment Groups' Pre Use of Analytic MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	23	3.3397	.51705	44	-.021	.983
Control	23	3.3424	.34174			

The T-test results do not indicate any significant differences between experimental and control group participants' use of analytic MRSs before the

implementation of METARESTRAP [t = -.021; p = .983] with small effect size (d = .01; r = .003). As there were no significant differences between treatment groups before METARESTRAP in terms of using analytic MRSs; their comparison would provide reliable results.

To test the third hypothesis, T-test was administered on the participants' post scores of analytic metacognitive strategy usage after the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 79.

Table 79

Independent Samples T-Test Results of Treatment Groups' Post Use of Analytic MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	23	4.1766	.37907	44	7.913	.000
Control	23	3.3478	.32955			

The T-test results indicate a significant difference between experimental and control group participants' use of analytic MRSs after the implementation of METARESTRAP [t = 7.913; p = .000] with large magnitudes of effect (d = 2.33; r = .76).

Besides, the paired sample T-test results of experimental group participants' pre and post analytic MRSs also explore the third research question as presented in Table 80.

Table 80

Experimental Group Paired Sample T-Test Statistics of Pre and Post Analytic MRS Use

Tests	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Pre-test	23	3.3397	.51705	22	-18.282	.000
Post-test	23	4.1766	.37907			

Table 80 indicates higher employment of analytic MRSs in the post-test after the implementation of METARESTRAP [t = -18.282; p = .000] with large magnitudes of effect (d = -1.85; r = -.68). These findings confirm the third alternative hypothesis that 'experimental group participants will outperform control group participants in using analytic metacognitive reading strategies'.

5.2.4 Research Question 4 and Hypothesis 4

The fourth research question aimed to answer whether there was a difference between experimental and control group participants' use of pragmatic MRSs. T-test was administered on the participants' pre scores of pragmatic metacognitive strategy usage before the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 81.

Table 81

Independent Samples T-Test Results of Treatment Groups' Pre Use of Pragmatic MRSs

Treatment groups	**N**	$\overline{X}$	**SD**	**df**	**t**	**p**
Experimental	23	3.4348	.71904	44	-.596	.555
Control	23	3.5507	.59551			

The T-test results do not indicate any significant differences between experimental and control group participants' use of pragmatic MRSs before the implementation of METARESTRAP [t = -.596; p = .555] with small effect size (d = -.18; r = -.09). As there were no significant differences between treatment groups before METARESTRAP in terms of using pragmatic MRSs; their comparison would provide reliable results.

To test the fourth hypothesis, T-test was administered on the participants' post scores of pragmatic metacognitive strategy usage after the implementation of METARESTRAP to observe any probable differences between experimental and control groups as presented in Table 82.

Table 82

Independent Samples T-Test Results of Treatment Groups' Post Use of Pragmatic MRSs

Treatment groups	N	$\overline{X}$	SD	df	t	p
Experimental	23	4.3406	.46188	44	5.244	.000
Control	23	3.6159	.47523			

The T-test results indicate a significant difference between experimental and control group participants' use of pragmatic MRSs after the implementation of METARESTRAP [t = 5.244; p = .000] with large magnitudes of effect (d = 1.55; r = .61).

Besides, the paired sample T-test results of experimental group participants' pre and post pragmatic MRSs also explore the fourth research question. Table 83 shows paired sample T-test results of experimental group of participants pre and post pragmatic MRSs.

Table 83

Experimental Group Paired Sample T-Test Statistics of Pre and Post Pragmatic MRS Use

Tests	N	$\overline{X}$	SD	df	t	p
Pre-test	23	3.4348	.71904	22	-8.696	.000
Post-test	23	4.3406	.46188			

Table 83 indicates higher employment of pragmatic MRSs in the post-test after the implementation of METARESTRAP [t = -8.696; p = .000] with large magnitudes of effect (d = -1.50; r = -.60). These findings confirm the fourth alternative hypothesis that 'experimental group participants will outperform control group participants in using pragmatic metacognitive reading strategies'.

5.3.5 Research Question 5

The fifth research question aimed to identify the most common MRSs employed by advanced EFL learners. As pointed out in Table 84, the participants of

the main study either in experimental or control group, indicated before the implantation of METARESTRAP that they employed the MRSs of 'underlining to remember', 'visualizing descriptions', and 're-reading for better comprehension' more than the others; whereas their responses revealed that they employed the MRSs of 'distinguishing new and existing info', 'making notes to remember', and 'using margins for notes' less than the others. It is interesting to note that pragmatic metacognitive strategies numbered between 17 and 22 condensed either at the top or the bottom of the table.

Table 84 presents experimental and control group of participants' use of MRSs in a descending order according to their pre MRSQ scores.

Table 84

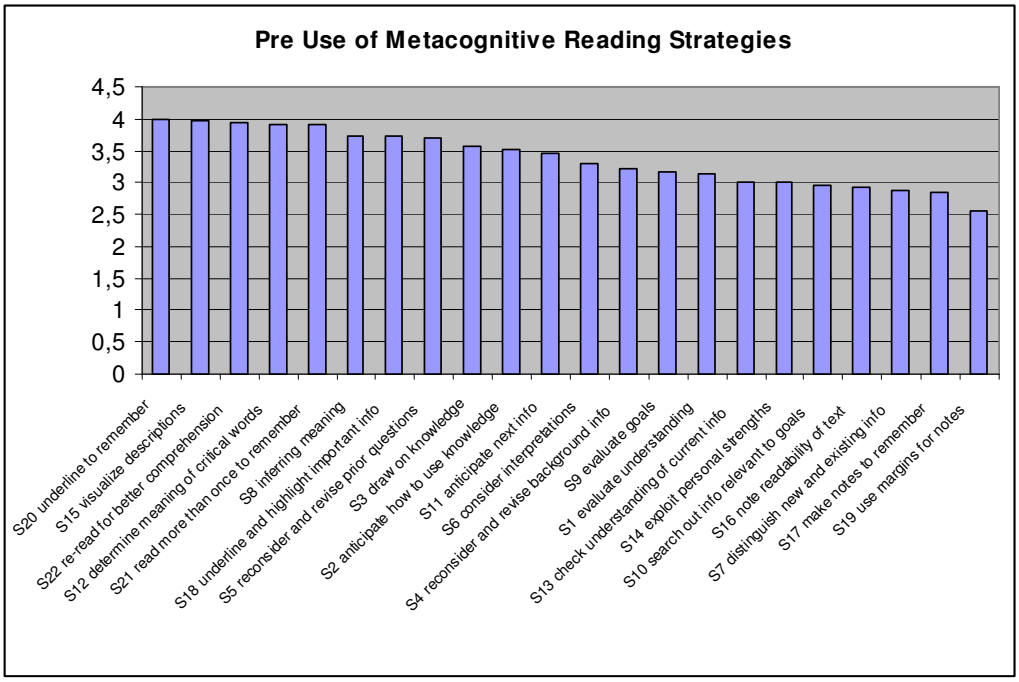
Descriptive Statistics of Experimental and Control Groups' Pre Use of MRSs

Metacognitive reading strategies	N	Minimum	Maximum	Mean	SD
S20 underline to remember	46	1.00	5.00	4.0000	1.13529
S15 visualize descriptions	46	1.00	5.00	3.9565	1.05318
S22 re-read for better comprehension	46	2.00	5.00	3.9348	.87945
S12 determine meaning of critical words	46	1.00	5.00	3.9130	1.15135
S21 read more than once to remember	46	1.00	5.00	3.9130	1.07137
S8 inferring meaning	46	2.00	5.00	3.7391	.80097
S18 underline and highlight important info	46	1.00	5.00	3.7174	1.02552
S5 reconsider and revise prior questions	46	2.00	5.00	3.6957	.78513
S3 draw on knowledge	46	1.00	5.00	3.5652	1.08837
S2 anticipate how to use knowledge	46	1.00	5.00	3.5217	.98295
S11 anticipate next info	46	1.00	5.00	3.4565	.93587
S6 consider interpretations	46	1.00	5.00	3.3043	.93973
S4 reconsider and revise background info	46	1.00	5.00	3.2174	1.09368
S9 evaluate goals	46	1.00	5.00	3.1739	.94996
S1 evaluate understanding	46	1.00	5.00	3.1304	.83290
S13 check understanding of current info	46	1.00	5.00	3.0217	.85607
S14 exploit personal strengths	46	1.00	5.00	3.0000	.96609
S10 search out info relevant to goals	46	1.00	5.00	2.9565	.84213
S16 note readability of text	46	1.00	5.00	2.9348	1.38888
S7 distinguish new and existing info	46	1.00	5.00	2.8696	1.10772
S17 make notes to remember	46	1.00	5.00	2.8478	1.22868
S19 use margins for notes	46	1.00	5.00	2.5435	1.18709

Figure 19 demonstrates the use of MRSs by the participants of the main study either in experimental or control group in descending order before the implantation of METARESTRAP.

Figure 19

Descriptive Statistics of Participants' Pre Use of MRSs



5.3.6 Research Question 6

The sixth research question aimed to identify the MRSs which were accelerated after the implementation of METARESTRAP. Table 85 presents experimental group of participants' use of MRSs in a descending order according to their mean differences by comparing pre and post test the MRSQ scores. The findings in Table 85 is also illustrated in Figure 20.

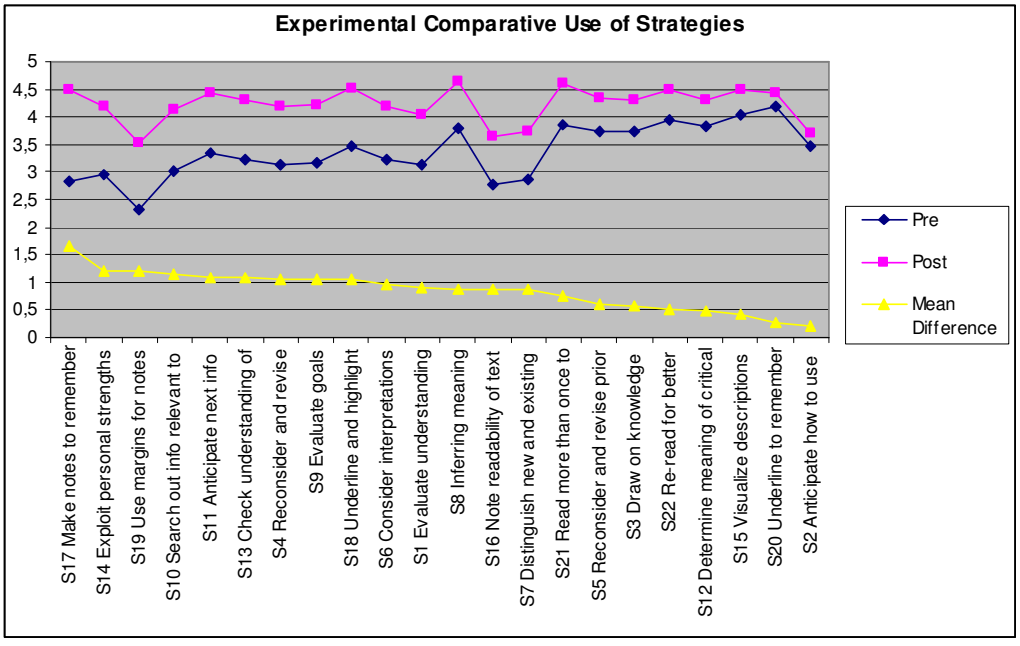
Table 85

Descriptive Statistics of Experimental Group's Comparative Use of MRSs

Metacognitive reading strategies	N	Pre Mean	Pre SD	Post Mean	Post SD	Mean Dif.
S17 Make notes to remember	23	2.8261	1.49703	4.4783	.59311	1.6522
S14 Exploit personal strengths	23	2.9565	1.14726	4.1739	.83406	1.2174
S19 Use margins for notes	23	2.3043	1.29456	3.5217	.79026	1.2174
S10 Search out info relevant to goals	23	3.0000	.79772	4.1304	.69442	1.1304
S11 Anticipate next info	23	3.3478	1.02730	4.4348	.66237	1.0870
S13 Check understanding of current info	23	3.2174	.79524	4.3043	.76484	1.0869
S4 Reconsider and revise background info	23	3.1304	1.21746	4.1739	.71682	1.0435
S9 Evaluate goals	23	3.1739	1.15413	4.2174	.85048	1.0435
S18 Underline and highlight important info	23	3.4783	.99405	4.5217	.94722	1.0434
S6 Consider interpretations	23	3.2174	.99802	4.1739	.65033	0.9565
S1 Evaluate understanding	23	3.1304	.96786	4.0435	.70571	0.9131
S8 Inferring meaning	23	3.7826	.67126	4.6522	.57277	0.8696
S16 Note readability of text	23	2.7826	1.44463	3.6522	.88465	0.8696
S7 Distinguish new and existing info	23	2.8696	1.28997	3.7391	.81002	0.8695
S21 Read more than once to remember	23	3.8696	1.17954	4.6087	.49901	0.7391
S5 Reconsider and revise prior questions	23	3.7391	.75181	4.3478	.64728	0.6087
S3 Draw on knowledge	23	3.7391	1.32175	4.3043	.82212	0.5652
S22 Re-read for better comprehension	23	3.9565	.87792	4.4783	.79026	0.5218
S12 Determine meaning of critical words	23	3.8261	1.30217	4.3043	.87567	0.4782
S15 Visualize descriptions	23	4.0435	1.10693	4.4783	.73048	0.4348
S20 Underline to remember	23	4.1739	1.23038	4.4348	.84348	0.2609
S2 Anticipate how to use knowledge	23	3.4783	1.08165	3.6957	.92612	0.2174

Figure 20

Descriptive Statistics of Experimental Group's Comparative Use of MRSs



As pointed out in Table 85 and Figure 20, experimental group of participants indicated that their use of each MRS was accelerated after the implementation of METARESTRAP. Yet, the greatest change between pre- and post-test scores of MRS usage occur in the strategies of 'make notes to remember' which was followed by 'exploit personal strengths' and 'use margins for notes'. On the other hand, 'anticipate how to use knowledge' emerged with the smallest amount of change that was followed by 'underline to remember' and 'visualise descriptions'.

Table 86 presents control group of participants' use of MRSs in a descending order according to their mean differences by comparing pre and post test MRSQ scores. As pointed out in Table 86, control group of participants indicated that their use of MRSs in eleven items increased slightly during Reading Comprehension Course within a six-week interval. However, their use of two MRSs remained stable while nine of them decreased slightly.

Table 86

Descriptive Statistics of Control Group's

Comparative Use of MRSs

		Pre		Post		Mean
Metacognitive reading strategies	**N**	**Mean**	**SD**	**Mean**	**SD**	**Dif.**
S22 Re-read for better comprehension	23	3,9130	.90015	4.4348	.66237	0.5218
S7 Distinguish new and existing info	23	2,8696	.91970	3.2174	1.20441	0.3478
S20 Underline to remember	23	3,8261	1.02922	4.0435	.97600	0.2174
S1 Evaluate understanding	23	3,1304	.69442	3.2609	.81002	0.1305
S3 Draw on knowledge	23	3,3913	.78272	3.5217	.79026	0.1304
S12 Determine meaning of critical words	23	4,0000	1.00000	4.1304	.81488	0.1304
S4 Reconsider and revise background info	23	3,3043	.97397	3.3913	.78272	0.0870
S8 Inferring meaning	23	3,6957	.92612	3.7826	.90235	0.0869
S17 Make notes to remember	23	2,8696	.91970	2.9565	.87792	0.0869
S13 Check understanding of current info	23	2,8261	.88688	2.8696	.91970	0.0435
S15 Visualize descriptions	23	3,8696	1.01374	3.9130	.90015	0.0434
S9 Evaluate goals	23	3,1739	.71682	3.1739	.83406	0
S14 Exploit personal strengths	23	3,0435	.76742	3.0435	.82453	0
S10 Search out info relevant to goals	23	2,9130	.90015	2.8696	.91970	-0.0434
S11 Anticipate next info	23	3,5652	.84348	3.5217	.79026	-0.0435
S21 Read more than once to remember	23	3,9565	.97600	3.9130	.94931	-0.0435
S2 Anticipate how to use knowledge	23	3,5652	.89575	3.4783	.94722	-0.0869
S16 Note readability of text	23	3,0870	1.34547	3.0000	1.31426	-0.0870
S19 Use margins for notes	23	2,7826	1.04257	2.6087	.94094	-0.1739
S18 Underline and highlight important info	23	3,9565	1.02151	3.7391	.91539	-0.2174
S5 Reconsider and revise prior questions	23	3,6522	.83168	3.3913	.89133	-0.2609
S6 Consider interpretations	23	3,3913	.89133	3.0000	.90453	-0.3913

5.3.7 Research Question 7

The seventh research question aimed to reveal the impact of METARESTRAP on different types of reading comprehension questions. Table 87 compares the correct answers given by experimental and control group participants' in pre and post reading tests by regarding questions individually.

Table 87

Frequency Statistics of Experimental and Control Group's Correct Answers in Pre and Post Reading Test in Individual Questions

Question				Experimental			Control		
Part	No	Type		Pre	Post	Mean Dif.	Pre	Post	Mean Dif.
1	1	MCQ*	implication	18	20	2	17	19	2
	2	MCQ	opinion	17	18	1	20	18	-2
	3	MCQ	detail, attitude	22	22	0	23	21	-2
	4	MCQ	main idea	21	21	0	18	18	0
	5	MCQ	detail	15	18	3	20	21	1
	6	MCQ	main idea	16	16	0	14	18	4
	7	MCQ	implication	8	14	6	7	17	10
	8	MCQ	detail	21	21	0	21	19	-2
2	9	MQ**		4	11	7	6	7	1
	10	MQ	cohesion	1	10	9	3	5	2
	11	MQ	coherence	1	5	4	1	5	4
	12	MQ	text structure	10	12	2	3	3	0
	13	MQ	global meaning	1	3	2	3	3	0
	14	MQ		2	9	7	3	4	1
	15	MQ		1	9	8	4	3	-1
3	16	MCQ	implication	14	17	3	15	16	1
	17	MCQ	attitude	16	18	2	17	13	-4
	18	MCQ	implication	4	8	4	11	16	5
	19	MCQ	opinion	15	15	0	11	9	-2
	20	MCQ	detail, comparison	14	14	0	15	14	-1
	21	MCQ	attitude	5	9	4	1	7	6
	22	MCQ	main idea	15	15	0	14	13	-1
4	23	MCQ	detail, reference	18	20	2	23	22	-1
	24	MCQ	detail, reference	22	22	0	22	22	0
	25	MCQ	detail, reference	10	13	3	7	12	5
	26	MCQ	detail, reference	15	18	3	12	15	3
	27	MCQ	detail, reference	19	19	0	21	21	0
	28	MCQ	detail, reference	21	20	-1	19	20	1
	29	MCQ	detail, reference	16	19	3	18	19	1
	30	MCQ	detail, reference	9	16	7	9	13	4
Total				371	452	81	378	413	35

**MCQ: Multiple choice questions; **MQ: Matching question*

Table 87 indicates that experimental group participants' responses to the questions in the reading test made a progress in 20 questions after the implementation of METARESTRAP. However, their responses did not make any progress in 9 questions and they deteriorated very slightly only in one question. On the other hand, control group participants' responses to 16 questions were also prone to increase while they gained lower scores on 9 questions along with stable scores on 5 questions. Examining the total scores pointed out that the total progress in experimental group was 81 whereas this rate was restricted with 35 in control group.

Table 88 compares pre and post reading test mean values of experimental and control group participants' by considering four parts of the test.

Table 88

Experimental and Control Group Participants' Mean Values on Four Parts of Pre and Post Reading Test

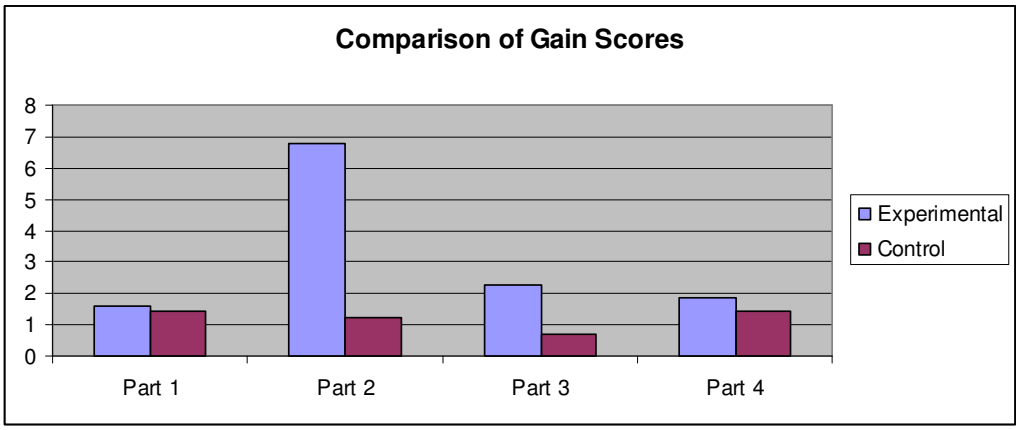
Treatment Groups			Parts of Reading Test			
			Part 1	Part 2	Part 3	Part 4
Experimental	Pre	Mean	18.0000	3.47830	14.4348	14.1304
		SD	4.04520	3.25953	4.30461	2.78069
	Post	Mean	19.5652	10.2609	16.6957	15.9783
		SD	3.36865	3.15101	4.92152	2.47018
	Mean Difference		1.5652	6.7826	2.2609	1.8479
Control	Pre	Mean	18.2609	4.0000	14.6087	14.2391
		SD	3.49308	3.41121	5.20261	3.14740
	Post	Mean	19.6957	5.2174	15.3043	15.6522
		SD	3.48288	3.70450	5.34649	2.94045
	Mean Difference		1.4348	1.2174	0.6956	1.4131

Table 88 indicated that the mean values of the participants both in experimental and control groups enhanced in four parts of the test. However, the results connoted that experimental groups' gain scores were greater than the control groups' and the greatest melioration occurred with the second part of the test.

Figure 21 demonstrates the gain scores of the two treatment groups in four different parts of the reading test.

Figure 21

Comparison of Experimental and Control Groups Gain Scores in Four Parts of the Reading Test



CHAPTER SIX

DISCUSSIONS, CONCLUSIONS AND IMPLICATIONS

6.0 INTRODUCTION

This chapter aims to give a brief summary of the present study and then discusses the findings by referring to the literature discussed in the second and third chapters. The discussions will be followed by conclusions. The last part of this chapter presents pedagogical and methodological implications. The final aim of the chapter is to guide future researchers for further research.

6.1 SUMMARY OF THE STUDY

6.1.1 AIM OF THE STUDY

This study aims to answer the following main research question.

RQ Does METARESTRAP affect the use of metacognitive reading strategies and reading achievement?

The seven sub research questions are as follows with reference to the previous main research question.

RQ1 Is there a difference between reading comprehension scores of experimental and control group participants after the implementation of METARESTRAP?

RQ2 Is there a difference between metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ3 Is there a difference between analytic metacognitive reading

strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ4 Is there a difference between pragmatic metacognitive reading strategies of experimental and control group participants after the implementation of METARESTRAP?

RQ5 What are the most common metacognitive reading strategies employed by advanced EFL learners?

RQ6 Which metacognitive reading strategies are accelerated after the implementation of METARESTRAP?

RQ7 What is the impact of METARESTRAP on different types of reading comprehension questions?

The study had the following main hypothesis related with the main research question. However, its pair as a null hypothesis is also provided.

H_a Experimental group participants will outperform control group participants in using metacognitive reading strategies and reading achievement after the implementation of METARESTRAP.

H_0 There will not be any significant differences in using metacognitive reading strategies and reading achievement of experimental and control group participants after the implementation of METARESTRAP.

The study also had four alternative hypotheses related with the first four research questions. However, their pairs as null hypotheses are also provided below.

$H1_a$ Experimental group participants will outperform control group participants in reading comprehension after the implementation of METARESTRAP.

$H1_0$ There will not be any significant differences between reading comprehension test scores of experimental and control group participants after the implementation of METARESTRAP.

$H2_a$ Experimental group participants will outperform control group participants in using metacognitive reading strategies after the implementation of METARESTRAP.

$H2_0$ There will not be any significant differences between metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H3_a$ Experimental group participants will outperform control group participants in using analytic metacognitive reading strategies after the implementation of METARESTRAP.

$H3_0$ There will not be any significant differences between analytic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

$H4_a$ Experimental group participants will outperform control group participants in using pragmatic metacognitive reading strategies after the implementation of METARESTRAP.

$H4_0$ There will not be any significant differences between pragmatic metacognitive reading strategy uses of experimental and control group participants after the implementation of METARESTRAP.

6.1.2 SUMMARY OF METHODOLOGY

An exploratory quasi-experimental research design was administered for the pilot and main studies. METARESTRAP was administered to the experimental group of participants in a six-week period. Control group of participants did not follow any specific strategy training programme and pursued their reading courses conventionally. The participants were delivered the MRSQ to investigate their use of MRSs before and after the implementation. Moreover, the reading test was administered to compare their comprehension before and after the implementation.

6.1.3 SUMMARY OF MAIN FINDINGS

Although the findings of both the pilot and the main studies overlap to support the four alternative hypotheses of the study, this chapter will focus merely on the main study to answer the six research questions along with four hypotheses.

To answer *the first research question*, descriptive statistics, One-Way ANOVA Post Hoc Scheffe Test, Independent Sample T-Test, Cohen's D effect size, and Paired Sample T-test were administered to the collected data and the results of the analyses supported the first alternative hypothesis (**$H1_a$**) of the study by indicating the superiority of experimental group participants over the control group participants in reading comprehension.

To answer *the second research question*, descriptive statistics, One-Way ANOVA Post Hoc Scheffe Test, Independent Sample T-Test, Cohen's D effect size, and Paired Sample T-test were administered to the collected data and the results of the analyses supported the second alternative hypothesis (**$H2_a$**) of the study by indicating the superiority of experimental group participants over the control group participants in the use of MRSs.

To answer *the third research question*, Independent Sample T-Test, Cohen's D effect size, and Paired Sample T-test were administered to the collected data and the results of the analyses supported the third alternative hypothesis (**$H3_a$**) of the study by indicating the superiority of experimental group participants over the control group participants in the use of analytic MRSs.

To answer *the fourth research question*, Independent Sample T-Test, Cohen's D effect size, and Paired Sample T-test were administered to the collected data and the results of the analyses supported the fourth alternative hypothesis (**$H4_a$**) of the study by indicating the superiority of experimental group participants over the control group participants in the use of pragmatic MRSs.

To answer *the fifth research question*, descriptive statistics were administered to the collected data and the results indicated that the participants either in experimental or control group reported before the implantation of METARESTRAP that they employed the MRSs of 'underlining to remember', 'visualizing descriptions', and 're-reading for better comprehension' more than the others; whereas their responses revealed that they employed the MRSs of 'distinguishing new and existing info', 'making notes to remember', and 'using margins for notes' less than the others.

To answer *the sixth research question*, descriptive statistics were administered to the collected data and the results indicated that the experimental group participants' use of each MRS was accelerated after the implementation of METARESTRAP whereas the control group participants' use of MRSs increased slightly in eleven items, remained stable in two items, and decreased slightly in nine items. Yet, the greatest changes between pre- and post-test scores of MRS usage occur in the strategies of 'make notes to remember' which was followed by 'exploit personal strengths' and 'use margins for notes' for experimental group participants. On the other hand, 'anticipate how to use knowledge' emerged with the smallest amount of change that was followed by 'underline to remember' and 'visualise descriptions'.

To answer *the seventh research question*, frequency and descriptive statistics were administered to the collected data and the results indicated that experimental group participants' responses to the questions in the reading test made a progress in 20 questions, were stable in 9 questions, and they deteriorated very slightly only in one question after the implementation of METARESTRAP. Antagonistically, control group participants' responses in 16 questions increased while they gained lower scores on 9 questions along with stable scores on 5 questions. The total progress was remarked as 82 for experimental group whereas it was 35 for control group.

6.2 DISCUSSION

6.2.1 DISCUSSION OF FINDINGS FROM RQ1

Since there were two intact classes which were functioning as a control group against the experimental one, while comparing the impact of METARESTRAP it was aimed to administer One-Way ANOVA post hoc Scheffe test along with T-tests. Before discussing the findings of the post tests, it would be reasonable to compare experimental and control groups to each other. Table 62 and Table 63 depict that although there are some slight differences among three intact classes, none of them is significant with reference to pre reading test scores. This comparison is also affirmed by the subsequent T-test analysis in Table 64. In the search of RQ1 whether there was a difference between experimental and control group participants' reading comprehension scores after the implementation of METARESTRAP, a one-way ANOVA test indicated that the differences observed among intact classes were significant in terms of post reading test (F: 6,061; p = .005) and Post Hoc Scheffe Test results signified two significant differences among two sets of 'Prep A – Prep B' (p = .014) and 'Prep A – Prep Evening' (p = .049). These results connote that the experimental intact class of 'Prep A' outperformed the control intact classes of 'Prep B' and 'Prep Evening' in reading comprehension. A further analysis of independent samples T-test enabled to compare the two treatment groups to each other with a significant difference between experimental (M = 62.5000) and control (M = 55.8696) groups post reading test scores after METARESTRAP [t = 3.510; p = .001] with large magnitudes of effect (d = 1.04; r = .46).

Apart from independent samples T-test analysis, paired sample T-test analysis facilitated for the comparison of pre and post reading test scores of the two treatment groups. The paired sample T-test analysis of experimental group participants' pre and post reading test scores yielded striking and significant differences [t = -9.976; p = .000] with large magnitudes of effect (d = -2.01; r = -.71) indicating higher post reading test scores (M = 62.5000) over pre reading test scores (M = 50.0435). On the other hand, a similar paired sample T-test analysis was administered to pre and post reading test scores of control group participants to examine any probable changes

and its results indicated significant differences [t = -4.912; p = .000] with large magnitudes of effect (d = 1.11; r = .49) with higher scores for the post reading test (M = 55.8696) in comparison to the pre reading test (M = 51.1087). Albeit the control group participants made a significant progress, the mean difference between their pre and post reading test scores was 4.7609. However, the mean difference between experimental group participants' pre and post reading test scores was 12.4565.

The above mentioned results reported augmentation for participants both in experimental and control groups. As the participants in the experimental group pursued METARESTRAP, their superiority in the post reading test was not bewildering. On the other hand, control group's escalate in the post reading test can be explained in relation with learning effect as participants followed Reading Comprehension Course six-hour a week throughout the experiment; therefore, their course contributed to their comprehension. However, the experimental group participants' excessive growth over the control group participants, provides evidence for the positive impact of METARESTRAP on reading comprehension.

Since the results discussed above confirm the first alternative hypothesis (**$H1_a$**) while rejecting the first null hypothesis (**$H1_0$**), METARESTRAP can be regarded as having a significant impact on fostering reading comprehension. This finding is in parallel with relevant literature as metacognition is supposed to have a significant impact on improving reading comprehension (Baker & Brown, 1984; Flavell, 1979; Flavell et al., 2002; Mokhtari & Reichard, 2002; Sheorey & Mokhtari, 2001) and reading strategy instruction studies indicate the efficacy of such implementations on reading comprehension (Allen, 2006; Andre & Anderson, 1978-1979; Baumann et al., 1993; Boulware-Gooden et al., 2007; Carrell, 1985; Carrell et al. (1989); Chang, 2006; Çubukçu, 2008a; Fan, 2009; Hamp-Lyons, 1985; Handyside, 2007; Kern, 1989; McMurray, 2006; Muñiz-Swicegood, 1994; Raymond, 1993; Sarig & Folman, 1987; Sheffield Nash, 2008; Talbot, 1995; Teplin; 2008).

Reading is supposed to be consisting of various conscious or automatic processes and skilled readers refer to automatic processes to identify graphs and

derive meaning (Nara, 2003a: 83). Hence, readers are recommended to develop their abilities in reading to an automatic degree (Rivers, 1981). It is essential to learn and practise this skill adequately in order to move from controlled processes to automatic ones (S. Razı, 2004). Nassaji (2003) examines reading in terms of automated basic processing skills where he defines it as a complex cognitive processing skill. Therefore, readers are required to develop both lower-level processing skills and sophisticated comprehension skills. Baron (1985) proposes that the facets of B. McLaughlin's (1987) *information processing* are subject to be altered through instruction. To enable this, the components of 'strategies', 'metacognition', 'general world knowledge', 'motivational beliefs', and 'overall cognitive style' are all need to be working in interaction (Pressley & Woloshyn et al., 1995). Then, trough adequate practice of MRSs by the implementation of METARESTRAP, the experimental group participants of the present study were able to develop automatic processes about these strategies which in turn freed up invaluable space in their limited STM capacities. This enabled them to focus their attention on the features of the text other than the strategies they employed; therefore they were able to transfer the information from their STMs to their LTMs. Through such a transfer, the information becomes 'knowledge' as indicated by Nara.

6.2.2 DISCUSSION OF FINDINGS FROM RQ2

As in RQ1, RQ2 also aimed to compare intact classes to each other along with the comparison of experimental and control groups; therefore, One-Way ANOVA post hoc Scheffe tests and T-tests were administered. Heretofore scrutinizing the results of the post tests, Table 70 and Table 71 reported the use of MRSs by three intact classes before the implementation of METARESTRAP. The results indicated similar mean values which were considered to be medium on the use of MRSs for three intact classes without any significant differences. Duly, independent sample T-test analysis in Table 72 depicted almost similar mean values for experimental and control groups on the use of MRSs before the implementation of METARESTRAP. The similar use of MRSs by the participants of the study, either in experimental or control group, was expected as they had not received a MRS training previously. In the search of RQ1 whether there was a difference between

experimental and control group participants' use of MRSs after the implementation of METARESTRAP, a one-way ANOVA test indicated that the differences observed among intact classes were significant in terms of use of MRSs (F: 36,655; p = .000) and Post Hoc Scheffe Test results signified two significant differences among two sets of 'Prep A – Prep B' (p = .000) and 'Prep A – Prep Evening' (p = .000). These results highlight that the experimental intact class of 'Prep A' outperformed the control intact classes of 'Prep B' and 'Prep Evening' in use of MRSs. A further analysis of independent samples T-test enabled to compare the two treatment groups to each other with a significant difference between experimental (M = 4.2213) and control (M = 3.4209) groups post use of MRS scores after the implementation of METARESTRAP [t = 8.451; p = .000] with large magnitudes of effect (d = 2.49; r = .78). With reference to the results of the study, experimental group participants can be regarded as *high* users of such strategies whereas control group participants remain as *medium* users in accordance with Mokhtari and Reichard's (2002) rubric presented in the methodology of the present study.

Apart from independent samples T-test analysis, paired sample T-test analysis facilitated the comparison of pre and post use of MRS scores of the two treatment groups. The paired sample T-test analysis of experimental group participants' pre and post use of MRS scores yielded significant differences [t = -19.632; p = .000] with large magnitudes of effect (d = .96; r = .43) indicating higher scores for post MRS use (M = 4.2213) over pre use of MRS scores (M = 3.3656).

On the other hand, a similar paired sample T-test analysis was administered to pre and post use MRS scores of control group participants to examine any probable changes. The findings did not indicate any significant differences [t = -.668; p = .511] with small effect size (d = -.09; r = -.04) with almost similar mean scores on the use of MRSs for the pre the MRSQ (M = 3.3992 and the post MRSQ (M = 3.4209). Then the results indicate that the experimental group participants of the study were able to enhance their use of MRSs by the implementation of METARESTRAP. On the other hand, control group participants' stable scores in pre and post tests on the use of MRSs highlight that following Reading Comprehension Course without a specific training on the use of MRss does not result in more

employment of these strategies. Nevertheless, the experimental group participants' reports on their more use of MRSs after the implementation of METARESTRAP provide evidence for the effectiveness of METARESTRAP on teaching MRSs.

Since the results discussed above confirm the second alternative hypothesis (**$H2_a$**) while rejecting the second null hypothesis (**$H2_0$**), METARESTRAP can be regarded as having a significant impact on teaching MRSs. As discussed in the literature, strategy training is defined as an "intervention which focuses on the strategies to be regularly adopted and used by language learners to develop their proficiency, to improve particular task performance, or both" by Hassan et al. (2005: 1). However, Rees-Miller (1993) questions the effectiveness of such learning strategy instructions since she regards teaching the TL rather than strategies as the basis of FL classrooms. Moreover, as opposed to the common belief, Kellerman (1991) regards learning strategy instruction as redundant as learners are supposed to develop their strategic competence in their L1 which is effortlessly can be transferred into TL settings. N. J. Anderson (2005) regrettably elucidates that inefficient readers are unaware of the existence of various beneficial strategies therefore they refer to the same strategies repeatedly which do not add to their progress. Although Donato and McCormick (1994) claim that informed strategy training studies cover inconsistent findings which might be the result of participants' gender, nationality, language style, or academic expectancies; there are strong evidences on the effectiveness of using strategies in a more appropriate manner by a number of research studies (Chamot, 1993; Chamot & Küpper, 1989; Cohen & Aphek, 1981; O'Malley & Chamot, 1990). Therefore, the findings of the present study provide evidence on the ongoing debate about the necessity of implanting strategy training programmes. Since RQ2 indicates higher use of MRSs after the implementation of METARESTRAP which in turn result in better comprehension as discusses in RQ1, teaching reading metacognitive strategies should not be regarded as redundant.

When metacognition is related with reading it is described "as the knowledge learners have about reading strategies and the ability to capitalize upon such knowledge to monitor their own reading" (Vacca & Vacca, 1989: 220). However, to make use of transfer skills, learners need to be aware of their learning process and

learning strategies can be transferred to new tasks once they are learned (Chamot & O'Malley, 1987). Therefore, being able to monitor learning strategies can contribute to learning through metacognitive approaches ("National Research Council", 2000). Block (1986) indicated that the use of strategy is a stable phenomenon; and therefore it is not tied to any specific language.

In real-life, readers employ a variety of strategies related with their purposes similar to the ones in classroom. Once strategies are learned, they can be transferred across situations therefore teaching MRSs in classroom settings does not restrict their usage in particular circumstances; instead learners are supposed to refer to strategies on different occasions. Cross (1999) differentiates real-life reading strategies from the ones used in classroom. Therefore, diversity in reading aims results in the use of various strategies for different tasks. For example, Nunan (1999) illustrates this by comparing reading a label on a bottle of wine with reading an academic text, both of which require use of different strategies. Although there might be differences in the reasons of real-life reading, classroom reading should reflect some principles such as familiarizing readers to problem-solving and accelerating reading speed (Chastain, 1988). For example, Pressley and Woloshyn et al. (1995) refer to 'the good information processor model' which was originally proposed by Pressley (1986) to account for basic principles of instruction across domains and indicate that good information processing implies the transfer of strategies among situations by learners. In this respect, in case of a challenge learners try to identify the similarities related with the previous challenges and solutions and then plan, use the strategy, and monitor their performance. Unsurprisingly, such an effort requires the use of some invaluable amount of the STM which is limited in its capacity. However, Pressley and Woloshyn et al. conclude that practising these strategies will remove the restriction on the STM. Then, extending the duration of METARESTRAP may result in better comprehension due to better employment of MRSs as a result of more practice.

Apart from transferring strategies across situations, their transfer across languages, specifically from L1 to FL, is also another controversial issue. For example, as presented in the literature, Sarig's (1987) results supported evidence for

the transferability of reading strategies across languages, therefore either readers' success or failure depended on the same sets of strategies employed in reading two different languages. In addition to Sarig; C. Wallace (1992) and Salatacı and Akyel's (2002) also imply that reading strategies are transferable across languages in an interactive manner.

Hence, before the implementation of METARESTRAP the participants of the study, either in experimental or control group, reported their usage of MRSs to a medium extend. Although they reported that they had not received any strategy training programmes previously before the implementation of METARESTRAP, they reported that they employed MRSs which were byproducts of their reading skills in L1 and their challenging experiences in FL.

The findings of this study should be approached cautiously since its participants were considered to be advanced EFL learners. Learners proficiency appears as a vital component in strategy training programmes. As indicated by Alderson (2000), FL knowledge is more important than L1 reading abilities as transferring reading skills to FL is prevented by the linguistic threshold if it is not surpassed. Hence, implementing such a study may not result in similar results with less proficient EFL learners as they will be frustrated by their inadequate FL knowledge.

Becoming competent at employing 'planful' strategies provides readers the opportunity to become automatized. Paris, Wasik and Turner (1991) maintain that such strategies are then called as skills. Reading strategies differ from reading skills as they are treated beyond the reader's consciousness control (N. J. Anderson, 2009 cited in Jung, 2009). In this respect, Cromley and Azevedo (2006) point out that reading strategy researchers should provide challenging texts which prevent readers from administering automated skills. Consequently, the present study aimed to deliver the reading test in C2 level in accordance with Common European Framework (CEF) which presented challenging texts to the participants. Ergo, the texts urged the participants to refer to their reading strategy repertoires in order to overcome reading problems that they encountered while reading. As expectedly,

being instructed on the use of MRSs provided advantages to experimental group participants over the control group ones as they were better able to control their reading process. However, it should be noted that although readers may not be aware of the strategies that they employ during reading, they are able to declare them in think aloud procedures and questionnaires as pointed out by Cromley and Azevedo (2006).

6.2.3 DISCUSSION OF FINDINGS FROM RQ3

RQ3 aimed to compare experimental and control groups with the administering independent and paired sample T-tests on their use of analytic MRSs. Table 79 indicated very similar mean values on the use of analytic MRSs for experimental and control group participants before the implementation of METARESTRAP. The similar use of analytic MRSs by the participants of the study, either in experimental or control group, was expected as they had not received a MRS training previously. In the search of RQ3 whether there was a difference between experimental and control group participants' use of analytic MRSs after the implementation of METARESTRAP, independent sample T-test analysis compared the two treatment groups to each other with significant difference between experimental (M = 4.1766) and control (M = 3.3478) groups post use of analytic MRS scores after the implementation of METARESTRAP [t = 7.913; p = .000] with large magnitudes of effect (d = 2.33; r = .76).

Apart from independent samples T-test analysis, paired sample T-test analysis facilitated for the comparison of pre and post use of analytic MRS scores of the experimental group. The paired sample T-test analysis of experimental group participants' pre and post use of analytic MRS scores yielded in significant differences [t = -18.282; p = .000] with large magnitudes of effect (d = -1.85; r = -.68) indicating higher scores for post analytic MRS use (M = 4.1766) in comparison to pre use of analytic MRS scores (M = 3.3397). As RQ2 revealed that control group participants' use of MRSs was stable during the experiment, a paired sample T-test was not administered on control group participants' use of analytic MRSs. Then the

results indicate that the experimental group participants of the study were able to enhance their use of analytic MRSs by the implementation of METARESTRAP.

Since the results discussed above confirm the third alternative hypothesis (**$H3_a$**) while rejecting the third null hypothesis (**$H3_0$**), METARESTRAP can be regarded as having a significant impact on encouraging the use of analytic MRSs. Taraban, Kerr and Rynearson (2004) expect a relation between higher use of analytic strategies and higher expected grades and Taraban et al. (2000 & 2004) point out that analytic strategies cannot be employed by any student. With reference to the findings, experimental group participants were promoted from medium to high users of analytic MRSs after the implementation of METARESTRAP which provided the opportunity of employing analytic strategies to experimental group participants.

6.2.4 DISCUSSION OF FINDINGS FROM RQ4

RQ4 aimed to compare experimental and control groups with the administering independent and paired sample T-tests on their use of pragmatic MRSs. Table 82 indicated very similar mean values on the use of pragmatic MRSs for experimental and control group participants before the implementation of METARESTRAP. The similar use of pragmatic MRSs by the participants of the study, either in experimental or control group, was expected as they had not received a MRS training previously. In the search of RQ4 whether there was a difference between experimental and control group participants' use of pragmatic MRSs after the implementation of METARESTRAP, independent sample T-test analysis compared the two treatment groups to each other with significant difference between experimental (M = 4.3406) and control (M = 3.6159) groups post use of pragmatic MRS scores after the implementation of METARESTRAP [t = 5.244; p = .000] with large magnitudes of effect (d = 1.55; r = .61).

Apart from independent samples T-test analysis, paired sample T-test analysis facilitated for the comparison of pre and post use of pragmatic MRS scores of the experimental group. The paired sample T-test analysis of experimental group participants' pre and post use of pragmatic MRS scores yielded in significant

differences [t = -8.696; p = .000] with large magnitudes of effect (d = -1.50; r = -.60) indicating higher scores for post pragmatic MRS use (M = 4.3406) in comparison to pre use of pragmatic MRS scores (M = 3.4348). As RQ2 revealed that control group participants' use of MRSs was stable during the experiment, a paired sample T-test was not administered on control group participants' use pragmatic MRSs. Then the results indicate that the experimental group participants of the study were able to enhance their use of pragmatic MRSs by the implementation of METARESTRAP.

Since the results discussed above confirm the fourth alternative hypothesis (**$H4_a$**) while rejecting the fourth null hypothesis (**$H4_0$**), METARESTRAP can be regarded as having a significant impact on encouraging the use of pragmatic MRSs. As discussed in RQ3, Taraban, Kerr, Rynearson (2004) indicate that they expect a relation between higher use of analytic strategies and higher expected grades. However, they do not expect such a relation between higher use of pragmatic strategies and higher grades. Taraban et al. (2000 & 2004) point out that the pragmatic strategies can be employed by any student, however it would be naïve to expect from all students to employ them in conjunction with analytic strategies. Yet, there is supposed to be an increase in academic performance by an effective orchestrating of the two types of strategies. Hence, METARESTRAP can be regarded as an instructional programme which encourages the use of analytic and pragmatic MRSs compatibly.

6.2.5 DISCUSSION OF FINDINGS FROM RQ5

RQ5 aimed to identify the most common MRSs employed by advanced EFL learners. To achieve this aim, participants' responses to the pre MRSQ were taken into consideration with the help of descriptive analysis. On the other hand, their responses in the post MRSQ were disregarded in order the implementation of METARESTRAP not to spoil the results. Examining participants' responses revealed that they identify themselves as high users of MRSs on 11 items in the MRSQ and their results indicated their medium usage on the other 11 item in the MRSQ. It should be remembered that in order to comprehend any text, proficient readers refer at least one of the metacognitive strategies (Çubukçu, 2008b).

In language learning, strategies are regarded as particular 'attacks' which learners use when they encounter with a problem (H. D. Brown, 2000). In relevance with reading, when readers experience difficulty in comprehending a text they refer to fix-up strategies such as rereading the text, asking for help, referring to reference materials such as dictionaries, referring to background knowledge to make inferences, and drawing diagrams (Pressley & Afflerbach, 1995). Hudson (1988) identifies using appropriate strategies as essential for readers to achieve the meaning. Therefore, the appropriate use of strategies appears as an important component in reading comprehension. Apart from metacognitive strategies, readers also refer to other strategies of reading to foster their comprehension. A vast majority of reading strategy research identifies long lists of comprehension strategies; however it might be reasonable to identify most frequently used one with reference to a number of studies. For example, Hansen and Pearson's (1983) study placed 'asking questions about the text' to the top; Fehrenbach's (1991) 'activating background knowledge'; Lundeberg's (1987) searching for specific information; Pritchard's (1990) summarizing while reading; and Olshavsky's (1976-1977) making predictions. Identified as metacognitive strategies, *self-monitoring* and *self-correcting* are characteristics of experienced readers (Forbes, Poparad, McBride, 2004). Guided reading sessions with small groups of readers are supposed to be the best way of practising these two strategies by Forbes et al.

Metacognition is defined as "knowledge and cognition about cognitive phenomena" by Flavell (1979: 906), yet Flavell who coined the term metacognition, embraces that it may not always be possible to differentiate metacognitive knowledge from cognitive knowledge and for some instances there are overlaps between cognitive and metacognitive strategies. For example, self-questioning is considered both to be cognitive and metacognitive strategy. However, examining the way of using the information is quite helpful in discrimination of these strategies. It might be profitable to remember that an investigation either into cognitive or into metacognitive strategies unavoidably involves the integration of the other one since the two strategies are closely woven together and depending on each other. Moreover, cognitive strategies become more effective when they are supplemented

with metacognitive strategy training (Brown & Palincsar, 1982; Hsiao & Oxford, 2002). Thereof, there might be overlaps in the MRSQ; however, declarative, procedural, and conditional knowledge about these strategies is rather essential.

Although the participants had not received specific strategy training on reading previously, they reported their employment of MRSs as discussed in RQ2. It is not spectacular to achieve such results as the strategies of 'underlining to remember', 'visualizing descriptions', and 're-reading for better comprehension' may be employed without being instructed. However, this does not imply that there is no need to teach these strategies; instead any strategy should be practised under the guidance of a teacher in classroom settings as modelling strategies to learners is essential in order to teach learners what the strategy is; how, why, when, and where they can use it; and how they can evaluate their performance in using the strategy. Assuming that learners instinctively are capable of using these strategies may misdirect reading teachers. Hence, teachers should model the strategies and provide practise opportunities for these newly learned strategies. Ideally, urging learners to transfer these strategies across situations may result in developing stronger habits from these strategies.

As discussed in the literature of the present study, *underlining, visualizing,* and *re-reading* are regarded as the three characteristics of strategic readers by Bishop et al. (2005). Visualizing and re-reading are also considered to be problem solving strategies whereas underlining is considered to be a support reading strategy by Mokhtari and Reichard (2002). On the other hand, re-reading is appreciated since by a number of researchers including Pressley (1986), Barnett (1988), Baudoin et al. (1993), Grant (1993), Pressley and Woloshyn et al. (1995), Grabe (2003), and Marropodi (2006). Although participants' reports on their employment of such strategies seem to sound good, it should be treated with caution since Andre and Anderson's (1978-1979) study indicated the superiority of self-questioning on rereading the text since self-questioning requires integrating the elements of setting a purpose, identifying important information, generating questions in relation with the comprehension of the text, and considering possible answers to the questions; it involves an active participation of readers.

6.2.6 DISCUSSION OF FINDINGS FROM RQ6

RQ6 aimed to identify the MRSs which were accelerated after the implementation of METARESTRAP. To achieve this aim, experimental group participants' responses to the pre and post MRSQ were taken into consideration with the help of descriptive analysis. On the other hand, control group participants' responses to the pre and post MRSQ were disregarded since they were not instructed through METARESTRAP. Descriptive statistics indicated that the experimental group participants' use of each MRS was accelerated after the implementation of METARESTRAP whereas the control group participants' use of MRSs increased slightly in eleven items, remained stable in two items, and decreased slightly in nine items.

RQ5 revealed participants' responses on their either high or medium use of MRSs. Although effective learners are proven to be referring to a large number of strategies appropriate to their task (Ehrman & Oxford, 1988; Oxford, 1989 & 1990; Oxford & Crookall 1989), Ehrman and Oxford (1995) point out the importance of harmonizing strategies as a great number of unsuccessful learners refer to a large group of strategies in a sporadically way. In this respect, METARESTRAP functioned as a learning assistant which helped them orchestrate their strategies. RQ5 indicates their familiarity with the strategies presented in the MRSQ and this is quite reasonable since they are advanced level EFL learners who studied it at an almost average period of 10 years. During this time, unavoidably they encountered reading problems and tried to find solutions to their problems although they were not instructed on how to do this. Besides, exposure to TL intensely may also result in an increase in the use of metacognitive strategies (Carson & Longhini, 2002). As considered to be production-deficient by Flavell (1970), Pressley & Woloshyn et al. (1995) maintain that learners are supposed to produce strategies only if they are instructed to do it. Therefore, assuming an automated acquisition of MRSs may leave readers adrift at the sea of comprehension. However, expecting the development of the same reading strategies from all readers is naïve (Aebersold & Field, 1997).

The greatest changes between pre- and post-test scores of MRS usage occur in the strategies of ‘making notes to remember’ which was followed by ‘exploiting personal strengths’ and ‘using margins for notes’ for experimental group participants. On the other hand, ‘anticipating how to use knowledge’ emerged with the smallest amount of change that was followed by ‘underlining to remember’ and ‘visualising descriptions’. As presented in RQ5, ‘underlining to remember’ and ‘visualising descriptions’ were ranked as two of the most common MRSs of the participants.

Very slight changes in the control group participants’ pre and post MRSQ scores emphasize that their inadequacy in managing these strategies. The results accentuate that they were prone to use similar strategies in pre and post tests as they insisted on employing the same strategies whether they were beneficial or not.

6.2.7 DISCUSSION OF FINDINGS FROM RQ7

Hitherto, the previous six research questions typically ventilated that METARESTRAP seemed to thrive on the higher use of MRSs resulting in better reading comprehension. Although the previous findings indicated the superiority of experimental group participants’ comprehension, their performances on different parts of the texts has not been discussed yet. Hence RQ7 aimed to reveal the impact of METARESTRAP on different types of reading comprehension questions. To achieve this aim, experimental group participants’ responses to the pre and post reading test were taken into consideration with the help of frequency and descriptive analyses. On the other hand, control group participants’ responses to the pre and post reading test were also taken into consideration to provide comparison.

The results indicated that experimental group participants’ responses to the questions in the reading test made a progress in 20 questions, were stable in 9 questions, and they deteriorated very slightly only in one question after the implementation of METARESTRAP. However, control group participants’ responses in 16 questions increased while they gained lower scores on 9 questions along with stable scores on 5 questions. The total progress was remarked as 82 for the experimental group whereas it was 35 for the control group. A detailed

examination of experimental group participants' answers revealed that after the implementation of METARESTRAP they were better able to answer matching type cohesion, coherence, text structure, and global meaning questions in Part 2 along with multiple choice type implication, detail, and reference questions in the other three parts of the test. Throughout the implementation of METARESTRAP they were instructed that when linking devices are used the ideas are stated, however when they are not used the ideas are implied (Aebersold & Field, 1997). Yet, there was little improvement in multiple choice type attitude and opinion questions. Interestingly, comparing pre and post reading test results of experimental group participants did not indicate any changes in matching type either main idea or comparison questions. Although the results displayed enhancement on both experimental and control group participants' mean values in four parts of the reading test, experimental groups' gain scores were greater than the control groups'. Specifically, experimental group participants' outstanding triumph in increasing their scores in the second part of the text provided evidence for the effectiveness of METARESTRAP.

The role of the reader changed in the 1980s and 1990s with the advances in reading research (C. Wallace, 2001). Since reading was accepted as a passive skill in early versions of bottom-up models, readers followed a mechanical pattern by creating a piece-by-piece mental translation of the information in the text (N. J. Anderson, 1999a; Grabe & Stoller, 2002). Such a reading model does not require the interaction of the reader with the text as no interference from the reader's own background knowledge is expected. However, in top-down models it is essential to bring background knowledge to the text since readers' active role involves extracting meaning from reading texts. When readers are engaged in a top-down model and integrate their existing background knowledge with the text; this assists them to better comprehend the text in a short time span (Erten & Razı, 2007). Grabe and Stoller accept background knowledge as a major contributor to text understanding in interactive models. M. L. Abbott (2006: 661) has concluded that "a balanced or interactive approach that emphasizes the importance of both bottom-up and top-down processing in the construction of meaning is appropriate for teaching reading

comprehension". Then it would be inaccurate to think that meaning resides either on printed pages, or in the heads of readers (N. J. Anderson, 1999a). Instead, during the reading process, readers combine their previous experiences with the printed words. Neither readers' background knowledge nor the words on the printed page is enough on its own to achieve the intended meaning. Readers' interaction of the text is based on their prior experiences which are in general terms identified as family, community, school, culture, and individual characteristics; therefore their comprehension of the same text may be different from each other (Aebersold & Field, 1997). To enable such an interaction, readers need assistance throughout their reading process. Reading strategies may provide such an assistance however as discussed previously their orchestration is quite important. Hence, implementing readers how to manage their reading process by using these strategies is essential. In this respect, METARESTRAP seems to assist them to achieve their reading aims by harmonizing previously learned strategies along with newly learned ones.

6.3 CONCLUSIONS

The findings of the present study provide basis for the employment of a variety of MRSs to a degree by Turkish young adults of university EFL learners. However, the findings also accomplishes an exhilarating result to the instructional training of MRSs through METARESTRAP (See Appendix C for Metacognitive Reading Strategy Training Programme) as the participants of the experimental group notably benefited from it.

According to the findings of the study, the following conclusions can be drawn with reference to the seven research questions of the present study.

6.3.1 Conclusion from RQ1

It can be concluded that the implementation of METARESTRAP on Turkish young adults of university EFL learners provoked their reading comprehension. The statistical data generated in this research demonstrates that METARESTRAP can significantly improve learners' reading comprehension skills by outperforming the

conventional reading instruction. Gaining awareness on metacognition along with declarative, procedural, and conditional knowledge about MRSs with the implementation of METARESTRAP turned out to be more efficient than the conventional reading instruction.

6.3.2 Conclusion from RQ2

The implementation of METARESTRAP promoted learners' MRS use; however as the statistical analyses revealed, conventional reading instruction does not have any impact on the use of MRSs.

6.3.3 Conclusion from RQ3

The implementation of METARESTRAP espoused learners' analytic MRS use upgrading their medium employment of such strategies to a higher level.

6.3.4 Conclusion from RQ4

The implementation of METARESTRAP stimulated learners' pragmatic MRS use upgrading their medium employment of such strategies to a higher level.

6.3.5 Conclusion from RQ5

Unless being instructed on the use of MRSs, Turkish young adults of university EFL learners employ the strategies of 'underlining to remember', 'visualizing descriptions', and 're-reading for better comprehension' more than the others. On the other hand, they employ the strategies of 'distinguishing new and existing info', 'making notes to remember', and 'using margins for notes' less than the others. It can also be concluded that pragmatic metacognitive strategies are employed either at an utmost or at a lowest level by the participants.

6.3.6 Conclusion from RQ6

After being instructed on the use of MRSs, Turkish young adults of university EFL learners accelerate their use of the strategies 'making notes to remember', 'exploiting personal strengths', and 'using margins for notes' more than the others. These were the strategies employed at lower levels by the participants before the implementation of METARESTRAP. Hence it can be concluded that the implementation encouraged the use of narrowly used strategies. However, the employment of the strategies which were used at utmost level benefited less from the implementation; therefore it can be concluded that the use of highly employed strategies is slightly increased by the training. On the other hand, with reference to control group participants' comparative use of MRSs in pre and post tests, it can be concluded that conventional reading instruction does not have an enormous impact on encouraging the use of MRSs.

6.3.7 Conclusion from RQ7

The statistical data generated in this study demonstrates that after the implementation of METARESTRAP the participants were better able to answer matching type cohesion, coherence, text structure, and global meaning questions; and multiple choice type implication, detail, and reference questions. It can be concluded that METARESTRAP works well specifically for matching type cohesion, coherence, text structure, and global meaning questions. It can also be concluded that METARESTRAP is beneficial for multiple choice type implication, detail, and reference questions. Nevertheless, with reference to little improvement in multiple choice type attitude and opinion questions, it can be concluded that readers merely benefit from METARESTRAP in answering such questions. However, the results indicated no differences between pre and post reading test results of experimental group participants' multiple choice type main idea or comparison questions hence it can be concluded that METARESTRAP has no impact on accelerating such questions.

6.4 IMPLICATIONS

The present study mainly investigated the impact of metacognitive reading strategies on reading comprehension in a classroom setting. Hypothesized investigations were examined with the particular participants of the study. Though the results were based on three intact preparatory reading classes of students at a state university, they need to be treated with caution. In this respect, it might be naïve to generalize the findings beyond participants and conditions described; however, this does not necessarily mean that the findings do not suggest any implications for practice within the field of reading.

As there is no research study, including the present one, which aims to retest participants with an interval of a period such as 6 months and there are very limited number of research studies which aim to incorporate delayed post-tests as in Talbot's (1995), it would be unreasonable to sermonize on the endurance of them. Therefore, administering the reading test and the MRSQ once more may result in different findings.

The present study provides additional evidence on the effectiveness of MRS training studies notwithstanding. The implications will be discussed under the two categories of methodological and pedagogical implications.

6.4.1 METHODOLOGICAL IMPLICATIONS

Paris et al. (1983) indicate the possibility of being able to learn reading strategies and highlight the importance of learning them to the point of automaticity which allows strategies to turn into skills. It is essential to know when, where, and how to use the strategies along with knowing the strategy itself. Baker and Brown (1984) regard self-questioning as the first step of an effective monitor training programme. Similar to Paris et al., they also point out that merely instructing the strategy is not adequate since learners are unaware why, when, and where such a strategy is beneficial. In parallel to prominent researchers' ideas, Singhal (2001) presents a guideline for reading strategy instruction. She recommends teachers to

directly instruct strategies by modelling since it prevents the limited use of strategies (Wu, 2005). Besides, Singhal also advocates analysing tasks; presenting them appropriate to different situations; teaching them for quite a long time rather than a single lesson; enabling readers to practise them; and encouraging readers to teach each others about their reading and studying processes. This explains why Carrell (1998) and Garner (1994) maintain the requirement of a long period to teach MRSs.

As learners are exposed to a great amount of strategies, this makes them feel anxious; therefore, learners are not able follow all the strategies presented at a time (Chamot, 1993). Despite being encouraged to teach strategies, instructors are expected to present a few strategies at a time rather than exposing learners to large quantities of strategies concurrently (Pressley & Woloshyn et al., 1995). Herewith, the present study aimed to implement each MRS per week throughout the instruction. Otherwise, trying to teach multiple strategies at a time may confuse learners as they cannot practise them individually. Then, administering METARESTRAP intensely in shorter than a six-week period will most probably result in less contribution to reading comprehension. Although strategies were instructed individually each week through METARESTRAP, there were relations among strategies which were presented to the participants as strategies are not utilized in isolation instead in relation to each other (N. J. Anderson, 2005).

As strategy training studies make use of the characteristics of successful learners, the comparative results between pre and post MRSQ scores of experimental group participants should be scrutinized carefully in order to identify MRSs employed by efficient readers. After identifying these strategies, teachers may provide a quicker and more effective learning environment by helping their learners to be aware of them (Oxford, 2003) since learners are often unaware of them (Nyikos & Oxford, 1993).

Learning strategies are believed to be transferable from L1 to FL settings (Block, 1986, Coady, 1979, Cummins, 1980, Goodman, 1973, Hudson, 1982). However, to make use of transfer skills, learners need to be aware of their own learning process therefore learning strategies can be transferred to new tasks when

they are once learned (Chamot & O'Malley, 1987). Unless exposed to a specific training programme, learners do not have an intention of automatically using a wide variety of learning strategies (Bialystok, 1981). Strategies are believed to be transferred to similar tasks when learners match patterns between the previous and the new tasks (J. R. Anderson, 2000).

6.4.2 PEDAGOGICAL IMPLICATIONS

Metacognitive information is considered as a common feature of strategy instructional models where learners are taught on how to monitor their performances (Pressley & Woloshyn et al., 1995). Then, instructors whether simply explain the metacognitive strategies to students or preferably they abstract the use of such strategies by practising them in the classroom throughout the curriculum. Contemporary instructional models of Pressley and Woloshyn et al. expect that the teacher describes the strategy and then models it to the learners before asking them to practise it. The explanation of the strategy should involve when, where, and how to use the strategy appropriately and also the teacher may re-model the strategy if there is a need as it is described and/or implied by several studies (Baker & Brown, 1984; Çubukçu, 2009; Duffy, 1993; Kuhn, 2000; Mokhtari & Reichard, 2002; Nara, 2003; Paris & Jacobs, 1984; Paris et al. 1983). Learners' practice of the strategy is required to be carefully monitored by the teacher since at this stage learners are prone to making errors and need feedback. Moreover, it is also essential to encourage learners to use these newly learned strategies in their naturalistic environment as recommended by Green and Oxford (1995). Although LLSs originate in a classroom context, their practice is also within the responsibility of real-life language usage (Donato & McCormick, 1994). The implication of this assertion for reading strategy instruction might be that readers should be encouraged to refer to the newly learned reading strategies in non-academic occasions.

The most important pedagogical implication of the present study is the inadequacy of instructing MRSs without modelling and providing practice opportunity. Hence, reading teachers should integrate declarative knowledge about the strategy that involves teaching what the strategy is; procedural knowledge that

shows how to use the strategy, and conditional knowledge that defines the most useful time of the strategy (Duffy, 1993; Paris et al., 1983). Then, along with learning what the strategy is, readers will also learn how, why, when, and where to use it, and how to evaluate their performance in using the strategy. While administering strategy training programmes, learners' both cognitive and metacognitive beliefs about learning a FL should be taken into consideration (Yang, 1999). Therefore, integrated strategy training, in other words, "model[l]ing appropriate strategies while presenting particular language points" (Nyikos & Oxford, 1993: 20) is considered to be the best approach to language strategy instruction. Such an approach enables learners to know where and how to refer to newly learned strategies.

Although literature on reading strategy training supports the idea that strategy use can be accumulated (Bialystok, 1979; Kern, 1989), it should be noted that the mastery of the strategy takes time which is in positive correlation with the constant practice of it. Carrell's (1998) overall conclusion on instructing MRSs calls attention to skilled readers' performances in real life reading. They are required to dispend much time in reading various texts and repeat their reading strategies recurrently along with monitoring their comprehension. As developing such competence demands long periods of time in real life, such a long period is also essential in teaching MRSs.

It should also be noted that apart from specific instruction of MRSs, training metacognitive LLSs may also assist learners to enhance their language proficiency which in turn results in a progress in their reading skills (Carrell, Gajdusek & Wise; 1998; Green & Oxford, 1995; Palincsar, 1986).

6.4.3 SUGGESTED LESSON MODEL

It has been indicated in the present study that students at ELT and ELL departments employ MRSs to some degree as a result of their long-term efforts in learning EFL. However, as effective use of strategies requires declarative, procedural, and conditional knowledge; such learners unavoidably need assistance on

their use of them. In order the contribution of the teacher to become more constructive for readers, such assistance should be drawn upon research findings. Albeit the present study provides guidelines for such assistance, it would be profitable to adapt it in accordance with teaching aims other than regarding it as a norm. With reference to the findings of the present study, an ideal reading lesson can then be planned as follows.

First and foremost, reading teachers should regard MRSs which need to be instructed and practised throughout the course and plan their lessons with this aim in mind. In this respect, teachers should lead their readers to plan their time, identify their reading goals, preview the text to find out information relevant to their reading goals such as skimming to get a general idea about the text or scanning to get specific details, motivate themselves to read the text, identify the genre of the text, activate their relevant schemata, form questions from headings and sub-headings, anticipate or self-question the forthcoming information before reading the text.

While reading the text, teachers should encourage their readers to keep their reading goals in their minds and maintain reading by skipping irrelevant parts of it. Undoubtedly, distinguishing main by either underlining or highlighting ideas from minor ones will be beneficial. Readers might be exhilarated to read the text in short parts and check their understanding. When they encounter difficulties in comprehending the text, they can be directed to re-read it. Inferring pronoun referents may also assist to solve their comprehension problems. Besides, drawing graphic logs, If there is some information critical to their understanding of the text which is not directly stated, then ask them to infer that information from the text. In case of critical unknown words, they should be orientated to identify their meanings. Revitalizing them to check the text against their activated schemata is considered to be an essential strategy since it allows them to distinguish information that already know and the new information. They should aim to answer their previous questions or clarify their predictions while reading the text. Moreover, they can also be expected to form new questions or anticipate the forthcoming information by giving short breaks while reading the text. Alternatively, they may be asked to take notes or paraphrase in the margins for better comprehension.

After reading the text, readers might be galvanized to summarize the text. In this respect, referring to graphic organizers such as semantic mapping and clustering might be helpful in order to identify main and minor ideas from each other. More importantly, after reading the text students should be allowed to evaluate their performances both in reading the text and employing strategies.

6.4.4 SUGGESTIONS FOR FURTHER RESEARCH

The highly controversial issue of whether the skill of reading in a FL is in relation with the reader's L1 and therefore whether it is possible to transfer L1 reading skills to the TL has intersected reading researchers. The researchers such as Clarke (1979), Cziko (1980), and Macnamara (1970) point out that reading in an FL derives from readers' proficiency in the TL; however, the researchers Block (1986), Coady (1979), Cummins (1980), Goodman (1973), and Hudson (1982) advocate the transferability of L1 reading skills. For example, Cummins (1979) claims that it is possible to transfer the reading ability from L1 to FL. Then, J. R. Anderson (2000) claims that there is no need for a reading instruction in FL. In a similar conclusion, Royer and Carlo (1991) also maintain the possibility of transferring L1 reading skills to FL reading situations and they imply that instruction of L1 reading also results in progress in FL reading. As metacognition is believed to have a significant impact on improving reading comprehension either in L1 or in FL (Baker & Brown, 1984; Flavell, 1979; Flavell, Miller, & Miller, 2002; Mokhtari & Reichard, 2002; Sheorey & Mokhtari, 2001), Royer and Carlo also indicate the possibility of the development of L1 reading skills through FL reading instruction. Along with the possibility of transferring L1 reading skills to FL reading situations, implementing METARESTRAP in L1 reading skills may also result in better reading comprehension in both L1 and FL. Further research should implement METARESTRAP in learners' L1 and examine their progress in both L1 and FL reading comprehension.

Moreover, implementing METARESTRAP in FL may result in progress in L1 reading skills as Royer and Carlo (1991) maintain the possibility of the development of L1 reading skills through FL reading instruction. Accordingly,

further research should take learners' L1 reading comprehension into consideration along with their FL reading comprehension with the implementation of METARESTRAP in FL.

Further research may deal with the relationship between different types of intelligences in accordance with Multiple Intelligences Theory and MRS use as literature does not present any studies on this issue. As discussed in the literature, learners' strategy choice is under the impact of their learning styles (Oxford & Nam, 1998; Reid, 1988). Hence, implementing METARESTRAP to different intelligence types may also reveal how each intelligence type response to metacognitive awareness. Besides such a training of readers in accordance with their learning styles such as field independent, field dependent; analytic, global; reflective, impulsive; converger, diverger, assimilator, and accommodator; extraversion-introversion, sensing-perception, thinking-feeling, judging-perceiving; and right- and left-brained may also be implemented.

As discussed in the literature of the present study, once learned, strategies can be transferred across situations and moreover their transfer across languages is also a controversial issue. Therefore, future research should implement MRS training programmes in which the transfer across situations can be revealed. More importantly, implementing METARESTRAP to EFL learners may result in improvement in their L1 reading skills as well, hence future research should investigate the impact of such a probable transfer. Additionally, investigating the use of MRSs and reading comprehension following the implementation of METARESTRAP with multiple post tests which are delivered with six-month of intervals will indicate the long-term impact of such strategies.

As discussed in the literature, the term 'reading' covers the investigation of both seeing and blind people; however it is beyond the scope of this present study to investigate blind people's reading process in relation with MRS implementation. Yet, it seems to be a very interesting area of research which may have immense impact on the understanding of reading process.

Additionally, investigating the patients who have had surgery on their throats might be another interesting area of study since Noda (2003b) reports that they are unable to read books because of the requirement of stress on the throat. Therefore, findings of such studies will have great contribution to reading research.

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APPENDICES

Appendix A:

The MRSQ (Taraban, Kerr, Rynearson, 2004): Adapted Version

Dear participant,

This questionnaire is a part of survey in which you will indicate what you do while reading and what you think about reading. Before responding the statements, please write your exposure to English, class, and age; and circle your gender and hand preference. Keep in mind that the information collected through this questionnaire will be used only for research purposes and it will not affect your course grades by any means.

The first part of the questionnaire includes 22 statements on reading strategies. While responding to the statements in the first part, imagine that you are reading a text for school. Take a moment to think about the typical things you do to help you comprehend the text. For each strategy statement, choose the statement that best indicates how much you use that strategy.

The second part of the questionnaire includes statements to identify what your think about reading. Feel free to give your real opinions on the matter. Please, read each statement carefully.

Thank you for your contribution to the study.

<table>
<tr><td colspan="3">I have been studying English for ..... years.</td><td colspan="2">I am …….. years old.</td></tr>
<tr><td>Prep A
(Day)</td><td>Prep B
(Day)</td><td>Prep A
(Evening)</td><td colspan="2">I use my ……. hand.</td></tr>
<tr><td colspan="2">Male</td><td>Female</td><td>Left</td><td>Right</td></tr>
</table>

Items	I use this strategy	Never	Rarely	Sometimes	Often	Always
1	As I am reading, I evaluate the text to determine whether it contributes to my knowledge/understanding of the subject.	1	2	3	4	5
2	After I have read a text, I anticipate how I will use the knowledge that I have gained from reading the text.	1	2	3	4	5
3	I try to draw on my knowledge of the topic to help me understand what I am reading.	1	2	3	4	5
4	While I am reading, I reconsider and revise my background knowledge about the topic, based on the text's content.	1	2	3	4	5
5	While I am reading, I reconsider and revise my prior questions about the topic, based on the text's content.	1	2	3	4	5
6	After I read the text, I consider other possible interpretations to determine whether I understood the text.	1	2	3	4	5
7	As I am reading, I distinguish between information that I already know and new information.	1	2	3	4	5
8	When information critical to my understanding of the text is not directly stated, I try to infer that information from the text.	1	2	3	4	5
9	I evaluate whether what I am reading is relevant to my reading goals.	1	2	3	4	5
10	I search out information relevant to my reading goals.	1	2	3	4	5
11	I anticipate information that will be presented later in the text.	1	2	3	4	5
12	While I am reading, I try to determine the meaning of unknown words that seem critical to the meaning of the text.	1	2	3	4	5
13	As I read along, I check whether I had anticipated the current information.	1	2	3	4	5
14	While reading, I exploit my personal strengths in order to better understand the text. If I am a good reader, I focus on the text; if I am good with figures and diagrams, I focus on that information.	1	2	3	4	5
15	While reading I visualize descriptions to better understand the text.	1	2	3	4	5
16	I note how hard or easy a text is to read.	1	2	3	4	5
17	I make notes when reading in order to remember the information.	1	2	3	4	5
18	While reading, I underline and highlight important information in order to find it more easily later on.	1	2	3	4	5
19	While reading, I write questions and notes in the margin in order to better understand the text.	1	2	3	4	5
20	I try to underline when reading in order to remember the information.	1	2	3	4	5
21	I read material more than once in order to remember the information.	1	2	3	4	5
22	When I am having difficulty comprehending a text, I re-read the text.	1	2	3	4	5

Appendix B:

Reading test (Pre and Post Test)

READING

Test

Full Name :

Number :

Class :

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Write your name, number, and class on the answer sheet in the spaces provided.

There are thirty-two questions in this paper.

*Answer **all** questions.*

Mark your answers on the answer sheet.

*You may write on this question paper, but you must transfer your answers to the answer sheet **within the time limit**.*

INFORMATION FOR CANDIDATES

*You have **90** minutes to finish the test.*

Wrong answers will not affect your score.

Answers which do not appear on the answer sheet will not be taken into consideration.

This question paper consists of 12 printed pages.

Part 1

You are going to read four extracts which are concerned in some way with drug addiction and TV programmes. For questions **1-8**, choose the answer (**A**, **B**, **C** or **D**) which you think fits best according to the text. **(24 marks)**

Drug addiction and drug abuse

There is a subtle but important difference between drug abuse and addiction. Someone can abuse drugs without being addicted but the opposite is not true. Some experts have outlined different stages in the addiction process.

Stage one is the exploratory phase, stage two is the recreational, stage three is the abusive, and stage four is the dependent that is associated with the word addiction.

Drug addiction implies a loss of choice where the need is paramount. Drug abuse implies the implementation of a choice to abuse a substance. This choice is born out of a desire to use the substance to help ease circumstances or situation. It is one step further on the road to addiction because it is no longer being used for purely recreational reasons.

It is important to pay attention to drug abuse because it has within it the seeds of the compulsivity that leads to dependency and addiction. This is true in most cases though not in all. There are people who can abuse drugs but are impervious to becoming dependent.

Drug addiction means that drug abuse has become a compulsive need for which there is only one solution. At this point the person feels that there is no choice and that the urge is beyond their control. There are two kinds of addictions: physical and psychological. Often they occur simultaneously because the body is not naturally divided at mind and body.

1 It can be inferred from the text that

A it is possible to be addicted to drugs without abusing them.

B professionals do not deal with the distinction between drug abuse and drug addiction.

C drug addiction is the final step which is preceded by drug abuse.

D a drug dependent cannot be regarded as addicted to drugs.

2 The writer of the text concludes that

A every drug abuser results in addiction.

B a drug addict can control the feelings not to take drugs.

C psychological addiction precedes physical addiction.

D a psychological addict is also a physically addict.

Adapted version of the original text retrieved from Grodno State Medical University, www.grsmu.by/file/kafedry/inostr/uch_pas.doc

Co-occurring disorders

Dual diagnosis, or co-occurring disorders, refer to drug addiction which is accompanied by an emotional or psychiatric illness. Either type of disorder is complex on its own; together, a dual diagnosis will affect the individual socially, spiritually, physically, and psychologically. The interaction of the different components of dual diagnosis can interact so that diagnosis, treatment and recovery are made more difficult.

In addition, accurately assessing the extent of emotional or psychological illness while drug or alcohol addiction are present can become very difficult for the healthcare provider, thereby making an effective treatment plan more difficult to compile. This does not mean however, that treatment for dual disorders is ineffective or unheard of. When treating such a disorder, it is necessary to focus on both issues. Only trying to fix one problem will most likely not result in improvement of either arena.

Perhaps one of the best forms of treatment for co-occurring disorders is what is known as integrated treatment where the patient receives treatment for both mental illness and substance abuse from the same clinician or from a team of clinicians. Basically, the team works together to make sure that the different interventions are brought together. This way the client will see no division between mental health and substance abuse treatment. This eliminates the confusion that can often occur when obtaining treatment in two different centres. In integrated treatment each client has his/her specific program. This way, the individual can move at his/her own pace, thereby resulting in a more effective treatment situation which will hopefully lead to long lasting recovery.

3 The writer indicates that a dual diagnosis

A is different from co-occurring disorders in terms of emotion.

B has an impact on the addicted person in a variety of ways.

C cannot be treated.

D may occurs only in case of drug addiction not alcohol addiction.

4 It can be concluded that

A the best way for the treatment of a dual diagnosis might be the treatment of the mental illness first.

B an integrated treatment cannot be conducted with a single clinician.

C in an integrated treatment the client's cooperation with the other patients is essential.

D an integrated treatment is based on the principle that there exists no distinction between mental health and substance abuse treatment.

Adapted version of the original text retrieved from,
http://www.addictionsearch.com/treatment_articles/article/cooccurring-disorders-another-name-for-dual-diagnosis_57.html

Media and Children

Families can use a number of tools to be selective about the kinds of TV programmes or movies they watch. There are some good websites that offer reviews or ratings about the content of movies, videos, and DVDs. Although the existing industry ratings can be a useful general guide for parents, the sites 'Common Sense Media', 'MediaWise Kidscore', and 'Kids in Mind' offer more detailed descriptions of content that can help parents select or discuss movies with their children. All of them are free, and information about the sponsoring organization and the methods they use to rate content are clearly described.

Why would parents use the websites presented above when the television industry already provides ratings for TV shows? These ratings could be used to help guide choices, and to programme V-chips that are in all recently made TV sets, but this assumes that the ratings are valid and reliable. One study found that a panel of parents, grandparents, and professionals often agreed with industry ratings of whether content was *inappropriate* for children (e.g., all "R-rated" movies and TV-MA rate television programmes), but they often disagreed on whether movies or programmes rated as being appropriate for children really were.

A more recent national survey found that only half of all parents think that most TV shows are accurately rated. Most of the parents who do use ratings found them at least somewhat useful, however, many parents do not know what the ratings mean. Given this discrepancy, the more detailed information provided by the websites described above allows parents to make their own judgements about whether a television programme or film is appropriate for their own children.

5 The list offered by the writer is different from the others

A since it gives a lengthy description of programmes.

B since it is free.

C because of the methods they use.

D as their ratings are accurate.

6 It can be concluded from the text that

A parents, grandparents, and professionals always agree with each other on industry ratings.

B half of the parents appear to believe in the accuracy of TV shows' ratings.

C parents in general are interested in ratings.

D TV ratings on their own are sufficient for parents to judge whether a programmes is suitable or not.

Adapted version of the original text retrieved from University of Illinois Extension,
http://web.extension.uiuc.edu/connecting/i1931_475.html

Watching full-length TV programmes on Internet increasingly popular

Watching a favourite show you missed on television on the Internet is increasingly popular, two recent studies show. Horowitz Associates found that 16 percent of high-speed Internet users watched at least one full-length TV program online during a week, double the number from last year. Horowitz just released its report: Broadband Content and Services 2007. The Nielsen Company found that 25 percent of the 1,599 Americans surveyed in October have watched full episodes of a TV program in the past three months. Both studies point to the increasing popularity of full-length streaming video on the Internet.

The Nielsen study notes that ABC.com (50 percent), NBC.com (41), CBS.com (37), and Fox.com (24) were the most watched, with other Internet-based alternatives YouTube (17) and iTunes (15) used less often. Horowitz notes that television is still the preferred delivery platform, with 70 percent of Internet users saying they watch TV online because they missed an episode on television. Some watch a show on TV, and then watched it again on the Internet. Others watched a program because someone recommended it. As NewTeeVee wrote today, the increase in watching full TV shows online bodes well for the networks' streaming strategies and for Hulu, a joint venture between NBC and News Corp.

7 It can be inferred from the text that

A there is an increase in the number of studies investigating the popularity of watching TV programmes on the Internet.

B only high-speed Internet users watch TV programmes on the Internet.

C the main reason for watching a TV programme on the Internet is that you can watch it whenever you want.

D the number of Internet users watching TV programmes on the Internet quadrupled last year's number.

8 The number of people watching TV programmes on the Internet will

A increase but they will also keep their habit of watching TV.

B almost be the same in the following years.

C be so high that it will eradicate TV viewers in a couple of years.

D drop in the future.

Adapted version of the original text retrieved from,
http://www.last100.com/2007/12/06/watching-full-length-tv-programs-on-internet-increasingly-popular/

Part 2

You are going to read a short story. Seven paragraphs have been removed from the story. Choose from the paragraphs **A-H** the one which fits each gap **(9-15)**. There is one extra paragraph which you do not need to use. **(28 marks)**

Costing an arm and a leg

Whole, a riveting new documentary by Melody Gilbert is about an increasingly visible group of people who call themselves "amputee wannabes". Wannabes desperately wish to have their healthy limbs removed, and some have succeeded in having it done.

9	

My interest in amputee wannabes began several years ago. I was trying to understand why so many people have begun to use the tools of medicine for purposes other than curing illness. I noticed that in the same way that some people said they only felt like themselves after, say, getting sex-reassignment surgery, or even taking Prozac, many wannabes said they would not feel like themselves without an amputation.

10	

Gilbert's sensitive film allows wannabes to speak for themselves. Many are so articulate and likable that no matter how difficult you find it to understand their desire, you will come away from the film with sympathy for their strange predicament. Yet perhaps the most disturbing figures in *Whole* are the clinicians. Even as the wannabes admit how baffling they find their own desires, the mental health professionals in the film speak with absolute confidence.

11	

This claim is not so much false as incomplete. No formal research studies on treatments for wannabes have ever been undertaken. In fact, nobody really knows much about this condition. Only a handful of articles about it have been published, most of them small case studies in obscure medical journals.

12	

Dissenting voices of any kind are largely absent from *Whole*. In her eagerness to document the extraordinary stories her subjects tell, Gilbert has produced a film that uncritically accepts those stories at face value. The patients explain what this condition is and how it should be treated, and the clinicians obediently nod their agreement. The only sceptical voice in the film comes from Jenny. When Jenny decides she cannot stay married to a man who wants to cut his own leg off, her husband accuses her of being narrow-minded.

13	

When I first wrote about this condition in the *Atlantic*, I worried that more people might start to identify themselves as wannabes and seek out amputation. Anyone with a rudimentary familiarity with the history of psychiatry cannot help but be struck by the way that mental disorders come and go.

14	

First, the conditions are usually backed by a group of medical or psychological defenders whose careers or reputations depend on the existence of the disorder and who insist that the condition is real. Second, there is usually no hard data about the causes or the mechanism of the condition. Third, no independent lab tests or imaging devices are available to provide objective confirmation of the diagnosis, which is usually made solely on the basis of the narratives and behaviour of their patients.

15	

By all indications, the number of people identifying themselves as wannabes is growing. Robert Smith, the Scottish surgeon, has six more acceptable candidates for amputation. A popular wannabe listserv, whose membership was 1,400 two and a half years ago, has 3,670 subscribers today. A group of clinicians at Columbia University has set up a Web site to provide information about the condition. They are redefining it as "Body Integrity Identity Disorder." In the meantime, psychiatrists are no closer to understanding the condition, and they are proposing no therapy other than amputation.

A Conditions like social anxiety disorder, post-traumatic stress disorder, attention deficit-hyperactivity disorder, gender identity disorder, multiple personality disorder, anorexia, and chronic fatigue syndrome were once seen as rare or nonexistent, then suddenly they ballooned in popularity. This is not simply because people decided to "come out" rather than suffer alone. It is because all mental disorders, even those with biological roots, have a social component. While these new conditions are very different from one another, they share several important features.

B Finally, there is often a treatment for the condition even in the absence of knowledge about its causes and mechanism. The diagnosis of social anxiety disorder, for example, was driven by the development of profitable medications to treat it, such as antidepressant drugs.

C Kevin, a university lecturer and one of several wannabes featured in the film, had his leg amputated by Robert Smith, a surgeon in Scotland who has amputated the legs of two otherwise healthy people. George Boyer shot his own leg off with a shotgun. Others have used chain saws and homemade guillotines. Why? Nobody really knows, including the wannabes themselves, who often say they have had the desire since they were children. "It's obviously peculiar", admits Kevin. "But knowing it is peculiar and saying it is weird does not do away with the problem".

D You might think that clinicians would want to be certain that all options had been exhausted before recommending that patients have their arms or legs amputated, yet the clinicians in the film do not mention alternative treatments. The only person who expresses a hint of uncertainty is Robert Smith who wonders how the amputations he has performed will be perceived in 20 years.

E I published an article about wannabes for the *Atlantic Monthly* and another on the legality of such amputations with my colleague Josephine Johnston for the academic journal *Clinical Medicine*. It was after reading about wannabes in the *Atlantic Monthly* that Gilbert decided to make her film.

F As clinicians start to diagnose the disorder; the conditions themselves become part of popular discourse. Patients reinterpret their own psychological histories, and their behavior changes to match what is expected of people with the condition they believe they have. "I want you to accept that this condition exists," Baz says emphatically in the film, "and that the *only* way it can be sorted out is psychological treatment".

G Oddly, the film also glides past the sexual aspect of the condition and views it as a problem of identity, like gender identity disorder. In the few medical articles where the condition has been discussed, it is known as "apotemnophilia," because clinicians view it as a paraphilia—a displaced sexual desire like transvestism, voyeurism, and pedophilia. This is because many wannabes are attracted to the idea of themselves as amputees, and some are attracted to other amputees.

H The film features a social worker and clinical psychologist who have counselled Boyer in Florida, as well as Michael First, an academic psychiatrist at Columbia University, who has organized several meetings of wannabes and clinicians. First says that the purpose of these meetings is to "facilitate treatment" for the condition, by which he says he means surgical treatment. His apparent certainty that nothing short of amputation can help these people is underscored by ominous music and a screen shot that reads, "There are no medications or therapies known to help wannabes".

Adapted version of the original text retrieved from,
http://www.slate.com/id/2085402/

Part 3

You are going to read a magazine article. For questions **16-22**, choose the answer (**A**, **B**, **C** or **D**) which you think fits best according to the text. **(28 marks)**

Test anxiety: What it is and how to cope with it

You walk into the exam room…confident that you know the material and can pull off a good grade. You're feeling a little nervous, but not any more than at other times in the past. The test arrives, your hand is a little shaky while you're writing your name down on the answer sheet. The first two questions go fine. Then you read the third question. It seems to be coming at you from about 45 degrees off from what you were expecting… Then it happens… Everything goes blank, and even the easy questions you know… You suddenly can't understand, let alone answer… Ten minutes before the test is about to end, you start to comprehend some of the questions. You answer some of the easy ones. Even the difficult ones suddenly start to make sense. But it doesn't matter anymore. Time's up…

Exam anxiety is a fairly common phenomenon that involves feelings of tension or uneasiness that occur before, during, or after an exam. Many people experience feelings of anxiety around exams and find it helpful in some ways, as it can be motivating and create the pressure that is needed to stay focused on studying. However, in some cases, anxiety can become so intense that it leads to disruptive symptoms that ultimately lead to a negative impact on one's performance. In these cases, it is important for students to attend to their symptoms and find a way to cope effectively, so that their schooling does not suffer any further.

As a first step, it is important to determine whether the anxiety is "true" test anxiety, or is due to a lack of adequate preparation. The student will need to ensure that he/she spends enough time studying, has adequate study strategies, attends class regularly, and understands the class material. If these issues have been addressed and he/she still continues to experience intense symptoms of anxiety, then it is likely that he/she is suffering from true (or classic) test anxiety, and will need to target his/her particular symptoms directly.

Although anxiety can affect each person in different ways, there are several symptoms that are quite common. Some of these are emotional, which include feelings of fear, disappointment, anger, depression, or helplessness. Other symptoms are more behavioural, ranging from fidgeting or pacing to substance abuse or other self-destructive behaviours. There are also physiological symptoms, which include fast heartbeat, feelings of nausea, headaches, lightheadedness, sweating, and other disruptions in bodily functions. Finally, many people experience cognitive symptoms, such as negative thinking about oneself, racing thoughts, loss of memory, and "blanking" out.

Some of the strategies for coping with exam anxiety are quite practical and relatively easy to implement, such as avoiding caffeine, arriving early to the exam, avoiding people who speak negatively, meeting with the professor to discuss class material, getting a good night's sleep, and reading exam directions carefully. Students will also need to ensure that they are practicing good time management skills and managing their stress on a daily basis through exercise, good nutrition, social support, enjoyable activities, and balance in their lives.

One of the most important components in dealing with exam anxiety is stopping a negative spiral from occurring, which can happen when one sign of anxiety (e.g., trembling hands, negative thoughts about one's performance) leads to a "chain of negative thoughts and images…each feeding on the one before and giving rise to another…". This can lead to an increase in one's anxiety level to the point where he/she can no longer perform at an acceptable level. There are many strategies that can be used to interrupt this cycle, such as breathing deeply; relaxing tense muscles; repeating positive, reassuring statements to oneself; taking a short break from the exam situation; and visualizing oneself doing well.

Exam anxiety can be treated very effectively by continually practicing the above strategies. As some of these may be difficult to learn on one's own, Student Counselling Services provide individual counselling, as well as Exam Anxiety and Relaxation workshops, to aid in this process. For more information, please call Student Counselling Services or visit our office in the Student Union's Building.

Adapted version of the original text retrieved from University of Alberta,
http://www.expressnews.ualberta.ca/article.cfm?id=2338

16 What does the writer imply in the introduction paragraph?

A One can be unsuccessful due to insufficient study.

B Difficult questions can never be answered due to insufficient time allocated.

C When you are confused it is almost impossible to continue the exam.

D Failure can be triggered by a difficult question.

17 What does the writer say about exam anxiety in the second paragraph?

A Pre exam anxiety is more common than post exam anxiety.

B The merits of anxiety outweigh the defects.

C Exam anxiety should not be dealt with seriously to get rid of it.

D Successful students do not feel exam anxiety.

18 What does the writer imply about the roots of anxiety?

A Anxiety may not be related with insufficient preparation.

B Anxiety is mainly related with study strategies.

C There is a correlation between anxiety and class attendance**.**

D A true exam anxiety sufferer has trouble in understanding the class material.

19 It is clear from the text that

A common symptoms of anxiety do not occur together in one person.

B cognitive symptoms exist in case of insufficient preparation.

C emotional symptoms are the rarest ones.

D depression may be an indicator of anxiety.

20 What can't be said about the strategies for coping with exam anxiety?

A In order to work, strategies need to be practiced.

B They are transmitted by interaction with other people.

C Avoiding caffeine does not help develop appropriate strategies.

D Interacting with other people increases anxiety.

21 What does the writer say in the penultimate paragraph about negative spirals?

A Trembling hands may result in failure in the exam.

B The level of anxiety is stable in a negative spiral.

C A negative spiral always results in failure in the exam.

D Breathing deeply prevents a negative spiral occurring.

22 The writer concludes that

A it is not essential to consult counselling services to treat anxiety.

B taking drugs is superior to getting professional help.

C none of the methods is completely successful.

D addicted people cannot be prevented suffering from exam anxiety.

Part 4

You are going to read a magazine article. For questions **23-32**, name the places b**y** referring to the text. One place may be used more than once. **(20 marks)**

A glorious experience

The summer of 2000 will forever be for me a season to cherish and a time to remember. It was a glorious and spellbinding period. Beginning May 22, 2000 I travelled to ten countries, including Germany, Namibia, Zimbabwe, Zambia, the Netherlands, Australia, Trinidad, Guyana, Curacao (Netherlands Antilles), Barbados, and Costa Rica, not returning to the United States until the last week of August. I lectured in eight of these countries (nine if you count Curacao) and learned a great deal in all of them. It was a whirlwind of experiences, many of which I am only just now beginning to digest. In this current essay I will provide some background, first hand observations, and insight concerning my travel experiences in Zimbabwe. In fact, of all of my summer travels, only Australia, a country to which I actually led a tour group, surpassed Zimbabwe in terms of length of stay and depth of experience.

With the completion of my Africa Day lecture series in Namibia on May 28, 2000, I caught an Air Namibia flight from Windhoek, Namibia to Victoria Falls, Zimbabwe. After a journey of a little less than two hours, my mission was accomplished. I quickly secured my visa, and stood for the first time on Zimbabwean soil. It was wintertime in Zimbabwe, and the weather was dry and cool. The country was beautiful, the people seemed friendly, and I had the sense of great personal satisfaction that I had realized another dream of a lifetime.

Like Namibia, but even more so, I had wanted to go to Zimbabwe from way back. In fact, after Egypt, Zimbabwe was my favoured African travel destination. Indeed, the ruins of its stupendous stone cities built by the Shona people of northeast Zimbabwe had intrigued me for a long time. In addition to the historical, archaeological, and political aspects of the trip, however, and on a more personal note, my first name, Runoko, given to me as a university student a long time ago, is in fact a Zimbabwean name.

Zimbabwe, in southeast Africa, is a country of more than eleven million people. More than 95% of its citizens are Black. Most of them, more than seventy percent, are Shona, followed numerically by the Ndebele. Whites and Asians constitute less than five percent of the total population. English is the official language followed by Shona and Sindebele. Most of the Whites are of English origin with more than half of them coming to the country after 1945. There are probably less than 100,000 White people, total, in Zimbabwe today. The country of Zimbabwe finally achieved its independence from White minority rule in 1980.

Geographically, Zimbabwe is bordered by South Africa to the south, Botswana to the west, Mozambique to the east, and Zambia to the north. The capital of Zimbabwe is Harare, in the northeast, a city of more than a million people. The second largest city is Bulawayo with a population of about 700,000 people, mostly Ndebele. Most of my time in Zimbabwe was spent in and around Bulawayo.

The School of African Awareness was the principal sponsor and coordinator of my trip to Zimbabwe. As such, the SAA organized my housing, transportation, lecture schedule, and overall itinerary. The essential goal of the SAA, a non-governmental and non-profit organization launched in Bulawayo, Zimbabwe on Africa Day, May 25, 1997, is to "address issues pertaining to African cultural awareness and self-help and self-reliance. Its main focus is to disseminate information to all those committed to the well being of Africa and its people."

My lectures in Zimbabwe began less than twenty-four hours after my arrival in the country. After securing a taxi and being driven for several hours from Victoria Falls to Bulawayo (where I consumed a hot meal, and caught a night's rest), I spoke the following day at the United College of Teachers. Here, on this day, on which I gave the first of several talks at the college, I spoke to a single class of prospective teachers. Interestingly enough, the college did not even have a history component, and the only reason the lecture materialized at all was through the tireless efforts of Mr. Sibanda. Both the students and the teacher were very receptive, however, and I did a broad-ranging slide-presentation that focused on the African presence globally, ancient and modern. I was to repeat the presentation with minor variations with great success during the course of my stay in Zimbabwe. I tried to inspire the students with the history of African people, and make them proud of themselves. A key component to the success of each presentation was the period allotted to questions and answers that followed every talk. It was a real struggle though, for I was fighting what I perceived to be the strong belief that to embrace Africa was to embrace backwardness, while to embrace Europe was to embrace modernity. Almost all of the students wore western style clothes, consisting of shirts and ties for the men, skirts and nylon stockings for the women. A good deal of the women students wore their hair straightened. These were some of the not so pleasant realities of the trip. I suppose that I, like others, have a kind of idealized vision of what Africa and Africans should be, and it is admittedly disappointing when the vision does not materialize. However, there were those Africans, in the minority just like me, who were, in fact, struggling to realize that vision, and identifying and building with this minority made all of the hard work worthwhile.

In addition to the talks that I gave, I toured the city of Bulawayo extensively, visiting both its townships and its most plush neighborhoods. With the various talks, private meetings, public discussions, TV, radio, and newspaper interviews, every day was a busy one, and I remained fully occupied throughout the course of the trip. Among the most important of the sessions in which I participated were full meetings with the Bulawayo Affirmative Action Committee and the Informal Traders Association. Through these sessions, I was able to gain some kind of understanding concerning the local and national political scenes, and gather some insight into Zimbabwe's economic life. I was also fortunate enough to visit one of the white-owned farms being occupied by the war veterans. These Africans, veterans of Zimbabwe's independence struggle against colonial rule, seemed resolute about holding onto the lands that they are currently occupying. Although they were sorely disappointed when I told them about the manner in which the western media was portraying their actions, their morale was high, and got even higher when I told them of the overwhelming moral support that they enjoyed from African-Americans in general.

One of the great highlights of the entire Zimbabwe trip came on a day that I didn't lecture and was driven far from the confines of Bulawayo. In an emotional ceremony held within the centrality of several villages, attended by the local elders and community residents, and augmented by dancers and drummers, I was warmly received, and officially acknowledged as an African finally returned home. I was presented with a magnificent wooden staff, and told that I had finally found my family. It was a wonderful episode, and an experience never to be forgotten. I was so moved emotionally, that when asked to speak at the ceremony, I respectfully, but firmly, declined, as I knew that I would have broken down, and wept like a child.

23 The country to the east of Zimbabwe is
- **A** Mozambique
- **B** Zambia
- **C** South Africa
- **D** Bostwana

24 The largest city in Zimbabwe is
- **A** Victoria Falls
- **B** Bulawayo
- **C** Harare
- **D** Windhoek

25 The latest city that the writer was in before visiting Zimbabwe is
- **A** Bulawayo
- **B** Harare
- **C** Victoria Falls
- **D** Windhoek

26 The first city that the writer had been in Zimbabwe is
- **A** Harare
- **B** Victoria Falls
- **C** Windhoek
- **D** Bulawayo

27 The city where the writer first delivered a talk in Zimbabwe is
- **A** Bulawayo
- **B** Harare
- **C** Victoria Falls
- **D** Windhoek

28 The city where The School of African Awareness started its facilities is
- **A** Victoria Falls
- **B** Windhoek
- **C** Harare
- **D** Bulawayo

29 The writer's native country is
- **A** Egypt
- **B** the Netherlands
- **C** the United States
- **D** Zimbabwe

30 The country in which the writer stayed the least on a summer travel is
- **A** Australia
- **B** the Netherlands
- **C** Egypt
- **D** Zimbabwe

Adapted version of the original text retrieved from the Global African Presence,
http://www.cwo.com/~lucumi/zimbabwe.html

Full Name :

Number :

Class :

PART 1 (24 marks)															
1				2				3				4			
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
5				6				7				8			
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D

PART 2 (28 marks)						
9	10	11	12	13	14	15

PART 3 (28 marks)																											
16				17				18				19				20				21				22			
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D

PART 4 (20 marks)															
23				24				25				26			
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
27				28				29				30			
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D

Appendix C:

METARESTRAP

WEEK 1

Introduction to metacognitive reading strategies

- ❖ Introduction to metacognition and metacognitive reading strategies.
- ❖ Why do we need to learn metacognitive reading strategies?
- ❖ Principles of METARESTRAP.

Planning strategies

- ❖ Plan your time, identify your goals, and motivate yourself to read the text.
- ❖ Preview the text to find out information relevant to your reading goals (skimming, scanning, skipping)

WEEK 2

Background knowledge strategies

- ❖ Identify the genre of the text
- ❖ Activate your relevant schema (e.g.: refer to the title or pictures)
- ❖ Distinguish between already known and the new information.
- ❖ Check the text against your schemata.

WEEK 3

Question generation and inference strategies

- ❖ Form questions from headings and sub-headings.
- ❖ Anticipate/Self-question the forthcoming information in the text.
- ❖ Answer your questions / clarify your predictions while reading the text.
- ❖ When information critical to your understanding of the text is not directly stated, try to infer that information from the text.
- ❖ Infer pronoun referents.

WEEK 4

Context-based evaluative strategies

- ❖ Re-read the text in case of difficulty.
- ❖ Read the text in short parts and check your understanding.
- ❖ Determine the meaning of critical unknown words.
- ❖ Distinguish main ideas from minor ones.

WEEK 5

Visualizing strategies

- ❖ Draw graphic logs.
- ❖ Refer to graphic organizers (semantic mapping / clustering).

WEEK 6

Annotating

- ❖ Underline/highlight important information.
- ❖ Paraphrase the author's words in the margins of the text.
- ❖ Summarize.
- ❖ Write questions/notes in the margins to better understand the text.

Appendix D:
Sample Test from 'Reading Practice Tests': Test 1

Part 1

You are going to read four extracts which are all concerned in some way with historical sites. For questions **1**-**8**, choose the answer (**A**, **B**, **C** or **D**) which you think fits best according to the text.

New Evidence

Our work at the World Heritage site has been based on the research orientated question of how and when the first recognisable urban form emerged in Sri Lanka. According to most scholars, Anuradhapura was expected to have been founded in c.250 BC as a direct result of contact with north Indian cities, which themselves had emerged some two hundred years earlier in the Ganges. The results of our collaborative work have, however, overturned this belief and show evidence of the presence of an urban form at the site as early as c.400 BC. This suggests that the mechanisms which were responsible for the emergence of cities in north India were presumably subcontinental wide phenomena. Indeed antecedents for the first city at Anuradhapura can now be identified in its archaeological sequence which stretches as far back as the Iron Age.

Our particular task for the summer of 1994 was to help the Government Department of Archaeology to define the full extent of the ancient city so that it could be adequately protected and managed. This was because there is a major threat to the site from an encroachment of the site by modern settlements and farming land. Through a combination of old land maps and surviving topography we identified areas in the surrounding paddy fields where shallow linear depressions suggested the presence of a silted moat. This survey identified substantial anomalies which were then tested with a hand auger.

1. The researchers working at the World Heritage site indicated that
- **A** Anuradhapura was founded earlier than c.250 BC.
- **B** Anuradhapura was founded to make contact with Indian cities.
- **C** the history of Anuradhapura does not date back to the Iron Age.
- **D** most scholars' ideas about the construction of Anuradhapura were correct.

2. The World Heritage site
- **A** does not need any protection since there are no people living around it.
- **B** is being investigated by official archaeologists.
- **C** is protected by the Government Department of Archaeology.
- **D** was not shown in old maps.

Troy

Troy is a city which existed over 4000 years and is known as the centre of ancient civilizations. For many years people believed that it was a city mentioned only in tales and never existed until it was first found in the 19th century. Troy is located at Hisarlık in Çanakkale province where the remains of this once-great city can be visited. What is left are the remains of the destruction of Schliemann, the famous German archaeologist, or a treasure hunter as some people call him. Today, an international team of German and American archaeologists bring the Troy of the Bronze Age back to life under a sponsored project by Daimler-Benz, and another Turkish team is involved in a legal struggle with Russia and Germany to get back the stolen Trojan treasures.

In the Bronze Age, Troy had great power because of its strategic location between Europe and Asia. In the 3rd and 2nd millennia BC Troy was a cultural centre. After the Trojan War, the city was abandoned from 1100 to 700 BC. About 700 BC Greek settlers began to occupy the Troas region. Troy was resettled and named as Ilion. Alexander the Great ruled the area around the 4th century BC. After the Romans captured Troy in 85 BC, it was restored partially by Roman general Sulla and named as New Ilium. During the Byzantine rule, Troy lost its importance.

3. What does the writer say about Troy?

A 4000 years ago it was believed to exist only in tales.

B The location of Troy made it difficult for archaeologists to find it.

C Turkey appreciates Russia and Germany for their help in excavation.

D Schliemann removed most of the remnants from the ancient city of Troy.

4. It can be inferred from the text that

A the significance of Troy is directly related with its rulers.

B Troy was a cultural centre during Roman rule.

C the rulers of Troy gave their own names to the city.

D Troy lost its strategic location because of wars.

The Ancient City of Aptera

The name Aptera, according to one tradition, derives from Apteron, king of Crete, son of Kydon and father of Lappios, who is said to have lived in the time of Moses around 1800 BC. The legend of Apteron lends itself to the suggestion that the city was once a colonial settlement governed by the Dorian Apteros or Aptaros who took part in the occupation of Crete towards the end of the Minoan era.

Alternative legends claim the city of Aptera took its name following a musical competition between the Muses and the Sirens held in the Temple of the Muses. At the time of the competition the city, which was to become Aptera, was renowned as a centre for musical expertise.

The Muses emerged as victors of the competition, a defeat which left the Sirens in such a distressed state that their feathers fell out into the sea, where they were transformed into the small 'white islands' in Souda Bay. It is from this legend that the city takes its name, Aptera meaning wingless.

The builder of Aptera is believed to have been Glaukos. Archaeological digs in the ancient city by Wescher in 1862-64 unearthed inscriptions confirming the position of Aptera on the site of Paleokastro - Megala Chorafia. Further archaeological digs were undertaken in 1942 involving, amongst others, the Italian archaeologists Mariani and Savignoni.

5. The author declares that

- **A** the name of the ancient city of Aptera comes from an Apteron king.
- **B** the other legends about the name of the city are nonsense.
- **C** one of the legends explains how a musical competition affected its name.
- **D** none of the legends can be true.

6. It can be inferred from the text that

- **A** there was only one archaeological dig in Aptera.
- **B** nobody has any idea about the builder of Aptera.
- **C** Wescher and the Italian archaeologists Mariani and Savignoni worked altogether on the ancient site.
- **D** the position of Aptera is not in doubt.

Fight to Save Olympic Birthplace

Flames licked the edges of the original Olympic stadium and scorched the yard of the museum, home to one of Greece's greatest archaeological collections. Fires have ravaged large parts of Greece, affecting the Peloponnese, areas around Athens and Evia island. On Sunday five bodies were found on Evia, bringing the death toll to 56. Five fire engines are protecting the archaeological museum, which houses sculptures from the Temple of Zeus and artefacts from the ancient Olympics, and anti-fire systems have been switched on, according to the secretary general of the culture ministry, Christos Zahopoulos.

A new fire protection and sprinkler system was installed at the Unesco World Heritage site for the 2004 Athens Olympics. Culture Minister George Voulgarakis has arrived in Olympia to oversee the emergency effort. "We don't know exactly how much damage there is in the Olympia area, but the important thing is that the museum is as it was and the archaeological site will not have any problem," he told Associated Press news agency as he visited the area.

However, villages and woodlands in the surrounding area were not so fortunate. The BBC's Malcolm Brabrant in the nearby village of Pelopi says that village after village succumbed to the flames and people began to flee for their lives.

7. It can be concluded that flames

A damaged the original Olympic stadium.

B caused some visitors to lose their lives in the original Olympic stadium.

C alarmed authorities to protect the archaeological museum.

D lasted only for a single day.

8. Culture Minister George Voulgarakis

A is angry because of the damage to the museum.

B is sure that the museum will not be affected by the fire.

C is worried about the villages and woodlands in the surrounding area.

D declared that many villages were affected by the fire.

Part 2
You are going to read a magazine article about bikes in Amsterdam. Seven paragraphs have been removed from the article. Choose from the paragraphs **A-H** the one which fits each gap (**9**-**15**). There is one extra paragraph which you do not need to use.

The World Meets in Amsterdam to Talk Bikes

"I'm dreaming!" I declared rubbing my travel-weary eyes. I felt Like Dorothy after her tornado flight from Kansas to Oz. After 20 hours of airplane and train travel, I stepped outside the Central Train Station into a bicyclist's techni-coloured dream world - Amsterdam.

9	

I was one of 19 American bicycle advocates joining the nearly seven hundred delegates from 51 nations at the world bicycle conference, Velo Mondial--four days of planning, strategy work, and networking to create better, safer bicycling world wide. But first I wanted to find out why the Dutch make 39% of trips on bicycles, compared to the measly 1% of American trips. So, I rented a bike, an up right cruiser with coaster brakes built like a tank. I was given a heavy chain, the kind I had seen wrapped around the waists of New York City bicycle couriers, and was sternly instructed on how to use it.

10	

Nearly every street in Amsterdam has a bike lane or separated paths on both sides. Lanes and paths are usually painted a distinguishing brick red. Intersections have special signals, lanes, and actuated buttons for bicyclists. The city centre is dedicated almost exclusively to pedestrians, bicyclists, and electric trams. Two way curbed "bicycle freeways" cut through many of the squares.

11	

Dutch cyclists don't need neon clothing and flashing lights. Of course drivers look out for bicyclists. They have to; they are everywhere. Bicyclists "own" the streets. In such great numbers, they safely cross intersections--as often as not against the light. Pedestrians move out of the way at the sound of a bicycle bell. Only tourists walk in the bicycle paths. Bicycles are chained everywhere, sometimes to the "no bicycle parking" sign.

12	

At the conference, I found issues facing bicyclists world-wide are both strikingly similar and astonishingly different. Chris Morfas, Executive Director of the California Bicycle Coalition, described a conversation with a delegate from Senegal: "He told me Senegalese people don't bike to work because they don't want to get sweaty and rumbled. Government treats bicycles like toys rather than transportation. But he planned to concentrate on getting children safely to school."

13	

On the other hand, some problems are dramatically different. For example, another African delegate focuses on lowering the 40% bicycle tax. "With an annual average income of $300", she said, "a $90 bicycle is out of reach for most families." And, a speaker from the Philippines described the difficulty of encouraging women to bicycle where straddling a bicycle seat is a social taboo.

14	

This is a good sign for bicycle advocates many of whom are working with Congressman Oberstar of Minnesota to create momentum for more Safe Routes to School programs in the United States. The primary lesson I will leave the conference with is the political nature of creating bicycle-friendly communities. Again and again, speakers describing cities implementing bicycle plans pointed to supportive mayors or other elected officials.

15	

After ten days, I realized that their really is no place like home. Another long airplane journey, not emerald slippers, returned me to my small Washington State town with a renewed sense of the importance of bicycle advocacy and the Thunderhead Alliance. I see the Thunderhead Alliance as a pace line of bicycling organizations. We are pulling each other, often into strong cultural headwinds, by sharing strategies and information. Velo Mondial has made the pace line international. And Amsterdam gave me a look at what is possible. I look forward to rolling my bicycle into a warehouse-sized bicycle garage at the train station.

A Amsterdam is a city of bicycle thieves. Estimates of stolen bicycles range from 150,000. to 300,000 per year. An American friend living there had six bicycle stolen last year. If you know what street corner to visit, you can buy a "second hand" bicycle from a shady character for 25 guilders (about $13)--an illegal twist on the recycled bicycle programs at home. Most people invest more in locks than bicycles.

B At the opening session, Executive Director of the American Association of State Highway Transportation Officials (AASHTO) John Horsley summed up the conference with a line that was repeated throughout Velo Mondial: "Take a politician to lunch."

C Human Powered Generator Bicycle Light really does mystify me, some of the other trends more sense to me. Every bicycle in Amsterdam is outfitted with a dynamo powered head lamp, where the rider has to pump extra super hard and the head lamp shines dimly. If you are younger than 35 years old, you probably have never seen one of these in the USA, we have very bright headlamps for bicycles that add much less weight and do not increase resistance. I haven't seen a single dynamo powered bicycle in San Francisco in over 20 years. Once I saw a "Simpsons" (animated comedy) episode where Bart turned on his dynamo bicycle headlamp and could barely make forward progress. In the USA, these dynamo powered headlamps are considered a joke, but almost a quarter million bicycles in Amsterdam all have them.

D I was impressed with presentations on safe routes to school. Great Britain may lead the world here. Paul Osborne of the British non-profit Sustrans gave an impressive presentation on his school program. "When asked, forty percent of the community supported bicycle trails." Osborne reported. "That number jumped to 70% when the community was asked if they support safe routes to school."

E "Imagine that!" said Morfas whose group was instrumental in California's Safe Routes to School legislation, "Here we are living on opposite sides of the world dealing with the same challenges and solutions."

F I set down my back pack and stood gaping at the world around me. Hundreds--no, thousands!--of bicycles locked to racks, fences, utility poles, anything nailed down. One speed cruisers fill bicycle paths that crisscross the city. The young and old, the finely dressed and casual, the high-heeled and lip-sticked, the tattooed and pierced, and the suited and cell-phoning all ride bikes.

G Outside Amsterdam, an extensive network of two way bicycle paths connect fishing and farming villages. Directional signs give distances. Two afternoons of exploration (with frequent stops for coffee and apple turnovers) left me with the impression I could go anywhere in the Netherlands without ever sharing asphalt with a car or truck. What strikes me most is how the volume of cycling impacts the culture. There are so many cyclists I'm almost unaware of them. They are simply a part of the city, as cars are a part of American cities. Cyclists don't wear helmets or lycra, special clothes or shoes. I'm not sure most even think about bicycling. They just do it, like walking.

H Members of the Dutch Cycling Union reminded me that Amsterdam is not perfect. While a 39% mode split (mode split is the percentage of trips taken by a type of transportation) is impressive, a half a century ago twice as many people bicycled. And, theft is a deterrent to bicycling. Secure bicycle parking, in some cases ANY bicycle parking, is a problem. At popular destinations, every rack, railing, tree, lamp post and sign is filled to capacity with locked bicycles. (Imagine bicycling around and around the block waiting for a bike parking spot.)

Appendix E:

Experimental group lesson plans

METARESTRAP Lesson Plan for Teaching 'Planning Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The knowledge of 'metacognition' and 'metacognitive reading strategies'.
  - **Outcomes:** Students
    - familiarize themselves with metacognition and metacognitive reading strategies.
    - state the principles of METARESTRAP.
- **Aim 2:** The skill of using 'planning strategies'.
  - **Outcomes:** Students
    - identify their reading goals
    - plan their time, and
    - preview texts to out information relevant to their reading goals by skimming, scanning, and skipping.
- **Aim 3:** The analysis of reading texts for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference)
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.

Materials:
Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 6 / Part 1
Reading the text 'Improving upon perfection' and doing the relevant exercises.
Presentation:
Before reading the text and doing the relevant exercises introduce the notion of metacognition and metacognitive reading strategies to Ss.
Present the principles of METARESTRAP and ask to Ss to apply them throughout the implementation.
Planning strategies: Explain how they can plan their time, identify their goals, motivate themselves to reading the text, and preview the text (by skimming, scanning, and skipping) and then model the strategies. Tell Ss that they need these strategies to plan their reading process, set goals, and plan how to accomplish the task. Tell Ss that these strategies are used before reading the text.
6. Tell Ss: **'***You are going to read a review of a DVD version of the 1941 film 'Citizen Kane', starring and directed by Orson Welles. Before you read, plan your time and set your goal(s). Then discuss the following (to motivate Ss to reading the text).'*

a. *'What does the title tell you about the reviewer's opinion?'*
Present the topic and give Ss a moment to look at the text, then elicit an answer to the question.
b. *'The following words and phrases appear in the passage. In what context do you think they will occur?'*
Check that Ss understand the meaning of the words and phrases in the list, then elicit guesses concerning the possible context in which they might be used in the text. Assure Ss that the accuracy of their predictions is unimportant, but that the act of formulating expectations makes their reading of the text more efficient.
c. *'Citizen Kane is considered to be one of the greatest, if not the greatest film, ever made. What do you know about it? Write T (true) or F (false) next to each of the following statements.'*
Do not allow Ss to read the text yet as this exercise requires Ss to predict (not to produce accurate answers), therefore allow Ss about a minute only to answer the True/False questions.
d. *'Now read the passage quickly to see if your guesses in b and c were correct.'*
Ask Ss to preview the text to see if their guesses were correct and get feedback from individual Ss.
7. *'What is the topic of each paragraph?'*
Encourage Ss to skim the paragraphs in the text to complete this exercise fairly quickly and get feedback from individual Ss.
8. *'Read the article and answer the questions 1 to 7.'*
Ask them to remember their aim(s) while reading the text. Elicit/Explain the meaning of any unfamiliar vocabulary in the multiple choice questions – but not in the text itself – then allow Ss 10 to 15 minutes to read the text again and answer the questions. Check Ss' answers, then elicit/explain the meaning of any vocabulary in the text which Ss still do not understand.
9. *'Follow-up: Answer the following questions.'*
Ask individual Ss to answer the open-ended questions.
10. *'Read the article again and in pairs, make a list of words/phrases related to films, then group them under appropriate headings.'*
Present the rubric and give one example of a word group heading, e.g. *Type of film.* Explain to Ss that they can use the passage as a source for their word lists and ideas for headings but they are not limited to listing only words which appear in the passage.
11. *'Find synonyms for the highlighted words.'*
Allow Ss time to complete the task. Check Ss' answers.
12. *'Which is the best film you've ever seen? What was it that you liked about it?*
Ask one or two individual Ss the question.*'*
Conclusion:
Ask Ss to evaluate how well they have completed reading the text and applied planning strategies. Discuss their use of planning strategies with the whole class in order to make them more effective.
Homework:
Ask Ss to study Test 1 in Reading Practice Book for the next class to practise the use of planning strategies.

METARESTRAP Lesson Plan for Practising 'Planning Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** Practising 'planning strategies'.
  - **Outcomes:** Students
    - identify their reading goals,
    - plan their time, and
    - preview texts to out information relevant to their reading goals by skimming, scanning, and skipping.
- **Aim 2:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.

Materials:
Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 6 / Part 2
Reading four texts associated with the arts.
Presentation:
Before reading the text and doing the relevant exercises, remind planning strategies to Ss and ask them to explain how they made use of these strategies while doing their homework to answer Test 1.
Ask Ss to plan their time and identify their goal(s) before reading the text.
34. a. *'You are going to read four texts associated with the arts. Before you read, plan your time and set your goal(s). Then look at the four titles and guess which text each of the following phrases is taken from. In what context might the phrases be used (to motivate Ss to reading the text)?'*
Present the rubric and elicit answers from individual Ss:
b. *'Read the texts quickly and check your answers to a.'*
Ask Ss to preview the texts to evaluate the accuracy of their predictions.
c. *'Read the texts again and answer the questions that follow (1-8).'*
Ask Ss to skip any irrelevant parts of the texts while answering the questions in order not to spoil their time. Elicit/Explain the meaning of any unknown vocabulary in the questions. Ss do the task, then check answers. Elicit/Explain the meaning of any vocabulary in the texts which Ss still do not understand.
35. *'Follow-up: Answer these questions.'*
Elicit suitable answers from individual Ss for open-ended questions.
Conclusion:

Ask Ss to evaluate how well they have completed reading the text and applied planning strategies. Discuss their use of planning strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 2 in Reading Practice Book for the next class to practise the use of planning strategies.

METARESTRAP Lesson Plan for Teaching 'Background Knowledge Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The knowledge of 'background strategies'.
  - **Outcomes:** Students
    - identify the genre of the text,
    - activate their relevant schemata,
    - distinguish between information that they already know and new information, and
    - check the text against their schemata.
- **Aim 2:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Upstream Proficiency Workbook (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 6 Workbook
Reading the text 'Art for all?'.
Presentation:
Before reading the text and doing the relevant exercises, remind planning strategies to Ss and ask them to explain how they made use of these strategies while doing their homework to answer Test 2.
Background knowledge strategies: Explain how they can identify the genre of the text, activate their relevant schema (e.g.: refer to the title or pictures), distinguish between information that they already know and new information, and check the text against their schemata and then model the strategies. Tell Ss that they need these strategies to activate their schemata before reading the text. Tell Ss that these strategies are used before reading the text.
11. a. *'You are going to read a passage about art museums and galleries. Before you read, discuss the following questions.'*
Invite Ss to speculate on visiting art galleries and government's attitude towards art in Turkey.
b. *'Several paragraphs have been removed from the passage. Choose from paragraphs (A-H) on the opposite page to fill the gaps. There is one paragraph you do not need to use.'*
Ss do the reading task and answer the questions. Check Ss' answers. Elicit/Explain the meaning of any unfamiliar vocabulary.
12. *'Go through the completed text and underline the parts that helped you place the missing paragraphs, then compare your answers with a partner.'*
Explain to Ss that it is good practice to underline or note the words or phrases that guided them to their answers. Elicit/explain the meaning of any unfamiliar vocabulary.
13. *'The following phrases appear in the passage. Work out their meanings from their context (give a near-synonym or a brief definition). Then use the phrases in your own sentences.'*

Elicit/Explain meaning of phrases from context. Alternatively ask Ss to use their dictionaries. Make sure that Ss choose the dictionary definition that fits the context. Ss make sentences. As an optional extension, for homework, Ss may then be asked to make sentences of their own using some/all of the phrases in the task.

Conclusion:

Ask Ss to evaluate how well they have completed reading the text and applied background knowledge strategies. Discuss their use of background knowledge strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 3 in Reading Practice Book for the next class to practise their use of background knowledge strategies. Also remind them to employ previously learned planning strategies while doing their homework.

METARESTRAP Lesson Plan for Practising 'Planning and Background Knowledge Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** Practising 'planning strategies'.
  - **Outcomes:** Students
    - identify their reading goals,
    - plan their time, and
    - preview texts to out information relevant to their reading goals by skimming, scanning, and skipping.
- **Aim 2:** Practising 'background strategies'.
  - **Outcomes:** Students
    - identify the genre of the text,
    - activate their relevant schemata,
    - distinguish between information that they already know and new information, and
    - check the text against their schemata.
- **Aim 3:** The analysis of reading texts for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.
- **Aim 4:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Quiz: Constitutes of two long texts. The first text about 800 words with 7 multiple choice four option questions. Seven paragraphs have been removed and presented in a jumbled order with an extra one in the second text. Finally, a total amount of 40 vocabulary questions in either as multiple choice or gap filling are delivered.
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
Ss are encouraged to employ planning and background knowledge strategies during the quiz.
Task: Quiz Unit 6
Presentation:
Before delivering the quiz, remind planning and background knowledge strategies to Ss and ask them to explain how they made use of these strategies while doing their homework to answer Test 3.
Deliver the quiz.
Set the time as 70 minutes.
When the time is up, ask them to exchange their papers with their partners.

Encourage Ss to speculate on the texts in the quiz and more importantly encourage them to talk about their use of strategies during the quiz.
Give the correct answers.

Conclusion:

Ask Ss to evaluate how well they have completed reading the texts and applied planning and background knowledge strategies. Discuss their use of planning and background strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 5 in Reading Practice Book for the next class to practise the use of planning and background knowledge strategies.

METARESTRAP Lesson Plan for Teaching 'Questioning and Inference Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The knowledge of 'questioning and inference strategies'.
  - **Outcomes:** Students
    - form questions from headings and sub-headings
    - anticipate/self-question the forthcoming information in the text.
    - answer their previous questions and/or clarify their predictions while reading the text.
    - infer the information from the text when something critical to their understanding of the text is not directly stated.
    - infer pronoun referents.
- **Aim 2:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.

Materials:
Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 7 / Part 1
Reading the text 'Keeping his eye on the ball' and doing the relevant exercises.
Presentation:
Before reading the text and doing the relevant exercises, remind planning and background knowledge strategies to Ss and ask them to explain how they made use of these strategies while doing their homework to answer Test 4.
Questioning and inference strategies: Explain how they can monitor their comprehension by question generation and inference strategies. Tell Ss that they can question before, while, and also after reading the text; however they can anticipate the forthcoming information either before reading or while reading the text. Tell Ss to answer their questions or clarify their predictions while reading the text or after reading the text. Tell them to refer to their background knowledge which might be beneficial since they can form questions based on their previous knowledge relevant to the text. Besides, encourage them to use question words (who, what, when, where, which, and why). Such strategies allow Ss to actively involve in reading process.
5. '*You are going to read an article about tennis player Andre Agassi. Before you read, discuss the following.'*
Elicit what the Ss know about Andre Agassi and activate their relevant schemata Provide background information about him in case lack of relevant schema. Ask Ss to look at each section and discuss their answers in pairs. Check Ss' answers before reading the text.

a. *'What factors can negatively affect an athlete's form? Think about loss of confidence, personal problems, and age.'*
b. *'What does the phrase "to keep one's eye on the ball" mean? Why do you think the writer has used it in the title? Discuss, then read the first two paragraphs and check your answers.*
c. *'The following words and phrases appear in the passage. In what context do you think they will occur?'*
Check that Ss understand the meaning of the words and phrases in the list, then elicit guesses concerning the possible context in which they might be used in the text. Assure Ss that the accuracy of their predictions is unimportant, but that the act of formulating expectations makes their reading of the text more efficient.
Encourage Ss to generate questions about the text. Ask Ss infer what would happen in the text.
6. '*Now read the passage thoroughly and answer the questions that follow (1 to 7). Were your predictions in 5c correct?'*
Elicit/Explain the meaning of any unfamiliar vocabulary in the questions – but not in the text itself – then allow Ss 15-20 minutes to read the text again and answer the questions. Check Ss' answers, then elicit/explain the meaning of any vocabulary in the text which Ss still do not understand. While reading the text, ask Ss to answer their previously generated questions and clarify their predictions.
7. *'Follow-up: Answer the following questions.'*
Confirm that Ss understand the vocabulary in the rubric. Allow Ss 5 minutes to complete the task. Check Ss answers to open-ended questions.
8. a. *'Match the words on the left to their synonyms on the right, then use them in your own sentences.'*
Confirm that Ss understand the items in the list by asking them to explain/translate/etc. Allow Ss a few minutes to complete the task. Check Ss' answers.
b. *'Explain the words in bold.'*
Ss can use dictionaries to find the meanings of unknown words. Check Ss answers, then explain/elicit the meaning of vocabulary which Ss still do not understand.
c. *'Read the article again and find three idioms. What do they mean?'*
Ss read the text again and find idioms. Check Ss' answers. Write example sentences containing idioms on the board to confirm that the meaning is clear.
Conclusion:
Ask Ss to evaluate how well they have completed reading the text and applied questioning and inference strategies. Discuss their use of questioning and inference strategies with the whole class in order to make them more effective.
Homework:
Ask Ss to study Test 5 in Reading Practice Book for the next class to practise the use of questioning and inference strategies. Also remind them to employ previously learned background knowledge and planning strategies while doing their homework.

METARESTRAP Lesson Plan for Practising 'Questioning and Inference Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The practice of 'questioning and inference strategies'.
  - **Outcomes:** Students
    - form questions from headings and sub-headings,
    - anticipate/self-question the forthcoming information in the text,
    - answer their questions / clarify their predictions while reading the text,
    - infer the information from the text when something critical to their understanding of the text is not directly stated, and
    - infer pronoun referents.
- **Aim 2:** The analysis of reading for filling in the gaps with the suitable words by practising questioning and inference strategies.
  - **Outcome:** Students select the suitable words which fit the gaps.

Materials:
Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 7 / Part 2
Reading texts associated with sports and filling the gaps.
Presentation:
Before reading the text and doing the relevant exercises, remind questioning and inference strategies to Ss and ask them to explain how they made use of these strategies along with planning and background knowledge strategies while doing their homework to answer Test 5.
29. *'You will read three passages associated with sport.'*
Before you read the whole paragraphs, read the title and the first sentence of each paragraph ignoring the gaps in them, and try to infer the forthcoming information in the three paragraphs. What do you expect to read in the rest of them? Then question the authors' attitude towards the topic of each text. You will clarify your predictions and find answers to your questions while reading the text. You can evaluate your performance on questioning and inferring when you finish reading the text.
a. *'Skim the passages and say by which of the three writers the views below have probably been expressed. Underline the parts of the passages that helped you reach your decisions and compare with a classmate.'*
Elicit from Ss what they know about sports psychology, U.S. cricket and cheerleading. Ss skim passages and give the gist of each text. Ss answer questions. Check Ss answers.
b. *'Read the extracts and choose the best words to fill in the gaps.'*
Tell Ss that they will clarify their predictions and find answers to their questions while reading the text. Elicit/Explain the meanings of the words in the questions. Allow Ss 15 to 20 minutes to read the texts again and to complete the task. Check Ss' answers. Explain any words Ss do not understand from the texts.
30. *'Follow-up: Answer the questions.'*
Elicit suitable answers from individual Ss for open-ended questions.

31. *'The words and phrases below have taken from the choices in Ex. 29. Making any necessary changes, use them to replace the words/phrases in bold in the sentences that follow.'*

Ss will be familiar with the vocabulary from Ex. 29. Ss complete the task. Check Ss' answers.

Conclusion:

Ask Ss to evaluate how well they have completed reading the text and applied questioning and inference strategies. Discuss their use of questioning and inference strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 6 in Reading Practice Book for the next class to practise the use of questioning and inference strategies. Also remind them to employ previously learned background knowledge and planning strategies while doing their homework.

METARESTRAP Lesson Plan for Teaching 'Annotating Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The knowledge of 'annotating strategies'.
  - **Outcomes:** Students
    - underline/highlight important information,
    - paraphrase the author's words in the margins of the text,
    - summarize, and
    - write questions/notes in the margins to better understand the text.
- **Aim 2:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Upstream Proficiency Workbook (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 7 Workbook
Reading four texts associated with the sports.
Presentation:
Before reading the text and doing the relevant exercises, remind questioning and inference strategies to Ss and ask them to explain how they made use of these strategies along with planning and background knowledge strategies while doing their homework to answer Test 6.
Annotating strategies: Explain how they can paraphrase author's original word into theirs by using annotating strategies in the margins of the text. Tell Ss that they can use these strategies while reading the text. Tell how annotating is different from simply underlining or highlighting important information in the text. Tell Ss to use the strategy of summarize for longer parts. Tell Ss to write questions or take notes in the margins to better understand the text.
13. '*You are going to read four passages associated with sport.'*
a. *'Skim-read the passages. Which one*
1 might come from a travelogue?
2 is instructional?
3 is about a great moment in one's career?
4 contains a complaint?'
Encourage Ss to skim the texts in order to complete this exercise fairly quickly. Ss skim text then complete task in pairs. Check Ss' answers. Encourage Ss to justify their answers.
b. *'Now read the passages carefully and answer the questions that follow each one (1-8).'*
Ask them to underline/highlight important information while reading the text. Also ask Ss to paraphrase important information in the margins of the text. Ask them to summarize each paragraph with a single sentence representing the thesis statement. Finally, ask Ss to write questions or take notes in the margins to better understand the text.

Ss read questions. Elicit/Explain any unfamiliar vocabulary in the questions; then allow Ss 20 to 25 minutes to read the texts and answer the questions. Check Ss' answers and explain any vocabulary they still do not understand.

14. *'Answer the following questions about the four passages.'*

Allow Ss 10 minutes to complete the task. Check Ss answers to open-ended questions.

Conclusion:

Ask Ss to evaluate how well they have completed reading the text and applied annotating strategies. Discuss their use of annotating strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 7 in Reading Practice Book for the next class to practise the use of annotating strategies. Also remind them to employ previously learned planning, background knowledge, questioning and inference strategies while doing their homework.

METARESTRAP Lesson Plan for Practising 'Questioning, Inference, and Annotating Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The practice of 'questioning and inference strategies'.
  - **Outcomes:** Students
    - form questions from headings and sub-headings,
    - anticipate/self-question the forthcoming information in the text,
    - answer their questions / clarify their predictions while reading the text,
    - try to infer the information from the text when something critical to their understanding of the text is not directly stated, and
    - infer pronoun referents.
- **Aim 2:** The practice of 'annotating strategies'.
  - **Outcomes:** Students
    - underline/highlight important information,
    - paraphrase the author's words in the margins of the text,
    - summarize, and
    - write questions/notes in the margins to better understand the text.
- **Aim 3:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.
- **Aim 4:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Quiz: Constitutes of two long texts. The first text about 800 words with 7 multiple choice four option questions. Seven paragraphs have been removed and presented in a jumbled order with an extra one in the second text. Finally, a total amount of 40 vocabulary questions in either as multiple choice or gap filling are delivered.
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
Ss are encouraged to employ questioning, inference, and annotating strategies as well as previously practised planning and background knowledge strategies during the quiz.
Task: Quiz Unit 7
Presentation:
Before delivering the quiz, remind Ss questioning, inference, and annotating strategies and ask them to explain how they made use of these strategies along with planning and background knowledge strategies while doing their homework to answer Test 7.
Deliver the quiz.

Set the time as 70 minutes.
When the time is up, ask them to exchange their papers with their partners.
Encourage Ss to speculate on the texts in the quiz and more importantly encourage them to talk about their use of strategies during the quiz.
Give the correct answers.

Conclusion:

Ask Ss to evaluate how well they have completed reading the texts and applied questioning, inference, and annotating strategies along with previously learned planning and background knowledge strategies. Discuss their use of strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 9 in Reading Practice Book for the next class to practise the use of questioning, inference, and annotating strategies along with planning and background knowledge strategies.

METARESTRAP Lesson Plan for Teaching 'Visualizing Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The knowledge of 'visualizing strategies'.
  - **Outcomes:** Students
    - draw graphic logs, and
    - refer to graphic organizers (semantic mapping / clustering).
- **Aim 2:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.

Materials:
Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 8 / Part 1
Reading the text 'Colouring people' and doing the relevant exercises.
Presentation:
Before reading the text and doing the relevant exercises, remind Ss planning, background knowledge, questioning, inference, and annotating strategies and ask them to explain how they made use of these strategies while doing their homework to answer Test 8.
Visualizing strategies: Explain how they can visualize the scenes in the text and refer to their senses for anticipation by visualizing strategies. Tell Ss that they can visualize while and also after reading the text. Tell them to refer to their background knowledge to make these strategies more effective. As in the other strategies, such strategies allow Ss to actively involve in reading process. Explain that they can draw graphic logs by quoting the relevant part of the text and then respond with a symbol in order to correspond it in case of comprehension problems. Teach them how to use graphic organizers to observe the idea units and flow of ideas in the text.
5. a. *'You are going to read an article about racial preconceptions. Before you read, discuss the following questions.'*
Present the rubric and elicit/explain the meaning of preconceptions. Ss discuss their answers to the questions in pairs or as a whole class.
b. *'The following words and phrases appear in the article. In what context do you think they will appear?'*
Check that Ss understand the meaning of the words and phrases in the list, then elicit guesses concerning the possible context in which they might be used in the text. Assure Ss that the accuracy of their predictions is unimportant, but that the act of formulating expectations makes their reading of the text more efficient.

c. *'Read the passage quickly. Which one of the following sentences best summarises it s content?'*
Ss skim text then complete task in pairs. Check Ss' answers. Encourage Ss to justify their answers.
d. *'Read the article and answer the questions (1-7).'*
Ask Ss to use graphic logs for the characters in the text quoting from the text and responding with a drawing or symbol that corresponds to it.
Ask Ss to use a graphic organizer to illustrate problem/solution outline in the text.
Elicit/Explain the meaning of any unfamiliar vocabulary in the questions (not the text) and allow Ss 20-25 minutes to read the text more carefully and answer the questions. Check Ss' answers.
6. *'Follow-up: Answer the following questions.'*
Ss work in pairs. Ss should underline the quoted words and phrases in the text, then look at their use in context before answering the question in their own words and as briefly as possible. Invite pairs to give their answers to the class.
7. a. *'Explain the words in bold from the text and use them in sentences. Use a dictionary to help you.'*
Elicit/Explain meaning of words from context. Alternatively ask Ss to use their dictionaries. Make sure that Ss choose the dictionary definition that fits the context. Ss make sentences. As an optional extension, for homework, Ss may then be asked to make sentences of their own using some/all of the words in the task.
Elicit/Explain any other vocabulary in the text Ss do not understand.
b. '*Find synonyms for the highlighted words.'*
Allow Ss time to complete the task. Check Ss' answers.
8. '*What parts of one's life can racial preconceptions affect? Think about work, family life, entertainment, and travelling.'*
As individual Ss to present their ideas.
Conclusion:
Ask Ss to evaluate how well they have completed reading the text and applied visualizing strategies. Discuss their use of visualizing strategies with the whole class in order to make them more effective.
Homework:
Ask Ss to study Test 9 in Reading Practice Book for the next class to practise the use of visualizing strategies. Also remind them to employ previously learned planning, background knowledge, questioning, inference, and annotating strategies while doing their homework.

METARESTRAP Lesson Plan for Practising 'Visualizing Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** Practising 'visualizing strategies'.
  - **Outcomes:** Students
    - draw graphic logs, and
    - refer to graphic organizers (semantic mapping / clustering).
- **Aim 2:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.

Materials:
Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 8 / Part 2
Reading four extracts associated with various social issues.
Presentation:
Before reading the text and doing the relevant exercises, remind Ss visualizing strategies and ask them to explain how they made use of these strategies along with planning, background knowledge, questioning, inference, and annotating strategies while doing their homework to answer Test 9.
27. a. *'You will read four extracts associated with various social issues. Look at the titles of the extracts and decide in which extract each of the following sentences or phrases will appear.'*
Elicit/Explain meanings of any unfamiliar words in the titles. Help Ss to match phrases to extracts.
b. *'Now read the extracts and answer the questions that follow each one (1-8).'*
Ask Ss to use graphic logs for the characters in the text quoting from the text and responding with a drawing or symbol that corresponds to it.
Ask Ss to use a spider map as a graphic organizer to illustrate central ideas along with supporting ones in the text.
Ss read questions. Elicit/Explain any unfamiliar vocabulary in the questions; then allow Ss 20 to 25 minutes to read the texts and answer the questions. Check Ss' answers and explain any vocabulary they still do not understand.
28. *'Answer the following questions.'*
Ss work in pairs or small groups to answer questions.
Conclusion:

Ask Ss to evaluate how well they have completed reading the text and applied visualizing strategies. Discuss their use of visualizing strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 10 in Reading Practice Book for the next class to practise the use of visualizing strategies. Also remind them to employ previously learned planning, background knowledge, questioning, inference, and annotating strategies while doing their homework.

METARESTRAP Lesson Plan for Teaching 'Context-Based Evaluative Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The knowledge of 'context-based evaluative strategies'.
  - **Outcomes:** Students
    - re-read the text in case of difficulty,
    - read the text in short parts and check their understanding,
    - determine the meaning of critical unknown words, and
    - distinguish main ideas from minor ones.
- **Aim 2:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Upstream Proficiency Workbook (Evans & Dooley, 2002) as a coursebook;
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
The teacher aims to implement declarative, procedural, and conditional awareness about each strategy by first modelling it to Ss and then expecting from Ss to internalize it as they read on their own.
Task: UNIT 8 Workbook
Reading the text 'Nineteenth century life in English cities'.
Presentation:
Before reading the text and doing the relevant exercises, remind visualizing strategies to Ss and ask them to explain how they made use of these strategies along with planning, background knowledge, questioning, inference, and annotating strategies while doing their homework to answer Test 10.
Context-based evaluative strategies: Explain how they can understand the relationships between the parts of a text by context-based evaluative strategies. Tell Ss that they can use these strategies while and also after reading the text. Remind Ss to monitor their reading process to employ these strategies more effectively. As in questioning and inference strategies, such strategies also allow Ss to actively involve in reading process. Then, tell Ss to pause while or after reading the text in order to construct meaning. Ask them to monitor their comprehension of the text throughout reading process and in case of difficulty remind them to re-read the problematic parts of the text. Alternatively, ask Ss to read the text in short parts and check their understanding. Explain that when they encounter unknown critical words, they need to determine their meanings. In order to distinguish main ideas from the minor ones, ask them to pay attention to the introduction and conclusion parts of the text along with the thesis statements in each paragraph.
14. a. *'You will read a passage about English industrial cities in the 19th century. Before you read, discuss the following questions.'*
Invite Ss to speculate on organizing a city by taking policing, housing, and sanitation into consideration. Also encourage them to talk about on the fiery debate between employment and pollution.
b. *'Now read the passage. Some paragraphs have been removed. Insert them from the opposite page. There is one paragraph you do not need to use.'*

Ask them to monitor their comprehension of the text throughout reading process and in case of difficulty remind them to re-read the problematic parts of it. Ask Ss to read the text in short parts and check their understanding. Explain that when they encounter unknown critical words, they need to determine their meanings. Ask Ss to identify the thesis statements in each paragraph.

Ss do the reading task and answer the questions. Check Ss' answers. Elicit/Explain the meaning of any unfamiliar vocabulary.

15. a. *'Underline the phrases which helped you insert the missing paragraphs.'*

Explain to Ss that it is good practice to underline or note the words or phrases that guided them to their answers. Elicit/explain the meaning of any unfamiliar vocabulary.

b. *'Match the following words/phrases (taken from the passage) to their synonyms/definitions on the right, then make your own sentences.'*

Elicit/Explain meaning of words/phrases from context. Alternatively ask Ss to use their dictionaries. Check Ss answers. Ss make sentences. As an optional extension, for homework, Ss may then be asked to make sentences of their own using some/all of the marks/phrases in the task.

Conclusion:

Ask Ss to evaluate how well they have completed reading the text and applied context-based evaluative strategies. Discuss their use of context-based evaluative strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study Test 11 in Reading Practice Book for the next class to practise the use of context-based evaluative strategies. Also remind them to employ previously learned planning, background knowledge, questioning, inference, annotating, and visualizing strategies while doing their homework.

METARESTRAP Lesson Plan for Practising 'Visualizing and Context-Based Evaluative Strategies'

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** Practising 'visualizing strategies'.
  - **Outcomes:** Students
    - draw graphic logs, and
    - refer to graphic organizers (semantic mapping / clustering).
- **Aim 2:** Practising 'context-based evaluative strategies'.
  - **Outcomes:** Students
    - re-read the text in case of difficulty,
    - read the text in short parts and check their understanding,
    - determine the meaning of critical unknown words, and
    - distinguish main ideas from minor ones.
- **Aim 3:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.
- **Aim 4:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Quiz: Constitutes of two long texts. The first text about 800 words with 7 multiple choice four option questions. Seven paragraphs have been removed and presented in a jumbled order with an extra one in the second text. Finally, a total amount of 40 vocabulary questions in either as multiple choice or gap filling are delivered.
Reading Practice Tests (Razı & Razı, 2008) to practise strategies.
Motivation:
Ss are encouraged to employ visualizing and context-based evaluative strategies as well as planning, background knowledge, questioning, inference, and annotating strategies during the quiz.
Task: Quiz Unit 8
Presentation:
Before delivering the quiz, remind Ss visualizing and context-based evaluative strategies and ask them to explain how they made use of these strategies along with previously learned planning, background knowledge, questioning, inference, and annotating strategies while doing their homework to answer Test 11.
Deliver the quiz.
Set the time as 70 minutes.
When the time is up, ask them to exchange their papers with their partners.

Encourage Ss to speculate on the texts in the quiz and more importantly encourage them to talk about their use of strategies during the quiz.
Give the correct answers.

Conclusion:

Ask Ss to evaluate how well they have completed reading the texts and applied visualizing and context-based evaluative strategies along with previously learned planning, background knowledge, questioning, inference, and annotating strategies. Discuss their use of strategies with the whole class in order to make them more effective.

Homework:

Ask Ss to study the tests from 12 to 20 (as much as possible) in Reading Practice Book to practise their use of all strategies and in accordance with METARESTRAP.

Appendix F:

Control group lesson plans

NOTE: ***Control group lesson plans were prepared by taking Evans and Dooley's (2002) recommendations into consideration in Upstream Proficiency teachers' book.***

Control Group Lesson Plan for Unit 6 / Part 1

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).

- **Outcomes:** Students
  - get the main idea in the text,
  - find the details in the text,
  - indicate implied meaning,
  - state author's attitude, tone, purpose in writing the text,
  - take care of text organization features, and
  - answer multiple choice questions.

Material: Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 6 / Part 1
Reading the text 'Improving upon perfection' and doing the relevant exercises.
Presentation:
6. '*You are going to read a review of a DVD version of the 1941 film 'Citizen Kane', starring and directed by Orson Welles. Before you read, discuss the following.'*
a. *'What does the title tell you about the reviewer's opinion?'*
Present the rubric, allow Ss a moment to look at the text, then elicit an answer to the question.
b. *'The following words and phrases appear in the passage. In what context do you think they will occur?'*
Check that Ss understand the meaning of the words and phrases in the list, then elicit guesses concerning the possible context in which they might be used in the text. Assure Ss that the accuracy of their predictions is unimportant, but that the act of formulating expectations makes their reading of the text more efficient.
c. *'Citizen Kane is considered to be one of the greatest, if not the greatest film, ever made. What do you know about it? Write T (true) or F (false) next to each of the following statements.'*
Do not ask Ss to read the text yet. This exercise, again, requires Ss to predict (not to produce accurate answers), therefore allow Ss about 1 minute only to answer the True/False questions.
d. *'Now read the passage quickly to see if your guesses in b and c were correct.'*
Now, ask Ss to read the passage quickly to see if their guesses were correct. Get feedback from individual Ss.
7. *'What is the topic of each paragraph?'*
Encourage Ss to skim the paragraphs in the passage in order to complete this exercise fairly quickly.
8. *'Read the article and answer the questions 1 to 7.'*
Elicit/Explain the meaning of any unfamiliar vocabulary in the multiple choice questions – but not in the text itself – then allow Ss 10 minutes to read the text again and answer the questions. Check Ss' answers, then elicit/explain the meaning of any vocabulary in the text which Ss still do not understand.
9. *'Follow-up: Answer the following questions.'*

Ask individual Ss to answer the open-ended questions.

10. *'Read the article again and in pairs, make a list of words/phrases related to films, then group them under appropriate headings.'*

Present the rubric and give one example of a word group heading, e.g. *Type of film.* Explain to Ss that they can use the passage as a source for their word lists and ideas for headings but they are not limited to listing only words which appear in the passage.

11. *'Find synonyms for the highlighted words.'*

Allow Ss time to complete the task. Check Ss' answers.

12. *'Which is the best film you've ever seen? What was it that you liked about it?*

Ask one or two individual Ss the question.'

Control Group Lesson Plan for Unit 6 / Part 2

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).

- **Outcomes:** Students
  - get the main idea in the text,
  - find the details in the text,
  - indicate implied meaning,
  - state author's attitude, tone, purpose in writing the text,
  - take care of text organization features, and
  - answer multiple choice questions.

Material: Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 6 / Part 2
Reading four texts associated with the arts.
Presentation:
34. a. *'You are going to read four texts associated with the arts. Before you read, look at the four titles and guess which text each of the following phrases is taken from. In what context might the phrases be used?'*
Present the rubric and elicit answers from individual Ss:
b. *'Read the texts quickly and check your answers to a.'*
Ask Ss to read the texts quickly to assess the accuracy of their predictions.
c. *'Read the texts again and answer the questions that follow (1-8).'*
Elicit/Explain the meaning of any unknown vocabulary in the questions. Ss do the task, then check answers. Elicit/Explain the meaning of any vocabulary in the texts which Ss still do not understand.
35. *'Follow-up: Answer these questions.'*
Elicit suitable answers from individual Ss for open-ended questions.

Control Group Lesson Plan for Unit 6 Workbook

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.

- **Outcomes:** Students
  - be aware of the structure of the text,
  - prepare the outline of the text, and
  - replace missing paragraphs.

Material: Upstream Proficiency Workbook (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 6 Workbook
Reading the text 'Art for all?'.
Presentation:
11. a. *'You are going to read a passage about art museums and galleries. Before you read, discuss the following questions.'*
Invite Ss to speculate on visiting art galleries and government's attitude towards art in Turkey.
b. *'Several paragraphs have been removed from the passage. Choose from paragraphs (A-H) on the opposite page to fill the gaps. There is one paragraph you do not need to use.'*
Ss do the reading task and answer the questions. Check Ss' answers. Elicit/Explain the meaning of any unfamiliar vocabulary.
12. *'Go through the completed text and underline the parts that helped you place the missing paragraphs, then compare your answers with a partner.'*
Explain to Ss that it is good practice to underline or note the words or phrases that guided them to their answers. Elicit/explain the meaning of any unfamiliar vocabulary.
13. *'The following phrases appear in the passage. Work out their meanings from their context (give a near-synonym or a brief definition). Then use the phrases in your own sentences.'*
Elicit/Explain meaning of phrases from context. Alternatively ask Ss to use their dictionaries. Make sure that Ss choose the dictionary definition that fits the context. Ss make sentences. As an optional extension, for homework, Ss may then be asked to make sentences of their own using some/all of the phrases in the task.

Control Group Lesson Plan for Quiz Unit 6

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.
- **Aim 2:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Quiz: Constitutes of two long texts. The first text about 800 words with 7 multiple choice four option questions. Seven paragraphs have been removed and presented in a jumbled order with an extra one in the second text. Finally, a total amount of 40 vocabulary questions in either as multiple choice or gap filling are delivered.
Task: Quiz Unit 6
Presentation:
Deliver the quiz.
Set the time as 70 minutes.
When the time is up, ask them to exchange their papers with their partners.
Give the correct answers.

Control Group Lesson Plan for Unit 7 / Part 1

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).

- **Outcomes:** Students
  - get the main idea in the text,
  - find the details in the text,
  - indicate implied meaning,
  - state author's attitude, tone, purpose in writing the text,
  - take care of text organization features, and
  - answer multiple choice questions.

Material: Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 7 / Part 1
Reading the text 'Keeping his eye on the ball' and doing the relevant exercises.
Presentation:
5. '*You are going to read an article about tennis player Andre Agassi. Before you read, discuss the following.'*
Elicit what the Ss know about Andre Agassi. Ask the Ss to look at each section and discuss their answers in pairs. Check Ss' answers before reading the text.
a. *'What factors can negatively affect an athlete's form? Think about*

- *loss of confidence.*
- *personal problems.*
- *age.'*

b. *'What does the phrase "to keep one's eye on the ball" mean? Why do you think the writer has used it in the title? Discuss, then read the first two paragraphs and check your answers.*
c. *'The following words and phrases appear in the passage. In what context do you think they will occur?'*
Check that Ss understand the meaning of the words and phrases in the list, then elicit guesses concerning the possible context in which they might be used in the text. Assure Ss that the accuracy of their predictions is unimportant, but that the act of formulating expectations makes their reading of the text more efficient.
6. '*Now read the passage thoroughly and answer the questions that follow (1 to 7). Were your predictions in 5c correct?'*
Elicit/Explain the meaning of any unfamiliar vocabulary in the questions – but not in the text itself – then allow Ss 15-20 minutes to read the text again and answer the questions. Check Ss' answers, then elicit/explain the meaning of any vocabulary in the text which Ss still do not understand.
7. *'Follow-up: Answer the following questions.'*
Confirm that Ss understand the vocabulary in the rubric. Allow Ss 5 minutes to complete the task. Check Ss answers to open-ended questions.
8. a. *'Match the words on the left to their synonyms on the right, then use them in your own sentences.'*
Confirm that Ss understand the items in the list by asking them to explain/translate/etc. Allow Ss a few minutes to complete the task. Check Ss' answers.
b. *'Explain the words in bold.'*
Ss can use dictionaries to find the meanings of unknown words. Check Ss answers, then explain/elicit the meaning of vocabulary which Ss still do not understand.
c. *'Read the article again and find three idioms. What do they mean?'*

Ss read the text again and find idioms. Check Ss' answers. Write example sentences containing idioms on the board to confirm that the meaning is clear.

Control Group Lesson Plan for Unit 7 / Part 2

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of reading for filling in the gaps with the suitable words by practising questioning and inference strategies.

- **Outcome:** Students select the suitable words which fit the gaps.

Material: Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 7/ Part 2
Reading texts associated with sports and filling the gaps.
Presentation:
29. *'You will read three passages associated with sport.'*
a. *'Skim the passages and say by which of the three writers the views below have probably been expressed. Underline the parts of the passages that helped you reach your decisions and compare with a classmate.'*
Elicit from Ss what they know about sports psychology, U.S. cricket and cheerleading. Ss skim passages and give the gist of each text. Ss answer questions. Check Ss answers.
b. *'Read the extracts and choose the best words to fill in the gaps.'*
Elicit/Explain the meanings of the words in the questions. Allow Ss 15 to 20 minutes to read the texts again and to complete the task. Check Ss' answers. Explain any words Ss do not understand from the texts.
30. *'Follow-up: Answer the questions.'*
Elicit suitable answers from individual Ss for open-ended questions.
31. *'The words and phrases below have taken from the choices in Ex. 29. Making any necessary changes, use them to replace the words/phrases in bold in the sentences that follow.'*
Ss will be familiar with the vocabulary from Ex. 29. Ss complete the task. Check Ss' answers.

Control Group Lesson Plan for Unit 7 Workbook

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.

- **Outcomes:** Students
  - be aware of the structure of the text,
  - prepare the outline of the text, and
  - replace missing paragraphs.

Material: Upstream Proficiency Workbook (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 7 Workbook
Reading four texts associated with the sports.
Presentation:
13. '*You are going to read four passages associated with sport.'*
a. *'Skim-read the passages. Which one*
1 might come from a travelogue?
2 is instructional?
3 is about a great moment in one's career?
4 contains a complaint?'
Encourage Ss to skim the texts in order to complete this exercise fairly quickly. Ss skim text then complete task in pairs. Check Ss' answers. Encourage Ss to justify their answers.
b. *'Now read the passages carefully and answer the questions that follow each one (1-8).'*
Ss read questions. Elicit/Explain any unfamiliar vocabulary in the questions; then allow Ss 10 to 15 minutes to read the texts and answer the questions. Check Ss' answers and explain any vocabulary they still do not understand.
14. *'Answer the following questions about the four passages.'*
Allow Ss 10 minutes to complete the task. Check Ss answers to open-ended questions.

Control Group Lesson Plan for Quiz Unit 7

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.
- **Aim 2:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Quiz: Constitutes of two long texts. The first text about 800 words with 7 multiple choice four option questions. Seven paragraphs have been removed and presented in a jumbled order with an extra one in the second text. Finally, a total amount of 40 vocabulary questions in either as multiple choice or gap filling are delivered.
Task: Quiz Unit 7
Presentation:
Deliver the quiz.
Set the time as 70 minutes.
When the time is up, ask them to exchange their papers with their partners.
Give the correct answers.

Control Group Lesson Plan for Unit 8 / Part 1

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).

- **Outcomes:** Students
  - get the main idea in the text,
  - find the details in the text,
  - indicate implied meaning,
  - state author's attitude, tone, purpose in writing the text,
  - take care of text organization features, and
  - answer multiple choice questions.

Material: Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 8 / Part 1
Reading the text 'Colouring people' and doing the relevant exercises.
Presentation:
5. a. *'You are going to read an article about racial preconceptions. Before you read, discuss the following questions.'*
Present the rubric and elicit/explain the meaning of preconceptions. Ss discuss their answers to the questions in pairs or as a whole class.
b. *'The following words and phrases appear in the article. In what context do you think they will appear?'*
Check that Ss understand the meaning of the words and phrases in the list, then elicit guesses concerning the possible context in which they might be used in the text. Assure Ss that the accuracy of their predictions is unimportant, but that the act of formulating expectations makes their reading of the text more efficient.
c. *'Read the passage quickly. Which one of the following sentences best summarises it s content?'*
Ss skim text then complete task in pairs. Check Ss' answers. Encourage Ss to justify their answers.
d. *'Read the article and answer the questions (1-7).'*
Elicit/Explain the meaning of any unfamiliar vocabulary in the questions (not the text) and allow Ss 10-15 minutes to read the text more carefully and answer the questions. Check Ss' answers.
6. *'Follow-up: Answer the following questions.'*
Ss work in pairs. Ss should underline the quoted words and phrases in the text, then look at their use in context before answering the question in their own words and as briefly as possible. Invite pairs to give their answers to the class.
7. a. *'Explain the words in bold from the text and use them in sentences. Use a dictionary to help you.'*
Elicit/Explain meaning of words from context. Alternatively ask Ss to use their dictionaries. Make sure that Ss choose the dictionary definition that fits the context. Ss make sentences. As an optional extension, for homework, Ss may then be asked to make sentences of their own using some/all of the words in the task.
Elicit/Explain any other vocabulary in the text Ss do not understand.
b. '*Find synonyms for the highlighted words.'*
Allow Ss time to complete the task. Check Ss' answers.
8. '*What parts of one's life can racial preconceptions affect? Think about*

- *work*

- *family life*
- *entertainment*
- *travelling'*

As individual Ss to present their ideas.

Control Group Lesson Plan for Unit 8 / Part 2

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).

- **Outcomes:** Students
  - get the main idea in the text,
  - find the details in the text,
  - indicate implied meaning,
  - state author's attitude, tone, purpose in writing the text,
  - take care of text organization features, and
  - answer multiple choice questions.

Material: Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 8 / Part 2
Reading four extracts associated with various social issues.
Presentation:
27. a. *'You will read four extracts associated with various social issues. Look at the titles of the extracts and decide in which extract each of the following sentences or phrases will appear.'*
Elicit/Explain meanings of any unfamiliar words in the titles. Help Ss to match phrases to extracts.
b. *'Now read the extracts and answer the questions that follow each one (1-8).'*
Ss read questions. Elicit/Explain any unfamiliar vocabulary in the questions; then allow Ss 10 to 15 minutes to read the texts and answer the questions. Check Ss' answers and explain any vocabulary they still do not understand.
28. *'Answer the following questions.'*
Ss work in pairs or small groups to answer questions.

Control Group Lesson Plan for Unit 8 Workbook

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aim: The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).

- **Outcomes:** Students
  - get the main idea in the text,
  - find the details in the text,
  - indicate implied meaning,
  - state author's attitude, tone, purpose in writing the text,
  - take care of text organization features, and
  - answer multiple choice questions.

Material: Upstream Proficiency (Evans & Dooley, 2002) as a coursebook;
Task: UNIT 8 Workbook
Reading the text 'Nineteenth century life in English cities'.
Presentation:
14. a. *'You will read a passage about English industrial cities in the 19th century. Before you read, discuss the following questions.'*
Invite Ss to speculate on organizing a city by taking policing, housing, and sanitation into consideration. Also encourage them to talk about on the fiery debate between employment and pollution.
b. *'Now read the passage. Some paragraphs have been removed. Insert them from the opposite page. There is one paragraph you do not need to use.'*
Ss do the reading task and answer the questions. Check Ss' answers. Elicit/Explain the meaning of any unfamiliar vocabulary.
15. a. *'Underline the phrases which helped you insert the missing paragraphs.'*
Explain to Ss that it is good practice to underline or note the words or phrases that guided them to their answers. Elicit/explain the meaning of any unfamiliar vocabulary.
b. *'Match the following words/phrases (taken from the passage) to their synonyms/definitions on the right, then make your own sentences.'*
Elicit/Explain meaning of words/phrases from context. Alternatively ask Ss to use their dictionaries. Check Ss answers. Ss make sentences. As an optional extension, for homework, Ss may then be asked to make sentences of their own using some/all of the marks/phrases in the task.

Control Group Lesson Plan for Quiz Unit 8

English Proficiency Level: Advanced level EFL
Grade: University preparatory class
Aims:

- **Aim 1:** The analysis of reading for detail, opinion, attitude, tone, purpose, main idea, implication, text organization features (exemplification, comparison, reference).
  - **Outcomes:** Students
    - get the main idea in the text,
    - find the details in the text,
    - indicate implied meaning,
    - state author's attitude, tone, purpose in writing the text,
    - take care of text organization features, and
    - answer multiple choice questions.
- **Aim 2:** The analysis of placing missing paragraphs by reading for cohesion, coherence, text structure, and global meaning.
  - **Outcomes:** Students
    - be aware of the structure of the text,
    - prepare the outline of the text, and
    - replace missing paragraphs.

Materials:
Quiz: Constitutes of two long texts. The first text about 800 words with 7 multiple choice four option questions. Seven paragraphs have been removed and presented in a jumbled order with an extra one in the second text. Finally, a total amount of 40 vocabulary questions in either as multiple choice or gap filling are delivered.
Task: Quiz Unit 8
Presentation:
Deliver the quiz.
Set the time as 70 minutes.
When the time is up, ask them to exchange their papers with their partners.
Give the correct answers.

Appendix G:

Permission provided by Dean of Faculty of Education to administer experimental study

T.C.
ÇANAKKALE ONSEKİZ MART ÜNİVERSİTESİ
EĞİTİM FAKÜLTESİ DEKANLIĞI

SAYI : B.30.2.ÇAÜ.0.36.00.00/ 040-4705 **ÇANAKKALE**
KONU : Okutman Salim RAZI'nın Araştırma İzni 13.11.2008

YABANCI DİLLER EĞİTİMİ BÖLÜM BAŞKANLIĞINA
(İngiliz Dili Eğitimi Anabilim Dalı Başkanlığı)

İLGİ: 11.11.2008 tarih ve 441 sayılı yazınız;

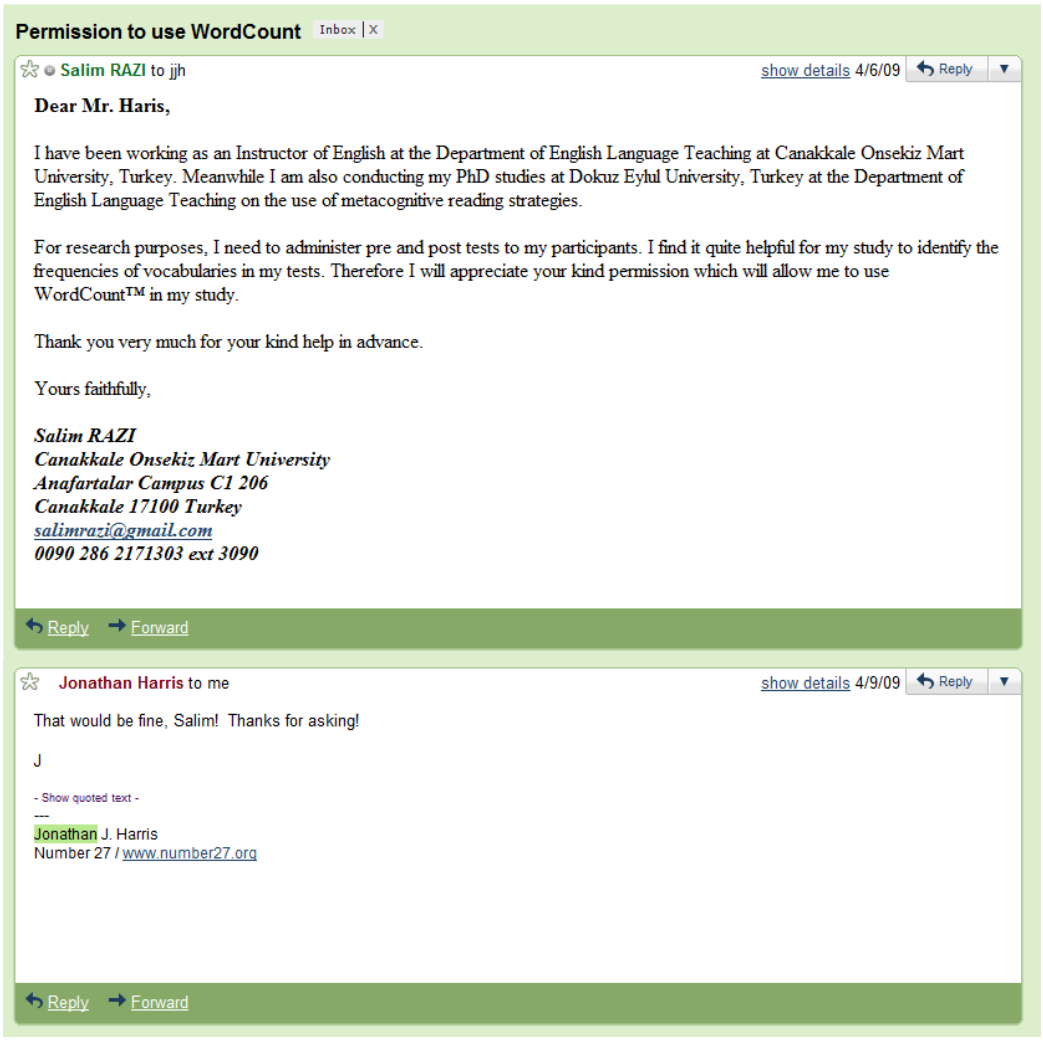
Bölümünüz İngiliz Dili Eğitimi Anabilim Dalı'nda görev yapan Okutman Salim RAZI'nın, doktora tezi kapsamında, 2008 – 2009 Akademik Yılı Güz ve Bahar Yarıyıllarında, ilgili Anabilim Dalı'nın hazırlık ve I. sınıfında öğrenim gören öğrencilere yönelik biliş üstü stratejilerinin kullanımıyla ilgili çalışma yapma istemi uygun görülmüştür.

Bilgilerinizi ve gereğini saygılarımla rica ederim.

Prof. Dr. Dinçay KÖKSAL
Dekan

Appendix H:

Permission to use WordCount™



Permission to use WordCount Inbox | X

Salim RAZI to jjh — show details 4/6/09 — Reply

Dear Mr. Haris,

I have been working as an Instructor of English at the Department of English Language Teaching at Canakkale Onsekiz Mart University, Turkey. Meanwhile I am also conducting my PhD studies at Dokuz Eylul University, Turkey at the Department of English Language Teaching on the use of metacognitive reading strategies.

For research purposes, I need to administer pre and post tests to my participants. I find it quite helpful for my study to identify the frequencies of vocabularies in my tests. Therefore I will appreciate your kind permission which will allow me to use WordCount™ in my study.

Thank you very much for your kind help in advance.

Yours faithfully,

Salim RAZI
Canakkale Onsekiz Mart University
Anafartalar Campus C1 206
Canakkale 17100 Turkey
salimrazi@gmail.com
0090 286 2171303 ext 3090

Reply Forward

Jonathan Harris to me — show details 4/9/09 — Reply

That would be fine, Salim! Thanks for asking!

J

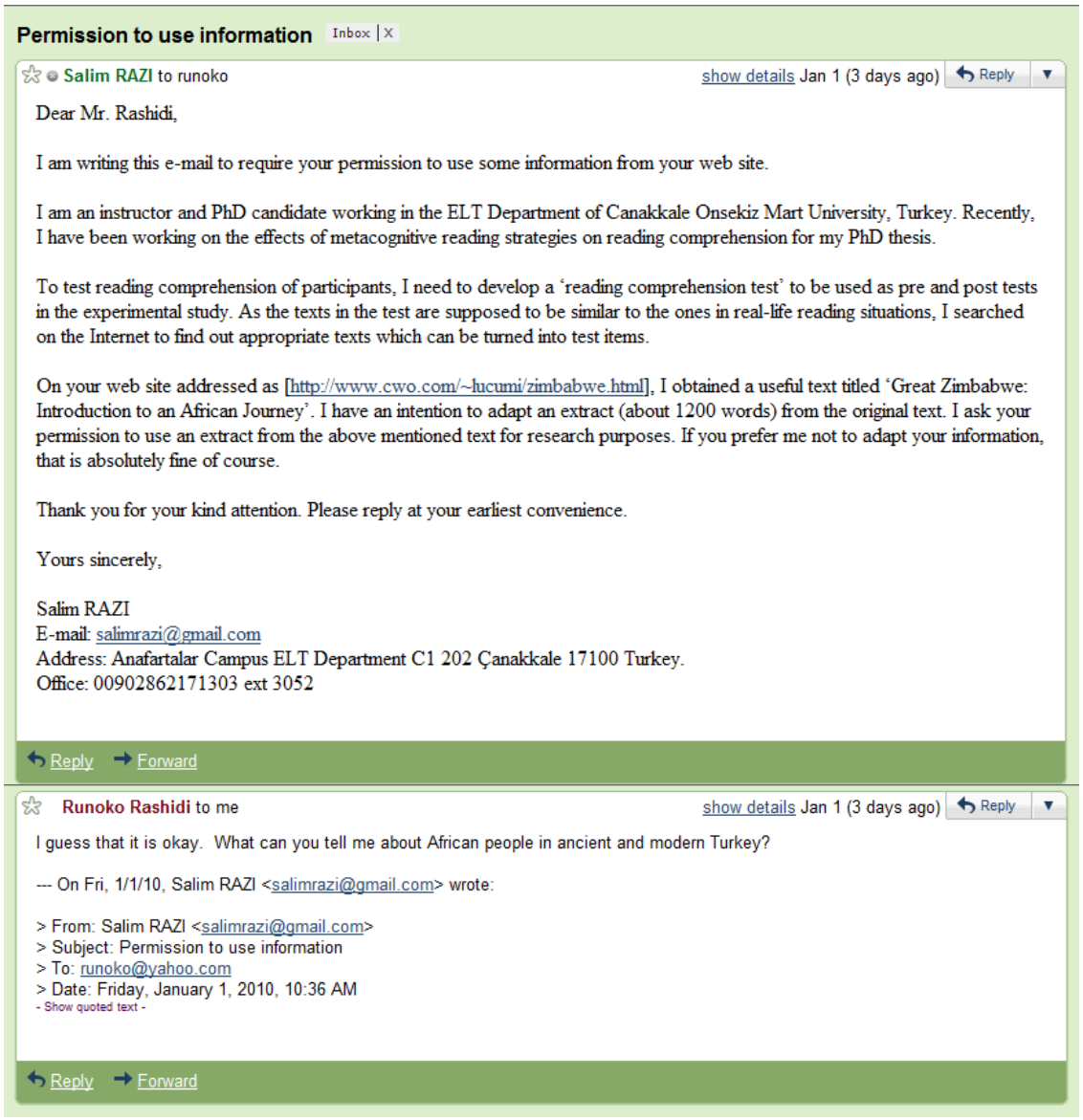
- Show quoted text -

Jonathan J. Harris
Number 27 / www.number27.org

Reply Forward

Appendix I:

Permissions to use the original texts in the reading test



Permission to use information Inbox | X

Salim RAZI to runoko — show details Jan 1 (3 days ago) Reply

Dear Mr. Rashidi,

I am writing this e-mail to require your permission to use some information from your web site.

I am an instructor and PhD candidate working in the ELT Department of Canakkale Onsekiz Mart University, Turkey. Recently, I have been working on the effects of metacognitive reading strategies on reading comprehension for my PhD thesis.

To test reading comprehension of participants, I need to develop a 'reading comprehension test' to be used as pre and post tests in the experimental study. As the texts in the test are supposed to be similar to the ones in real-life reading situations, I searched on the Internet to find out appropriate texts which can be turned into test items.

On your web site addressed as [http://www.cwo.com/~lucumi/zimbabwe.html], I obtained a useful text titled 'Great Zimbabwe: Introduction to an African Journey'. I have an intention to adapt an extract (about 1200 words) from the original text. I ask your permission to use an extract from the above mentioned text for research purposes. If you prefer me not to adapt your information, that is absolutely fine of course.

Thank you for your kind attention. Please reply at your earliest convenience.

Yours sincerely,

Salim RAZI
E-mail: salimrazi@gmail.com
Address: Anafartalar Campus ELT Department C1 202 Çanakkale 17100 Turkey.
Office: 00902862171303 ext 3052

Reply Forward

Runoko Rashidi to me — show details Jan 1 (3 days ago) Reply

I guess that it is okay. What can you tell me about African people in ancient and modern Turkey?

--- On Fri, 1/1/10, Salim RAZI <salimrazi@gmail.com> wrote:

> From: Salim RAZI <salimrazi@gmail.com>
> Subject: Permission to use information
> To: runoko@yahoo.com
> Date: Friday, January 1, 2010, 10:36 AM
- Show quoted text -

Reply Forward

RE: Permission to use information Inbox | X

Scherer, Jane to me show details Jan 2 (2 days ago) Reply

Dear Sir:

Permission is granted to use the text for your research study.
Jane Scherer

-----Original Message-----
From: Salim RAZI [mailto:salimrazi@gmail.com]
Sent: Friday, January 01, 2010 9:22 AM
To: Scherer, Jane
Subject: Permission to use information

To: webfeedback@extension.uiuc.edu
From: Salim RAZI <salimrazi@gmail.com> (Canakkale, Turkey)
Contact Phone: 00902862171303 ext 3052

Dear Sir/Madam,

I am writing this e-mail to require your permission to use some information from your web site.

I am an instructor and PhD candidate working in the ELT Department of Canakkale Onsekiz Mart University, Turkey. Recently, I have been working on the effects of metacognitive reading strategies on reading comprehension for my PhD thesis.

To test reading comprehension of participants, I need to develop a 'reading comprehension test' to be used as pre and post tests in the experimental study. As the texts in the test are supposed to be similar to the ones in real-life reading situations, I searched on the Internet to find out appropriate texts which can be turned into test items.

On your web site addressed as [http://web.extension.uiuc.edu/connecting/i1931_475.html], I obtained a useful text titled 'Summer 2005 - Timing television' subtitled 'Choosing TV programs, movies, videos, & DVDs'. I have an intention to adapt an extract (about 250 words) from the original text. I ask your permission to use an extract from the above mentioned text for research purposes. If you prefer me not to adapt your information, that is absolutely fine of course.

Thank you for your kind attention. Please reply at your earliest convenience.

Yours faithfully,

Salim RAZI
E-mail: salimrazi@gmail.com
Address: Anafartalar Campus ELT Department C1 202 Çanakkale 17100 Turkey.
Office: 00902862171303 ext 3052

This message was sent via the U of I Extension "Contact Us" page.

Reply Forward

Re: Addiction Search - Feedback Email Inbox | X

searchaddi@addictionsearch.com to me show details Jan 3 (2 days ago) Reply

That will be fine but please place a link back to AddictionSearch.com from your University's website..Thank you.

> www.addictionsearch.com - Feedback
>
> Comment Type: Other
> Comments: Dear Dr. Chiauzzi, I am writing this e-mail to require your
> permission to use some information from your web site. I am an instructor
> and PhD candidate working in the ELT Department of Canakkale Onsekiz Mart
> University, Turkey. Recently, I have been working on the effects of
> metacognitive reading strategies on reading comprehension for my PhD
> thesis. To test reading comprehension of participants, I need to develop
> a 'reading comprehension test' to be used as pre and post tests in the
> experimental study. As the texts in the test are supposed to be similar to
> the ones in real-life reading situations, I searched on the Internet to
> find out appropriate texts which can be turned into test items. On your
> web site addressed as
> [http://www.addictionsearch.com/treatment_articles/article/cooccurring-disorders-another-name-for-dual-diagnosis_57.html],
> I obtained a useful text titled 'Co-occurring disorders – Another name for
> dual diagnosis'. I have an intention to adapt an extract (about 250 words)
> from the original article. I ask your permission to use an extract from
> the above mentioned text for research purposes. If you prefer me not to
> adapt your information, that is absolutely fine of course. Thank you for
> your kind attention. Please reply at your earliest convenience. Yours
> sincerely, Salim RAZI E-mail: salimrazi@gmail.com Address: Anafartalar
> Campus ELT Department C1 202 Çanakkale 17100 Turkey Office: 00902862171303
> ext 3052 PS: I prefer to be contacted via e-mail, however I submit my
> telephone and fax numbers.
>
> Contact Details:
> Name: Salim RAZI
> E-mail: salimrazi@gmail.com
> Telephone: 00902862171303 ext 3052
> Fax: 00902862120751
>
> Contact user as soon as possible regarding this matter : ContactRequested
>

Reply Forward

Appendix J:

Frequency of words in the reading test

Part 1 Text 1

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
a	5	it	8	though	252
abuse	2733	kinds	2161	three	117
abusive	16163	leads	2468	to	4
addicted	16394	longer	1429	true	529
addiction	10307	loss	855	two	64
addictions	37820	means	385	urge	5720
all	41	mind	300	use	139
and	3	most	95	used	136
are	22	naturally	2364	where	91
associated	1105	need	158	which	31
at	20	no	51	who	53
attention	715	not	24	with	17
because	113	occur	1824	within	182
become	284	of	2	without	184
becoming	1434	often	224	word	487
being	109	on	13		
between	104	one	38		
beyond	837	only	68		
body	346	opposite	1699		
born	1218	or	32		
but	25	out	65		
can	48	outlined	4379		
cases	527	paramount	9999		
choice	826	pay	423		
circumstances	982	people	81		
compulsive	17652	person	351		
compulsivity	86801	phase	2165		
control	294	physical	1065		
dependency	7922	point	207		
dependent	2606	process	407		
desire	1869	psychological	3375		
difference	891	purely	3566		
different	174	reasons	934		
divided	2283	recreational	11005		
drug	2027	road	317		
drugs	1906	seeds	4974		
ease	3108	simultaneously	4716		
experts	2993	situation	608		
exploratory	15119	solution	1489		
feels	2963	some	58		
for	12	someone	511		
four	185	stage	583		
further	231	stages	2430		
has	43	step	1164		
have	21	substance	4012		
help	221	subtle	4631		
impervious	22861	that	7		
implementation	3305	the	1		
implies	4348	their	42		
important	213	there	35		
in	6	they	28		
is	9	this	23		

Part 1 Text 2

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
a	5	her	36	recovery	2607
abuse	2733	his	27	refer	2611
accompanied	2905	hopefully	4470	result	420
accurately	5548	however	147	resulting	3033
addiction	10307	illness	2946	same	144
addition	4173	improvement	2410	see	85
affect	2042	in	6	situation	608
alcohol	3154	individual	497	so	50
an	34	ineffective	9330	socially	5262
and	3	integrated	3464	specific	896
are	22	interact	10259	spiritually	21022
arena	7039	interaction	3829	substance	4012
as	18	interventions	12507	such	120
assessing	5554	is	9	sure	362
at	20	issues	813	team	506
basically	3091	it	8	that	7
become	284	its	62	the	1
best	247	known	341	thereby	3468
between	104	lasting	5968	this	23
both	132	lead	678	to	4
brought	461	likely	389	together	352
by	19	long	164	treating	5797
can	48	made	99	treatment	818
centres	1915	make	118	trying	515
client	1685	making	309	two	64
clinician	35483	mean	192	type	559
clinicians	19707	mental	1771	unheard	19492
compile	17657	more	54	very	84
complex	1077	most	95	way	96
components	3020	move	459	what	46
confusion	3282	necessary	536	when	49
co-occurring	86801	no	51	where	91
diagnosis	4839	not	24	which	31
different	174	obtaining	4924	while	153
difficult	422	occur	1824	will	45
disorder	5023	of	2	works	680
disorders	7991	often	224		
division	1135	on	13		
does	133	one	38		
drug	2027	only	68		
dual	6415	or	32		
each	167	own	127		
effective	1029	pace	3017		
either	310	patient	1251		
eliminates	23596	perhaps	245		
emotional	2732	physically	4310		
extent	1020	plan	658		
fix	5447	present	412		
focus	1736	problem	296		
for	12	program	2473		
forms	860	provider	12695		
from	29	psychiatric	6707		
has	43	psychological	3375		
health	361	psychologically	15895		
healthcare	17285	receives	5927		

Part 1 Text 3

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
a	5	made	99	think	102
about	55	make	118	this	23
above	342	many	108	to	4
accurately	5548	mean	192	tools	3027
agreed	669	media	1296	TV	1577
all	41	methods	1143	use	139
allows	2348	more	54	used	136
already	253	most	54	useful	1013
although	194	movies	6870	valid	3894
and	3	national	223	chips	4556
appropriate	871	not	24	videos	6662
are	22	number	171	was	10
as	18	of	2	watch	1068
assumes	7020	offer	614	websites	86801
at	20	often	224	were	37
be	16	on	13	what	46
being	109	one	38	when	49
but	25	only	68	whether	262
by	19	or	32	who	53
can	48	organization	1623	why	166
children	180	own	127	with	17
choices	4741	panel	2674	would	44
clearly	637	parents	595		
Content	1678	presented	1294		
could	59	professionals	3821		
described	664	programme	499		
descriptions	5281	programmes	1598		
detailed	1594	provided	610		
disagreed	14309	provides	1232		
discrepancy	13291	rate	500		
discuss	1821	rated	8217		
do	39	ratings	8670		
existing	1054	really	177		
families	1241	recent	615		
film	998	recently	807		
for	12	reliable	3943		
found	172	reviews	5699		
free	449	select	3153		
general	251	selective	5917		
given	200	sets	2016		
good	116	shows	851		
grandparents	10532	sites	1783		
guide	1723	some	58		
half	290	somewhat	2158		
help	221	sponsoring	17968		
however	147	study	416		
in	6	survey	1264		
inappropriate	6053	television	1022		
industry	474	that	7		
information	219	the	1		
is	9	their	42		
judgements	7697	them	57		
kinds	2161	there	35		
know	83	these	78		
least	1879	they	28		

Part 1 Text 4

Vocabulary	Rank	Vocabulary	Rank
a	5	percent	3236
again	155	platform	3565
alternatives	4911	point	207
an	34	popular	956
and	3	popularity	5754
as	18	preferred	3059
at	20	program	2473
based	516	programmes	1598
because	113	recent	615
between	104	recommended	2644
bodes	48506	released	1992
both	132	report	312
broadband	45214	saying	518
content	1678	services	354
delivery	2726	show	326
double	1305	shows	851
during	193	some	58
episode	5758	someone	511
episodes	8441	speed	1333
favourite	2123	still	121
for	12	strategies	3399
found	172	streaming	13833
from	29	studies	719
full	308	study	416
have	21	surveyed	9126
high	216	television	1022
in	6	that	7
increase	571	the	1
increasing	1269	then	63
increasingly	1545	they	28
Internet	30525	to	4
is	9	today	330
it	8	TV	1577
its	62	used	136
joint	1465	users	1578
just	76	venture	3783
last	124	video	1559
least	1879	watch	1068
length	1436	watched	1534
less	235	watching	1541
missed	2393	week	269
months	358	well	87
most	95	were	37
networks	4461	with	17
notes	1551	wrote	1033
number	171	year	122
October	954	you	14
of	2		
often	224		
on	13		
one	38		
online	10113		
other	71		
others	302		
past	333		

Part 2

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
a	5	begun	2377	do	39
about	55	behaviour	806	document	1925
absence	1785	being	109	documentary	7835
absent	5160	believe	444	does	133
absolute	2813	biological	4345	done	237
academic	2093	body	346	driven	2984
accept	1046	but	25	drugs	1906
acceptable	2703	by	19	eagerness	18219
accepts	8102	call	484	emphatically	16098
accuses	25895	can	48	even	125
admit	2630	candidates	2493	ever	340
admits	6070	careers	4884	example	782
after	88	case	195	exhausted	5252
ago	476	causes	2192	existence	1561
agreement	736	certain	430	exists	3025
all	41	certainty	5680	expected	575
allows	2438	chain	2646	explain	1306
alone	739	changes	494	expresses	9648
also	80	children	180	extraordinary	3221
alternative	1192	chronic	4856	face	246
amputated	30959	claim	895	facilitate	6999
amputation	35659	clinical	3182	fact	229
amputations	57664	clinicians	19707	false	2675
amputee	69286	closer	2181	familiarity	10960
amputees	86801	colleague	4929	fatigue	11199
an	34	come	131	featured	5788
and	3	comes	609	features	1159
anorexia	14788	component	3509	feel	329
another	150	condition	1229	felt	303
antidepressant	61018	conditions	633	few	492
anxiety	3472	confidence	1466	figures	881
any	82	confirmation	6436	film	998
anyone	659	costing	6464	finally	758
apotemnophilia	86801	counselled	28671	find	198
apparent	1928	curing	26963	first	86
are	22	cut	550	for	12
arm	1112	data	531	formal	1603
arms	907	decided	646	from	29
article	1514	decides	7688	gender	4325
articles	3219	defenders	9446	getting	462
articulate	9874	deficit	3811	glides	36853
as	18	depend	2816	go	105
aspect	2321	desire	1869	group	201
at	20	desires	7773	growing	1071
attention	715	desperately	4374	guillotines	61480
attracted	3304	development	268	had	26
available	319	devices	4011	half	290
away	218	diagnose	21655	handful	5631
backed	3617	diagnosis	4839	hard	402
baffling	27403	different	174	has	43
ballooned	54494	difficult	422	have	21
basis	683	discourse	3887	having	239
be	16	discussed	1467	he	15
because	113	disorder	5023	health	361
become	113	disorders	7991	healthy	2741
been	40	displaced	10010	help	221
before	111	dissenting	16823	her	36
began	375	disturbing	6147	hint	5316

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
his	27	meetings	1913	post	1097
histories	8459	membership	1945	predicament	13347
history	491	mental	1771	problem	296
homemade	30272	mention	2168	produced	764
how	93	might	143	professionals	3821
husband	899	minded	10392	profitable	5724
hyperactivity	43831	more	54	proposing	7879
I	11	most	95	provide	411
idea	429	much	101	Prozac	52640
identify	2033	multiple	3667	psychiatrist	13190
identifying	5113	music	654	psychiatrists	14870
identity	2508	my	69	psychiatry	18825
illness	2946	narratives	22607	psychological	18825
imaging	12272	narrow	2032	psychologist	10944
important	213	new	79	published	939
in	6	no	51	purpose	1096
including	369	nobody	1658	purposes	1753
incomplete	8949	nod	8388	rare	2176
increasingly	1545	nonexistent	46715	rather	440
independent	933	not	24	reading	926
indications	8306	nothing	255	reads	7038
information	219	noticed	1936	real	394
insist	4984	number	171	really	177
integrity	5343	obediently	20406	reassignment	74974
interest	313	objective	2183	recommending	12329
is	9	obscure	6236	redefining	35993
it	8	obviously	916	reinterpret	50591
its	62	oddly	8872	removed	1735
journal	3780	of	2	reputations	19075
journals	6928	off	129	research	322
kind	374	often	224	riveting	28942
knowing	2049	ominous	14113	roots	3612
knowledge	675	on	13	rudimentary	16809
known	341	once	314	said	52
knows	1222	one	38	same	144
lab	9136	only	68	saws	29696
largely	1400	options	2627	say	134
lecturer	7261	or	32	saying	518
leg	1908	organized	3653	says	211
legality	16984	other	71	sceptical	8452
legs	1579	others	302	screen	2039
likable	86801	otherwise	1170	second	202
like	67	out	65	seek	1875
limbs	6764	own	127	seen	225
listserv	86801	paraphilia	86801	sensitive	2712
made	99	part	168	set	189
make	118	past	333	several	370
man	142	patients	557	sex	1236
many	108	peculiar	5496	sexual	1480
married	1006	pedophilia	86801	share	723
match	1063	people	81	she	30
matter	465	perceived	3732	short	513
means	385	performed	2540	shot	1257
meantime	5511	perhaps	245	shotgun	12559
mechanism	3230	person	351	should	89
medical	1095	personality	3256	simply	541
medications	39513	popular	956	since	169
medicine	3371	popularity	5754	small	191

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
so	50	understand	627		
social	199	understanding	1075		
solely	4940	undertaken	3419		
some	58	university	586		
sorted	6011	up	56		
speak	1085	use	139		
start	378	used	136		
stay	786	usually	493		
stories	2127	value	539		
strange	1555	very	84		
stress	2080	view	400		
struck	2401	views	1353		
studies	719	visible	3222		
subjects	1335	voice	348		
subscribers	12103	voices	3706		
succeeded	3550	voyeurism	49541		
such	120	wannabe	77522		
suddenly	841	wannabes	86330		
suffer	2825	want	151		
surgeon	6840	wants	1138		
surgery	3450	was	10		
surgical	8267	way	96		
sympathy	4066	website	86801		
syndrome	6174	weird	6713		
taking	414	well	87		
tell	278	were	37		
tests	1976	what	46		
than	90	when	49		
that	7	where	91		
the	1	which	31		
their	42	while	153		
them	57	who	53		
themselves	381	whole	288		
then	63	whose	475		
therapies	21078	why	166		
therapy	4468	will	45		
there	35	wish	838		
these	78	with	17		
they	28	without	184		
think	102	wonders	7955		
third	442	worker	2713		
this	23	worried	2199		
those	110	would	44		
to	4	wrote	1033		
today	330	years	106		
tools	3027	yet	258		
transvestism	72632	you	14		
traumatic	11918				
treat	2618				
treated	1457				
treatment	818				
treatments	7792				
trying	515				
uncertainty	4021				
uncritically	32113				
underscored	49351				

Part 3

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
a	5	common	528	focused	4570
about	55	components	3020	for	12
above	342	comprehend	13754	from	29
abuse	2733	confident	2986	functions	1933
acceptable	2703	continually	5826	further	231
activities	857	continues	2512	getting	462
addressed	3326	cope	2414	giving	775
adequate	2754	coping	7477	go	105
adequate	2754	counselling	5605	goes	662
affect	2042	create	1260	good	116
after	88	cycle	2979	grade	3874
aid	1202	daily	1350	hand	238
alone	739	dealing	1775	hands	504
also	80	deeply	2640	happen	1173
although	194	degrees	3102	happens	1755
an	34	depression	3945	has	43
and	3	destructive	8305	have	21
anger	2576	determine	2561	he	15
another	150	different	174	headaches	13279
answer	685	difficult	422	heartbeat	17456
anxiety	3472	directions	4004	helpful	3038
any	82	directly	1171	helplessness	17850
anymore	15845	disappointment	5236	her	36
are	22	discuss	1821	his	27
around	186	disruptions	34580	how	93
arrives	7687	disruptive	13142	however	147
arriving	5152	does	133	if	47
as	18	doing	297	images	2758
at	20	down	97	impact	1382
attend	2740	due	1522	implement	5180
attends	17499	during	193	important	213
avoiding	5448	each	167	in	6
balance	1158	early	256	include	643
basis	683	easy	666	increase	571
be	16	effectively	2019	individual	497
become	284	emotional	2732	information	219
been	40	end	170	intense	3808
before	111	enjoyable	7495	interrupt	11483
behavioural	7209	enough	267	into	61
behaviours	10822	ensure	993	involves	2443
blank	4596	even	125	is	9
blanking	81986	everything	512	issues	813
bodily	7434	exam	7786	it	8
break	1090	exams	9043	know	83
breathing	3754	exercise	1188	lack	1014
building	501	expecting	4077	lead	678
but	25	experience	439	leads	2468
by	19	fairly	1532	learn	1244
caffeine	23775	fast	1360	let	335
call	484	fear	1360	level	325
can	48	feeding	3864	lightheadedness	86801
carefully	1435	feeling	753	likely	389
cases	527	feelings	1919	little	176
chain	2646	fidgeting	31401	lives	967
class	534	finally	758	longer	1429
classic	2858	find	198	loss	855
cognitive	6267	fine	742	make	118
coming	460	first	86	management	428

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
managing	2890	question	334	tension	2950
many	108	questions	686	test	714
material	725	quite	203	than	90
matter	465	racing	2978	that	7
may	77	ranging	5070	the	1
meeting	450	read	406	their	42
memory	1357	reading	926	then	63
minutes	524	reassuring	9021	there	35
more	54	regularly	2579	these	78
most	95	relatively	1310	they	28
motivating	18296	relaxation	6453	thinking	730
muscles	4238	relaxing	9088	third	442
name	331	repeating	8488	this	23
nausea	16119	rise	963	thoughts	2159
need	158	room	277	through	114
needed	584	schooling	7967	time	66
negative	2132	seems	443	times	287
negatively	17920	self	2683	to	4
nervous	3114	sense	425	treated	1457
night	230	services	354	trembling	6715
no	51	several	370	true	529
not	24	shaky	11742	ultimately	3268
nutrition	11211	she	30	understand	627
occur	1824	sheet	2390	understands	9360
occurring	5957	short	513	uneasiness	30662
of	2	sign	1233	union	548
off	129	situation	608	up	56
office	343	skills	1121	used	136
on	13	sleep	1358	very	84
one	38	so	50	visit	778
ones	846	social	199	visualizing	53797
ones	846	some	58	walk	977
oneself	8867	speak	1085	way	96
or	32	spends	8554	ways	660
other	71	spiral	9098	well	87
our	98	start	378	were	37
out	65	statements	2437	what	46
own	127	stay	786	when	49
pacing	17017	step	1164	where	91
particular	410	still	121	whether	262
past	333	stopping	4899	which	31
people	81	strategies	3399	while	153
perform	3053	stress	2080	who	53
performance	759	student	1341	will	45
person	351	students	672	with	17
phenomenon	4013	study	416	workshops	5599
physiological	9790	studying	3734	writing	862
please	688	substance	4012	you	14
point	207	such	120	your	73
positive	1220	suddenly	841		
practical	1329	suffer	2825		
practicing	72667	suffering	2373		
preparation	2929	support	289		
pressure	831	sweating	11707		
process	407	symptoms	3083		
professor	1965	taking	414		
provide	411	target	1512		
pull	2251	tense	5910		

Part 4

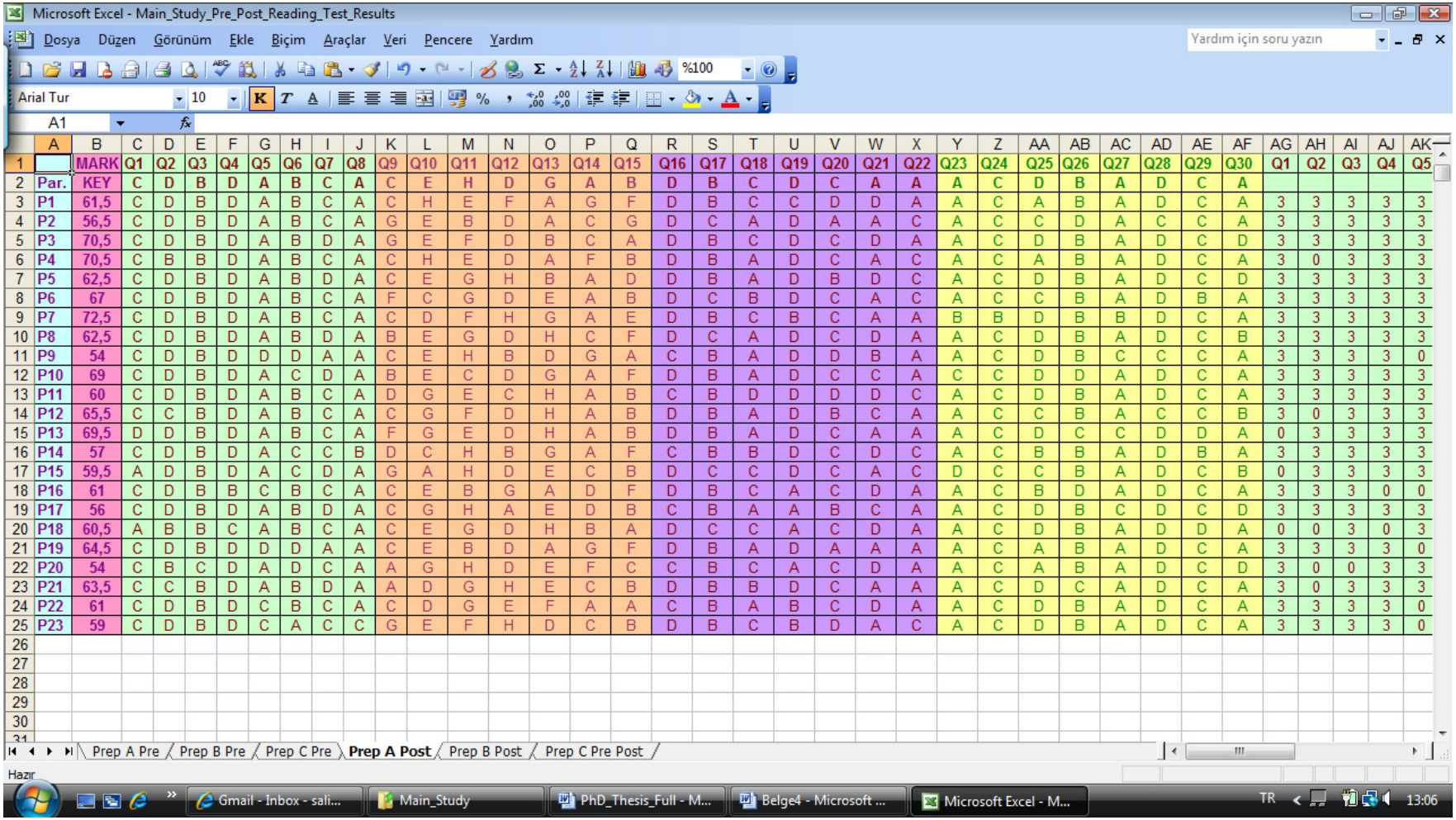
Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
a	5	busy	1984	economic	383
able	282	but	25	efforts	1827
about	55	by	19	elders	11298
accomplished	7377	came	178	embrace	7206
achieved	1301	capital	718	emotional	2732
acknowledged	4122	caught	1183	emotionally	9064
action	421	centrality	21270	enjoyed	2007
actions	2082	ceremony	4729	enough	267
actually	338	cherish	23699	entire	2097
addition	4173	child	366	episode	5758
address	1459	cities	2311	essay	5097
admittedly	8919	citizens	2947	essential	1181
affirmative	17819	city	391	even	125
after	88	class	534	every	208
against	156	clothes	1405	experience	439
ago	476	college	997	experiences	2780
air	498	colonial	5209	extensively	7668
all	41	coming	460	fact	229
allotted	14359	committed	1914	falls	3113
almost	274	committee	505	family	250
also	80	community	399	far	281
although	194	completion	3674	farms	4591
am	324	component	3509	favoured	4290
among	404	concerning	2875	fighting	1805
an	34	confines	13079	firmly	758
ancient	2008	consisting	5986	first	86
and	3	constitute	5031	flight	1973
another	150	consumed	7970	focus	1736
answers	2693	cool	2520	focused	4570
archaeological	7772	coordinator	14118	followed	663
are	22	count	2398	following	323
around	186	countries	574	for	12
arrival	2841	country	273	forever	4579
as	18	course	478	forgotten	2453
asked	261	cultural	1571	fortunate	5945
aspects	1410	current	694	found	172
association	874	currently	1456	friendly	2465
at	20	dancers	8061	from	29
attended	2817	day	141	full	308
augmented	14329	deal	684	fully	1146
August	1288	declined	4229	gain	1958
awareness	2760	depth	3144	gather	5177
back	92	destination	6544	gave	401
background	1762	did	70	general	251
backwardness	31315	digest	11680	geographically	14542
be	16	disappointed	3964	given	200
beautiful	1186	disappointing	7101	globally	27508
began	375	discussions	3085	glorious	6671
beginning	805	disseminate	26278	go	105
being	109	does	133	goal	1726
belief	1985	down	97	good	116
black	356	dream	2167	got	100
bordered	18105	driven	2984	governmental	9713
both	132	drummers	37132	great	187
broad	1963	dry	1557	group	201
broken	1437	during	193	had	26
building	501	each	167	hair	682
built	769	east	545	half	290

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
hand	238	like	67	organized	3653
hard	402	little	176	origin	3252
have	21	local	181	others	302
held	311	long	164	overall	1323
help	221	made	99	overwhelming	5682
here	130	magnificent	4251	owned	2721
high	216	main	353	participated	11294
higher	598	make	118	people	81
highlights	6538	manner	1692	perceived	3732
historical	1837	many	108	percent	3236
history	491	materialize	33149	period	367
holding	1239	materialized	37199	personal	546
home	161	May	77	pertaining	82926
hot	1125	me	72	pleasant	3427
hours	507	meal	2365	plush	21688
housing	1078	media	1296	political	280
however	147	meetings	1913	population	744
I	11	men	217	portraying	26269
idealized	23519	million	364	presence	1285
identifying	5113	minor	2038	presentation	3012
if	47	minority	2840	presented	1294
important	213	mission	3469	principal	2075
in	6	modern	745	private	554
including	369	modernity	13985	probably	318
indeed	508	moral	1897	prospective	5816
independence	2266	morale	7292	proud	3052
informal	3756	more	54	provide	411
information	219	most	95	public	220
insight	5539	mostly	2535	questions	686
inspire	12570	moved	676	quickly	799
interestingly	9102	Mr	163	radio	1150
interviews	3696	my	69	ranging	5070
into	61	name	331	real	394
intrigued	11988	national	223	realities	7992
is	9	neighbourhoods	18771	realize	3954
issues	813	never	157	realized	3096
it	8	newspaper	2030	reason	522
itinerary	18209	night	230	received	737
its	62	non	7419	receptive	14213
journey	2088	non-profit	67266	reliance	7777
just	76	north	431	remained	1124
key	780	northeast	18009	remember	495
kind	374	not	24	repeat	3068
knew	336	note	958	residents	2833
lands	4101	now	74	resolute	21241
language	510	numerically	20581	respectfully	21401
largest	1780	nylon	9092	rest	602
last	124	observations	4062	returned	988
launched	2260	occupied	3057	returning	2807
learned	1896	occupying	10786	ruins	8602
lecture	4508	of	2	rule	1098
lectured	21603	official	1043	satisfaction	3290
lectures	5319	officially	4670	scenes	4185
led	624	on	13	schedule	3656
length	1436	one	38	school	226
less	235	only	68	season	920
life	154	onto	1668	second	202
lifetime	4594	organization	1623	secured	4390

Vocabulary	Rank	Vocabulary	Rank	Vocabulary	Rank
securing	7384	this	23	will	45
Seemed	373	those	110	wintertime	52451
Self	2683	though	252	with	17
Sense	425	through	114	within	182
Series	687	throughout	798	women	210
Sessions	4074	ties	5119	wonderful	2076
several	370	time	66	wooden	2771
shirts	8089	tireless	23616	wore	3174
should	89	to	4	work	103
single	523	today	330	worthwhile	5370
skirts	9587	told	228	would	44
slide	4999	total	549	you	14
so	50	tour	1602		
soil	2409	toured	14783		
some	58	townships	18221		
sorely	21080	traders	6151		
south	397	transportation	10528		
southeast	13385	travel	1417		
speak	1085	travelled	3971		
spellbinding	69491	travels	7961		
spent	844	tried	645		
spoke	1463	trip	2204		
sponsor	8768	TV	1577		
staff	405	understanding	1075		
stay	786	united	481		
stockings	11503	university	586		
stone	1247	until	204		
stood	738	variations	3596		
straightened	9685	various	626		
strong	604	very	84		
struggle	2286	veterans	12229		
struggling	4500	villages	3345		
student	1341	visa	12790		
students	672	vision	2382		
stupendous	28023	visit	778		
style	943	visiting	3181		
success	731	wanted	382		
such	120	war	304		
summer	889	warmly	10185		
support	289	was	10		
suppose	945	way	96		
surpassed	21502	weather	1765		
talk	569	week	269		
talks	1538	well	87		
taxi	4498	wept	10951		
teacher	1174	were	37		
teachers	865	west	435		
terms	576	western	1019		
than	90	what	46		
that	7	when	49		
the	1	where	91		
their	42	which	31		
them	57	while	153		
themselves	381	whirlwind	22587		
there	35	white	363		
these	78	whites	7359		
they	28	who	53		

Appendix K:

Feeding Participants' Answers to the Reading Test into Computer by an Excel Spreadsheet



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1		MARK	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q1	Q2	Q3	Q4	Q5
2	Par.	KEY	C	D	B	D	A	B	C	A	C	E	H	D	G	A	B	D	B	C	D	C	A	A	A	C	D	B	A	D	C	A					
3	P1	61,5	C	D	B	D	A	B	C	A	C	H	E	F	A	G	F	D	B	C	C	D	D	A	A	C	A	B	A	D	C	A	3	3	3	3	3
4	P2	56,5	C	D	B	D	A	B	C	A	G	E	B	D	A	C	G	D	C	A	D	A	A	C	A	C	C	D	A	C	C	A	3	3	3	3	3
5	P3	70,5	C	D	B	D	A	B	D	A	G	E	F	D	B	C	A	D	B	C	D	C	D	A	A	C	D	B	A	D	C	D	3	3	3	3	3
6	P4	70,5	C	B	B	D	A	B	C	A	C	H	E	D	A	F	B	D	B	A	D	C	A	C	A	C	A	B	A	D	C	A	3	0	3	3	3
7	P5	62,5	C	D	B	D	A	B	D	A	C	E	G	H	B	A	D	D	B	A	D	B	D	C	A	C	D	B	A	D	C	D	3	3	3	3	3
8	P6	67	C	D	B	D	A	B	C	A	F	C	G	D	E	A	B	D	C	B	D	C	A	C	A	C	C	B	A	D	B	A	3	3	3	3	3
9	P7	72,5	C	D	B	D	A	B	C	A	C	D	F	H	G	A	E	D	B	C	B	C	A	A	B	B	D	B	B	D	C	A	3	3	3	3	3
10	P8	62,5	C	D	B	D	A	B	D	A	B	E	G	D	H	C	F	D	C	A	D	C	D	A	A	C	D	B	A	D	C	B	3	3	3	3	3
11	P9	54	C	D	B	D	D	D	A	A	C	E	H	B	D	G	A	C	B	A	D	D	B	A	A	C	D	B	C	C	C	A	3	3	3	3	0
12	P10	69	C	D	B	D	A	C	D	A	B	E	C	D	G	A	F	D	B	A	D	C	C	A	C	C	D	D	A	D	C	A	3	3	3	3	3
13	P11	60	C	D	B	D	A	B	C	A	D	G	E	C	H	A	B	C	B	D	D	D	D	C	A	C	D	B	A	D	C	A	3	3	3	3	3
14	P12	65,5	C	C	B	D	A	B	C	A	C	G	F	D	H	A	B	D	B	A	D	B	C	A	A	C	C	B	A	C	C	B	3	0	3	3	3
15	P13	69,5	D	D	B	D	A	B	C	A	F	G	E	D	H	A	B	D	B	A	D	C	A	A	A	C	D	C	C	D	D	A	0	3	3	3	3
16	P14	57	C	D	B	D	A	C	C	B	D	C	H	B	G	A	F	C	B	B	D	C	D	C	A	C	B	B	A	D	B	A	3	3	3	3	3
17	P15	59,5	A	D	B	D	A	C	D	A	G	A	H	D	E	C	B	D	C	C	D	C	A	C	D	C	C	B	A	D	C	B	0	3	3	3	3
18	P16	61	C	D	B	B	C	B	C	A	C	E	B	G	A	D	F	D	B	C	A	C	D	A	A	C	B	D	A	D	C	A	3	3	3	0	0
19	P17	56	C	D	B	D	A	B	D	A	C	G	H	A	E	D	B	C	B	A	A	B	C	A	A	C	D	B	C	D	C	D	3	3	3	3	3
20	P18	60,5	A	B	B	C	A	B	C	A	C	E	G	D	H	B	A	D	C	C	A	C	D	A	A	C	D	B	A	D	D	A	0	0	3	0	3
21	P19	64,5	C	D	B	D	D	D	A	A	C	E	B	D	A	G	F	D	B	A	D	A	A	A	A	C	A	B	A	D	C	A	3	3	3	3	0
22	P20	54	C	B	C	D	A	D	C	A	A	G	H	D	E	F	C	C	B	C	A	C	D	A	A	C	A	B	A	D	C	D	3	0	0	3	3
23	P21	63,5	C	C	B	D	A	B	D	A	A	D	G	H	E	C	B	D	B	B	D	C	A	A	A	C	D	C	A	D	C	A	3	0	3	3	3
24	P22	61	C	D	B	D	C	B	C	A	C	D	G	E	F	A	A	C	B	A	B	C	D	A	A	C	D	B	A	D	C	A	3	3	3	3	0
25	P23	59	C	D	B	D	C	A	C	C	G	E	F	H	D	C	B	D	B	C	B	D	A	C	A	C	D	B	A	D	C	A	3	3	3	3	0
26																																					
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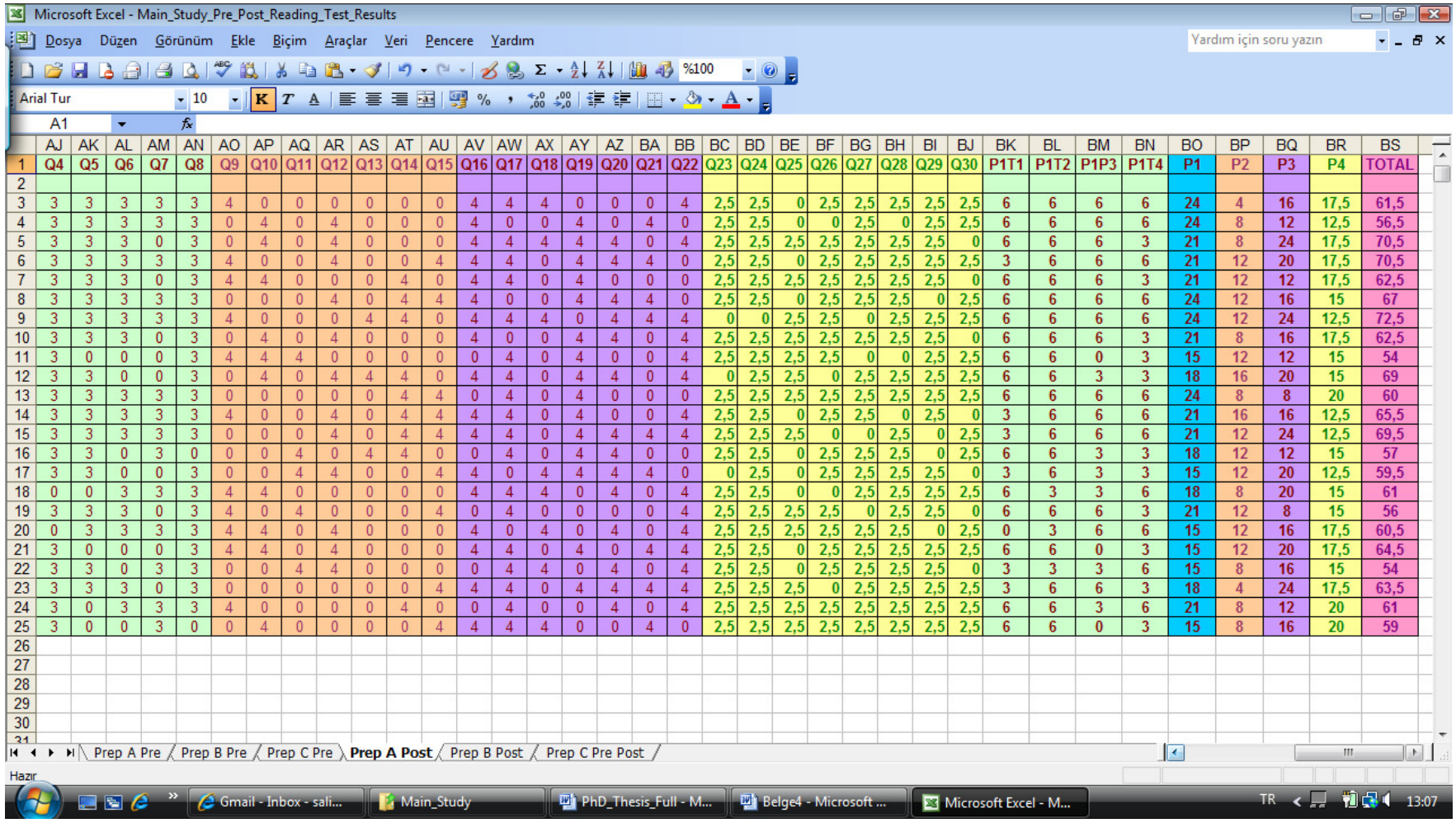
Feeding Participants' Answers to the Reading Test into Computer by an Excel Spreadsheet (Continued)



Microsoft Excel - Main_Study_Pre_Post_Reading_Test_Results

Dosya Düzen Görünüm Ekle Biçim Araçlar Veri Pencere Yardım

Yardım için soru yazın

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Arial Tur 10

A1

	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS
1	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	P1T1	P1T2	P1P3	P1T4	P1	P2	P3	P4	TOTAL
2																																				
3	3	3	3	3	3	4	0	0	0	0	0	0	4	4	4	0	0	0	4	2,5	2,5	0	2,5	2,5	2,5	2,5	2,5	6	6	6	6	24	4	16	17,5	61,5
4	3	3	3	3	3	0	4	0	4	0	0	0	4	0	0	4	0	4	0	2,5	2,5	0	0	2,5	0	2,5	2,5	6	6	6	6	24	8	12	12,5	56,5
5	3	3	3	0	3	0	4	0	4	0	0	0	4	4	4	4	4	0	4	2,5	2,5	2,5	2,5	2,5	2,5	2,5	0	6	6	6	3	21	8	24	17,5	70,5
6	3	3	3	3	3	4	0	0	4	0	0	4	4	4	0	4	4	4	0	2,5	2,5	0	2,5	2,5	2,5	2,5	2,5	3	6	6	6	21	12	20	17,5	70,5
7	3	3	3	0	3	4	4	0	0	0	4	0	4	4	0	4	0	0	0	2,5	2,5	2,5	2,5	2,5	2,5	2,5	0	6	6	6	3	21	12	12	17,5	62,5
8	3	3	3	3	3	0	0	0	4	0	4	4	4	0	0	4	4	4	0	2,5	2,5	0	2,5	2,5	2,5	0	2,5	6	6	6	6	24	12	16	15	67
9	3	3	3	3	3	4	0	0	0	4	4	0	4	4	4	0	4	4	4	0	0	2,5	2,5	0	2,5	2,5	2,5	6	6	6	6	24	12	24	12,5	72,5
10	3	3	3	0	3	0	4	0	4	0	0	0	4	0	0	4	4	0	4	2,5	2,5	2,5	2,5	2,5	2,5	2,5	0	6	6	6	3	21	8	16	17,5	62,5
11	3	0	0	0	3	4	4	4	0	0	0	0	0	4	0	4	0	0	4	2,5	2,5	2,5	2,5	0	0	2,5	2,5	6	6	0	3	15	12	12	15	54
12	3	3	0	0	3	0	4	0	4	4	4	0	4	4	0	4	4	0	4	0	2,5	2,5	0	2,5	2,5	2,5	2,5	6	6	3	3	18	16	20	15	69
13	3	3	3	3	3	0	0	0	0	0	4	4	0	4	0	4	0	0	0	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	6	6	6	6	24	8	8	20	60
14	3	3	3	3	3	4	0	0	4	0	4	4	4	4	0	4	0	0	4	2,5	2,5	0	2,5	2,5	0	2,5	0	3	6	6	6	21	16	16	12,5	65,5
15	3	3	3	3	3	0	0	0	4	0	4	4	4	4	0	4	4	4	4	2,5	2,5	2,5	0	0	2,5	0	2,5	3	6	6	6	21	12	24	12,5	69,5
16	3	3	0	3	0	0	0	4	0	4	4	0	0	4	0	4	4	0	0	2,5	2,5	0	2,5	2,5	2,5	0	2,5	6	6	3	3	18	12	12	15	57
17	3	3	0	0	3	0	0	4	4	0	0	4	4	0	4	4	4	4	0	0	2,5	0	2,5	2,5	2,5	2,5	0	3	6	3	3	15	12	20	12,5	59,5
18	0	0	3	3	3	4	4	0	0	0	0	0	4	4	4	0	4	0	4	2,5	2,5	0	0	2,5	2,5	2,5	2,5	6	3	3	6	18	8	20	15	61
19	3	3	3	0	3	4	0	4	0	0	0	4	0	4	0	0	0	0	4	2,5	2,5	2,5	2,5	0	2,5	2,5	0	6	6	6	3	21	12	8	15	56
20	0	3	3	3	3	4	4	0	4	0	0	0	4	0	4	0	4	0	4	2,5	2,5	2,5	2,5	2,5	2,5	0	2,5	0	3	6	6	15	12	16	17,5	60,5
21	3	0	0	0	3	4	4	0	4	0	0	0	4	4	0	4	0	4	4	2,5	2,5	0	2,5	2,5	2,5	2,5	2,5	6	6	0	3	15	12	20	17,5	64,5
22	3	3	0	3	3	0	0	4	4	0	0	0	0	4	4	0	4	0	4	2,5	2,5	0	2,5	2,5	2,5	2,5	0	3	3	3	6	15	8	16	15	54
23	3	3	3	0	3	0	0	0	0	0	0	4	4	4	0	4	4	4	4	2,5	2,5	2,5	0	2,5	2,5	2,5	2,5	3	6	6	3	18	4	24	17,5	63,5
24	3	0	3	3	3	4	0	0	0	0	4	0	0	4	0	0	4	0	4	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	6	6	3	6	21	8	12	20	61
25	3	0	0	3	0	0	4	0	0	0	0	4	4	4	4	0	0	4	0	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	6	6	0	3	15	8	16	20	59
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TR 13:07