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The Effects of Raising Metacognitive Awareness of the Reading Process on Students' Reading Fluency and Comprehension

The Case of Third Year at Walli Ben Sawsha Middle School Students in M'sila

Dissertation Submitted to the Department of English Language and Literature
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For the Memory of our Colleague

Our Condolecence for the memory of our colleague Mr. Snouci Yusuf “may Allah bless him with His mercy”

We know that there is nothing to say that will make our loss easier, but we know that the mark he left was so great and because of this he is never really be gone and he is in our thoughts and prayers all the time. “Inna lilahi wa Inna ilayhi rajioon” “Surely we belong to Allah and to Him shall we return.” May Allah grant him jannat-ul-fidos and his family patience.

Abstract

When pre-intermediate students are asked to read a text in EFL classroom, they are unable to read fluently because most of their attention is directed towards decoding individual words, without having a purpose for reading. In this respect, the present study aims at investigating the effects of raising third year middle school students' metacognitive awareness of reading fluency and comprehension. The study is based on an experimental research design wherein 98 students were conveniently selected to partake in a seven weeks training program and treatment. Tow pre-course questionnaires were administered to students to gather information about their metacognitive awareness of the reading process and their use of reading strategies. Then these learners were tested before the training sessions took place in order to check firstly the homogeneity of the groups in terms of reading fluency and secondly to assess their comprehension ability, and therefore to diagnose their needs for the training phase. For five weeks duration, the training sessions focused on raising students' metacognitive awareness of the reading comprehension process using strategy instructional framework. The study ended with two posttests and two other post-study questionnaires. The analysis of the data collected on reading comprehension and reading fluency demonstrated that the learners' assigned to the experimental groups have significantly ($p<0.05$) improved their reading fluency and comprehension test scores as compared to the control group. Similarly, the results of the questionnaires' analysis indicated that students who took the treatment improved their metacognitive awareness on the most effective ways to use the trained reading strategies. The findings of the present study therefore suggest that EFL teachers and textbook designers ought to incorporate activities that explicitly foster why, when, and how to use metacognitive reading strategies and how to improve their reading pace.

List of Abbreviations

%: percentage

EFL: English as Foreign Language

FL: Foreign Language

MS: Middle School

L1: First Language

L2: Second Language

N°: Number

Q: Question

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GENERAL INTRODUCTION

1. The Background of the Study

According to Alderson (2000) “reading has two main components: decoding (word recognition) and comprehension.” (p.12). All research about reading agrees that reading is a “complex cognitive process”. For this reason, giving a simple definition of reading would misrepresent what exactly reading is. According to Grabe (1991), the question what fluent reading is, will be the most appropriate first choice about giving a definition for reading, because fluent reading is the basic knowledge and the basic process about reading (378). Again according to him, fluent reading is an important basic knowledge and fluent reading is “rapid, purposeful, interactive, comprehending, flexible, and gradually developing.” (p. 378).

On the one part, a narrower definition of reading fluency is also given by Samuels (2006) as “the ability to decode and comprehend text at the same time” seems critical to successful reading (p. 9). Nonetheless, it is clear that teachers and perhaps learners in FL settings may be unaware of the role that fluency plays in reading comprehension. However, and in contrast to this, Nuttal (1996) argued, on the other part, about speed and automaticity in reading that “most people can improve their reading speed and should be encouraged to do so, but insistence only on faster reading may do harm.” (p.34). Instead, she insisted on “flexibility” in reading and stated that “one of the main characteristics of a good reader is his flexibility. He will vary his speed, and his whole manner of reading, according to the text and according to his purpose in reading it.” (p. 34). This is related to what we argued previously by Grabe that fluent reading is a flexible process, in addition to this, Grabe (1991) analyzed it into “a set of component skills”, one of these skills as he viewed as the most important one is “metacognitive knowledge and skills monitoring.”(p. 379).

Metacognition in reading, as a newly investigated term with reading comprehension, is defined by Cantrell and Carter (2009) as “the extent to which a reader is aware and in control of his mental processes when interacting with text” (p. 198).The concept of metacognition, “knowledge of one's knowledge”, was originally developed by Flavell (1976). He proposed that metacognitive knowledge is composed of three different types: “knowledge of person (self), task, and strategy.”(Flavell, 1979, p. 907). Baker and Brown (1984) also looked at how metacognitive ability is related to reading comprehension in its two aspects “knowledge about cognition or awareness, and regulation of cognition.” (p. 353).

Furthermore, Singhal (2002) specified metacognitive knowledge as knowledge about how well we perform a certain task, knowledge about the task difficulty, and the choice we make about the appropriate strategy to use (pnm). “Metacognitive knowledge or awareness, therefore”, also involves “the awareness of whether or not (a) comprehension is occurring and (b) and the conscious application of one or more strategies to correct the comprehension difficulties.” (Baumann & Seifert-Kessel, 1993, p.185).

2. Statement of the problem

Reading is one of the most complex activities of the human mind and is considered a primary source for human beings to obtain the ideas and visions of others, as well as to increase knowledge. Reading is an interactive cognitive process in which readers interact with text. During reading process, readers constantly form hypotheses, test predictions and use their knowledge of vocabulary and language to construct meaning (Carrell, 1989, p.121-133).

However, through our experience as FL readers and the experience of one of the researchers as a teacher at middle school, we noticed that when learners are asked to read, they were unable to read fluently because most of their attention is directed towards decoding individual words, without having a purpose for reading that would help them recognize the

most important information and construct meaning of what is written. Doing that results in learners having problems in comprehension because they do not use strategies, particularly metacognitive strategies, although FL reading researchers emphasized on the role of metacognitive skills at improving comprehension. Among these, O'Malley et al. (1985) viewed that students without metacognitive awareness are essentially learners without direction or opportunity to review their progress, accomplishment and future directions (p.285-296). Thus, our ability to comprehend any written text does not depend only on decoding its words and constructing meanings through it. However, in addition to these basic processes, other metacognitive strategies and processes make the text easy to understand.

Teachers design different strategies and activities in order to promote the reading comprehension; unfortunately, students keep on the same level because this process has different stages and most students are not aware what strategy to apply or when and how to involve the strategy, and how to solve problems in this process of comprehension. Such awareness and monitoring processes are often referred to as metacognitive awareness. Grabe (1991) explained these processes more in details, as reading involves metacognitive skills and skills monitoring: "as related to reading, this would include recognizing the more important information in the text; adjusting reading rate; using context to sort out a misunderstood segment; skimming portions of the text… and so forth."(382).

That is why in order to enhance students' fluent reading and comprehension; teachers need to develop their teaching of reading process through the necessity of raising learners' metacognitve awareness. In this study we will apply two instruments: first, fluency and a reading comprehension tests to observe how students develop a reading task, which strategies they use and how they comprehend a text. Second, two questionnaires were administered to explore students' use of metacognitive strategies and their cognitive awareness of those strategies.

3. Research Question and Hypothesis

Our attempt in this study is to answer the following research question:

To what extent is raising students' metacognitive awareness using strategy instructional framework is effective in positively improving Algerian Middle School Learners' reading fluency and comprehension?

Accordingly we hypothesized that:

If 65 Middle School learners undertake five(5)week strategy training aiming at raising their metacognitive awareness, they will exhibit a positive improvement in reading fluency and comprehension as measured by the ANOVA analysis.

4. The Research Aims

The aim of this study is to investigate the effects of raising students' metacognitive awareness on their reading fluency and comprehension. The present study also aims at applying different strategies and activities that were proved to be effective in working out students' metacognitive awareness. In addition to its attempt at fostering desirable classroom environment which in its role will encourage students' engagement in the reading process and help them to be independent learners.

5. Significance of the Study

This study has greater importance for students, teachers, and material designers. First, it is important for students because they are intended to be aware of the reading process throughout this strategy instructional framework training. This instructional framework also aims at providing students with a desirable classroom environment which in its role will encourage their engagement in the reading process. Mainly to this, and as a results of having

such a helpful environment, students will also be independent learners moving from working hard to working heart in reading materials.

Second, it is also important to assist the role of teachers on the necessity to develop students' metacognitive awareness in reading among EFL students while they are engaged in the reading material. In addition, this study serves to suggest some activities and strategies for material designers that could be used in EFL classrooms to help students develop their metacognitive awareness of the reading comprehension process. Thus, learners would achieve fluency and comprehension in reading materials.

6. The Research Design

Both quantitative and qualitative methods were used to analyze data collected in the study. The quantitative approach, with convenient sampling, allowed for the measurement of subjects' reactions to a set of questions using One Way Anova tool of analysis, whereas, the qualitative approach, provided greater richness and more detailed information about the chosen sample and population. In addition, the field of education often uses action research method of collecting information. For this reason, the teacher being the researcher used other methods like observing individuals, taking notes, and distributing surveys and questionnaires. This type of action research design also has had some limitations. For example, observations were harder to write up because there was not a standard format to report the findings effectively. Also the cyclic nature of action research wherein the teacher is required to reflect several times on the findings was time consuming and was complex to conduct.

7. Organization of the Dissertation

The present research is basically divided into two main chapters. Chapter one is about the literature review whilst Chapter two is on the field work and outcomes collected from the questionnaire and practical tests. The first chapter is divided into three sections. Section one is

based on making an overview of metacognition which means definition, its component, and its relations with some sociocultural theories. Section two defines reading, fluent reading and reading comprehension. The last section deals with the relation between the three variables. The second chapter includes three sections. Section one presents research methodology and tools, section two deals with research methodology and discussion of results, and section three provides pedagogical implications and limitations.

8. Definition of Key Terms

Reading process: is a complex cognitive process that requires decoding the written letters to construct the appropriate meaning (Rumelhart, & McClelland, 1981, p.37).

Reading Strategy: is "The intentional application of a cognitive routine by a reader before, during, or after reading a text." (Shanahan et al., 2010, p. 10).

Reading comprehension: The RAND Reading Study Group (RRSG, 2002) defines reading comprehension "as the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. It consists of three elements: the reader, the text and the Reading Beyond Lines activity or purpose for reading." (p. xiii).

Reading fluency: isthe ability to decipher the printed letters and understand text at the same time (Samuels, 2006, p.9). According to Rasinski (2006) reading fluency deals with reading words correctly (accurately), quickly and it depends on the ability to recognize words automatically (p.18).

Metacognitive awareness: "knowledge readers have about themselves and about the particular tasks they are engaged in while reading a text" (Mokhtari et al., 2008, p.44).

English as a Foreign Language (EFL): “is used in contexts where English is neither widely used for communication, nor used as the medium of instruction.” (Carter & Nunan, 2001, p. 2).

Chapter One

Metacognitive Awareness and Fluent Reading Comprehension in L2

Introduction

Chapter one is an identification of the key terms and concepts that would be recurrent throughout the research. It is divided into three sections. The first section attempts to define metacogniton and its relation to other concepts such as intelligence and critical thinking. It also presents its main components their relations that aim at explaining how metacognition works.

The second section in the chapter attempts to define reading, reading types such as extensive and intensive in addition to the reading purposes. Besides, this section introduces reading comprehension and its difficulties, moving to reading fluency as being a crucial element in comprehension. To conclude with the useful reading strategies those facilitate comprehension and help to overcome the comprehension difficulties.

Section three tackles working memory and its processes which are higher and lower processing that plays crucial role in the reading process. Moving to the relationship between metacognitive awareness as a higher order level about reading and comprehension process, the last point and the most important one in this section explain the role of metacognive awareness in the reading comprehension process.

1.1.Section one: an Overview of Metacognition

Introduction

This section aims to introduce the concept of metacognition and basic issues related to it such as intelligence, and critical thinking. The Different metacognitive models are also introduced to clarify relations between them and to follow their actual development. As

metacognition was exploited in many fields of interest, light is also to be shed on areas where it was already used to take advantage of the results obtained and conclusions drawn by different researcher

Concerning the nature of metacognition, as well as its components and exploitation by other research, special emphasis is also to be put on its relation with other concepts in learning like; intelligence and critical thinking. In addition to awareness raising in teaching metacognition.

1.1.1. Metacognition

In the late 1970's, John Flavell was the first one to mention the term metacognition that meant by him "cognition about cognition" or "thinking about thinking" (Flavell, 1979, p. 906). In other words, he used the term to refer to an individual's awareness of thinking and learning. It can be simply defined as thinking about thinking or as a "person's cognition about cognition".

Metacognition has been identified by Flavel (1981) as a fuzzy concept due to its various definitions and dimensions (p. 37). It has been investigated from various perspectives and for several purposes. Among these purposes, is that a metacognitive knowledge base is essential for effective language learning. As Davine (1993) viewed that a successful language learner is "the one who has simple metacognitive knowledge about the self as learner, about the nature of the cognitive task" that the learner has at hand and "about appropriate strategies for achieving cognitive goals." (p. 109)

For more explanation, the concept refers to an individual's awareness of his own cognitive resources in relation to the task. Essentially, this means when the learner is aware of personal strengths and weaknesses as well as the requirements of the learning situation.

Moreover, metacognition is concerned with knowledge of cognition and regulation of this cognition. This attitude was adopted principally by several research.

1.1.2. The Origin of the Concept of Metacognition

The origin of the concept of metacognition can be retraced much earlier. Thus, some researchers were already interested in the phenomenon of knowing about knowing, or of being aware of what one knows and how s/he should monitor or control his/her knowledge, without even using the term metacognition.

In fact, the origin of the construct of metacognition can be drawn from antiquity since the time of Piaget and Vygotsky used their theories about cognitive development. All research that follows, concerning cognitive development and knowledge acquisition, is just a development of Piaget and Vygotsky's ideas.

1.1.2.1. The Piagetian theory

Piaget was interested in how children and even adults learn and think. According to him, the child is born with an innate ability that makes him inquisitive and eager to discover his own mental resources and explore his environment in all its aspects.

The following table summarizes the different stages the child is to go through in his cognitive development.

Approximate Age	Stage	Status of operations	Status of logic
0-2 years	Sensorimotor	No symbolic thought or operations	Prelogical
2_7 years	Preoperational	Symbolic thought but no operations	Semilogical
7_11 years	Concrete Operational	Operations can deals with physical objects	Logical
>11 years	Formal Operational	Operations can deal with abstract concepts	Fully logical

Figure 1:Piaget's stages of logical development (Jarvis, 2005, p. 21)

Brown et el. (1996) clarifies that the child in learning to become a logical thinker, develops an awareness of himself and his mental abilities. At the formal operational stage, the child becomes more conscious of the tasks he undertakes and more ready to act on his mental resources to achieve his goals. That is, he becomes able to perceive the world from any viewpoint other than his own. He will be able to distinguish between concrete and abstract things around him. In short, he is more aware of himself in his environment. What is more important is his cognitive development at the formal operational stage or "the level of conscious products of the reflexive abstractions" whereby the child acquires the ability “to elaborate operations on operations…and becomes capable of varying models that might explain a phenomenon and checking the latter through actual experimentation.” (p. 152). This formal operational stage was the one that offered a source of inspiration for those interested in metacognition.

Thus, metacognition has been discussed by researchers from the period of Piaget as an attempt to develop this stage of cognitive ability.

1.1.2.2. Vygotskian Theory

Vygostky’s ideas meet with those of Piaget’s in what concerns the cognitive development of children which he considers to be characterized by different stages, corresponding to a change in the style of thinking. However, his ideas seem to diverge from those of Piaget in what concerns the role of society and culture in speeding and enhancing the learning process.(Brown et al., 1996, p. 145).

Vygotsky insisted on the role of adults or experienced peers in orienting and facilitating the move of the child to formal operational stage. According to him, knowledge exists initially on the Inter-mental plane before it is transformed to the Intra-mental plane. That is to say, first it

exists between two or more people, during the interaction phase, before it moves to the mind of the individual child. In this respect, Vygotsky introduced his notion of zone of proximal development (ZPD) which explains the difference between what the child can understand by him/herself and on his/her own and what s/he can understand through his/her interaction with the others who provide him/her with the necessary guidance and support.(Brown et al., 1996, p. 146).

Vygotsky's contribution to metacognition in the educational field was apparent in his notion of zone of proximal development. The educational system, according to him, has to offer appropriate settings to help the child or the adolescent to internalize the mental functions he was not able to acquire on his own. Thus, the educational setting becomes the setting where collaborative interaction is promoted and systematized in terms of appropriate instructional activities to reproduce the ideal social setting reliable to "create zones of proximal development" (Brown et al., 1996, p.147). For example, teachers are encouraged to think aloud when solving a problem with the learners. They should also be encouraged to promote interactions between learners in the classroom so that their spoken reasoning would serve each other.

1.1.3. Cognition and Metacognition

Another critical problem with the concept of metacognition is that it is often difficult to distinguish it from cognitive (Brown, 1987, p. 66).In Flavell's (1987) words, "in the course of development one learns about cognitive strategies for making cognitive progress and about metacognitive strategies formonitoring the cognitive progress."In fact, when we make efforts to comprehend a reading passage, we are here concerned with a cognitive strategy. When we are checking if we have really assimilated the passage (monitoring understanding), we are here concerned with a metacognitive strategy (p.23).

Flavell's (1979) model of metacognition, assumes that metacognition and cognition both can be acquired, forgotten, correct or not, and metacognition can be expressed in external formulations, with said information being either correct or not, subjective, shared, or validated, just like cognition (p. 906-911).

1.1.4. Components of Metacognition

According to Schraw (1998), Metacognition contains knowledge of cognition and regulation of cognition. Knowledge of cognition includes: declarative, procedural and conditional knowledge or awareness. Regulation of cognition includes planning, monitoring and evaluation (p.114-115). The components and factors of metacognition are shown in Figure 2 below.

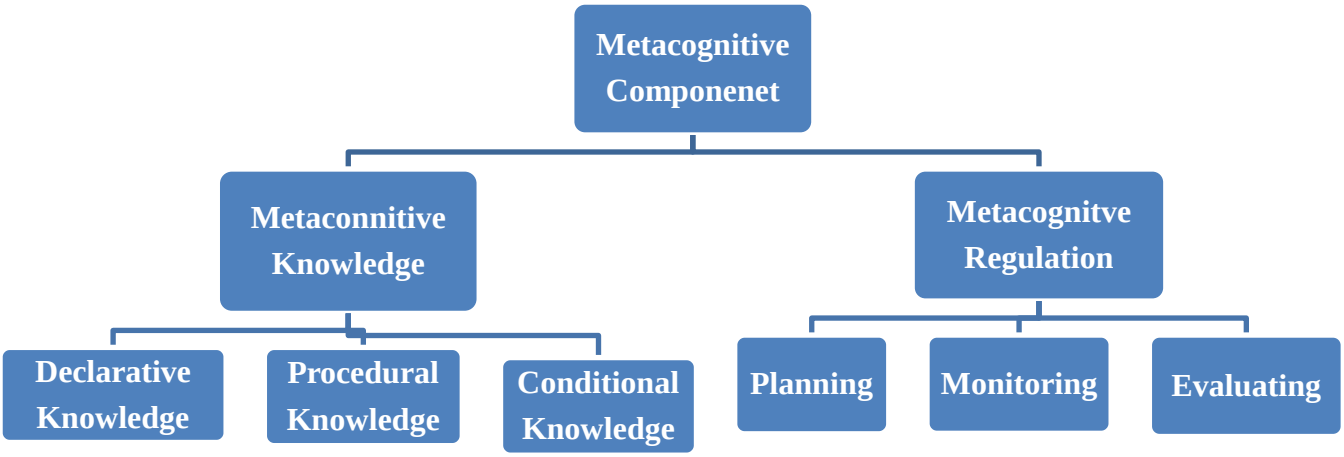


Figure 2: Components of Metacognition (Schraw, 1998, p. 114)

1.1.4.1. The Metacognitive Knowledge

Metacognitive knowledge is knowledge about cognitive strategies: the various types, procedures, and conditions for use. It is also about the knowledge about how task variations can influence cognition. It refers to learner's knowledge about their personal strengths and

weaknesses, pertains to a specific task, and may vary between tasks. It includes: declarative, procedural, and conditional Knowledge.

1.1.4.1.1. Declarative Knowledge

Declarative knowledge includes knowledge about oneself as a learner and the other factors that may influence one's performance. It also includes "individuals' knowledge of their affective states, including self-efficacy and motivation, and how these affect task performance" (Harris et al., 2009, p. 133). Overall, this knowledge refers to knowledge about self, task, and about strategies for achieving task goals.

1.1.4.1.2. Procedural knowledge

Procedural knowledge refers to knowledge about how to use strategies. This procedural knowledge involves both monitoring and regulating and other thought processes. It refers to one's knowledge that involves monitoring and regulating processes. These strategies include note-taking, slowing down, skimming unimportant information, summarizing main ideas and self-testing (Schraw et al., 2006, p. 114).

1.1.4.1.3. Conditional Knowledge

Conditional knowledge is a person's knowledge about when, where, and why to use certain strategies and why certain procedures work better than others.

1.1.4.2. Metacognitive Regulation

Regulation of cognition consists of: planning, monitoring, and evaluating. These processes help to plan, monitor cognitive activities, and also to check the outcomes of those activities. Thus metacognitive regulation is the regulation of cognition and learning experiences through these procedures in order to control one's learning.

1.1.4.2.1. Planning

Planning involves selecting appropriate strategies and allocating resources which affect performance. Planning may include predicting, time and effort allocation, selecting strategies, setting goals plans for any task.

It can be adopted at the onset or during academic problem solving, for example after completing subtasks. As Schraw and Moshman (1995)emphasized on that planning ability prior to get involved into a task may improve outcomes regardless of the context and content of the task (p. 345-371).

1.1.4.2.2. Monitoring

Monitoring refers to one's continuous awareness of comprehension and task performance. The ability to engage in periodic self-testing while learning is a good example. It refers to period control of the proper use of the strategies applied to achieve a task (Cera et al., 2013, p. 115). Specifically, monitoring includes observing oneself performance and it concerns monitoring one's cognition, motivation, affect, task demands, for example in need for help (Zimmerman, 2002, p. 64-70).

1.1.4.2.3. Evaluation

Evaluation refers to revising the products and the process adapted in one's learning.(Schraw et al., 2006, p.114). It concerns re-evaluating one's conclusions and goals, it also concerns the evaluation of learners' results achieved and their reactions to these results. Students in evaluating their learning, they may ask the question about how they might act differently if they were to do the task again.

1.1.5. Models of metacognition

Some models of metacognition such as Flavell's and Brown's models have provided a theoretical framework for metacognition.

1.1.5.1. Flavell's model of cognitive monitoring

In his classic article on "Metacognition and Cognitive Monitoring", Flavell (1979) makes the first attempt to define the components of metacognition by creating a model of cognitive monitoring and regulation (p.906-907). His model includes four components: (a) metacognitive knowledge, (b) metacognitive experiences, (c) goals or tasks, (d) actions or strategies. A person's ability to control a wide variety of cognitive abilities depends on the actions and interactions among these components

(Figure 3 shows the relations between them).

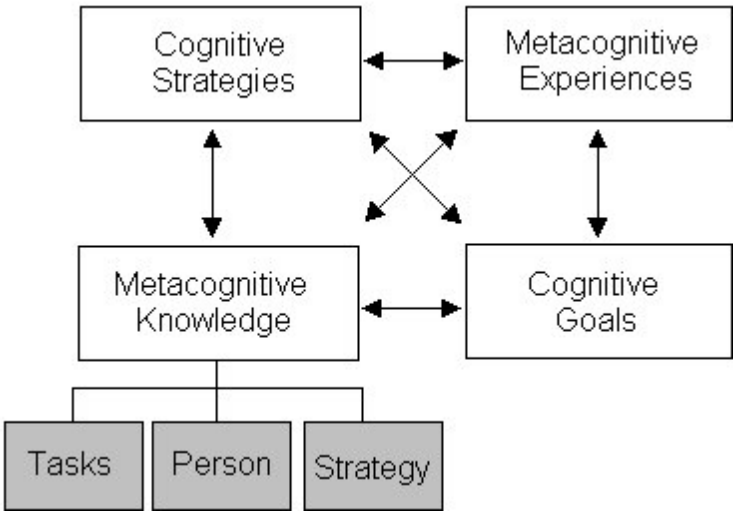


Figure 3: Flavell's model of metacognition (Flavell, 1979, p. 609)

Flavell's model includes four components which are:

a- Metacognitive Knowledge

b- Metacognitive Experiences

c- Goals or Tasks

d- Actions or Strategies

1.1.5.1.1. Metacognitive knowledge

Metacognitive knowledge is the knowledge one has of his own cognitive processes or that of the others. The statement “I am good at arithmetic, but Bob knows more words than I do” is an example of metacognitive knowledge. Metacognitive knowledge, according to Flavell, is knowledge about the factors that affect the outcome of cognitive processes (Flavell, 1979, p. 907).

He also identifies three general categories of these factors: the person category, the task category, and the strategy category.

a-1- Person category concerns the knowledge one has of his own cognitive capacities and that of the others.

a-2- Task category comprises information about the task in question and its cognitive demands. In other words, what is the path one is likely to follow in accomplishing the task and how likely would it be successful. For example, one may know that very dense texts need continuous verification of one's comprehension (Romainvile, 1993, p. 23).

a-3- strategy category finds knowledge about which strategies are likely to be effectivefor achieving subgoals or goals in various tasks. Flavell (1979) argues that it is possible to acquire cognitive and metacognitive strategies together (p.906).

1.1.5.1.2. **metacognitive experience** is a cognitive or affective experience that accompanies a cognitive action. In other words, it is the conscious consideration of experiences that accompany any success or failures in learning or other cognitive tasks (e.g. having a feeling of confusion after reading a text passage).

c- Goals or Tasks however goals refer to the specific objectives and end-products of the cognitive activity such as comprehending a text for a quiz. These goals will include the use of metacognitive knowledge and develop a new metacognitive experience.

d- Actions: Finally, actions refer to the use of specific strategies or techniques that may assist in achieving one's goals.

1.1.5.2. Brown's Model of Metacognition (1987)

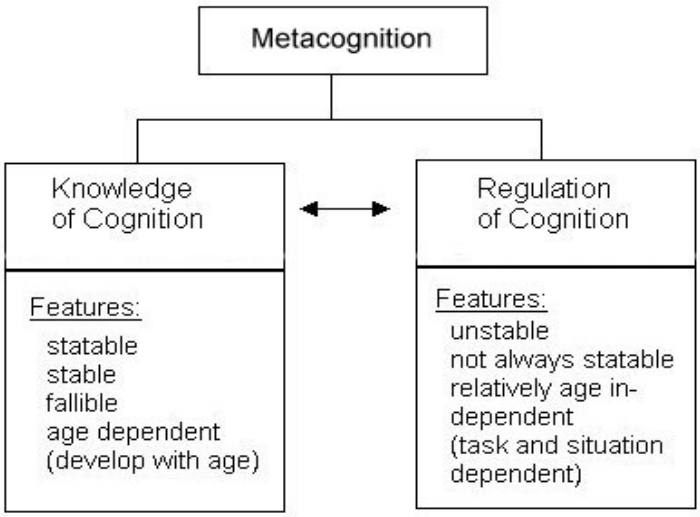


Figure 4: Brown's model of metacognition (Amado, 2004, p.15)

Brown's model of metacognition (1987) is composed of two major components:

1.1.5.2.1. Knowledge of cognition or as is often referred to in the literature on the subject, "knowing what", it refers to activities used to consciously reflect on one's cognitive abilities. The stable knowledge means a certain degree of permanence, statable means can be explained on request, fallible means can be erroneous as it is particularly idiosynchratic or can be distinguished, and age dependent as it tends to develop throughout life.

1.1.5.2.2. Regulation of cognition consists of the three activities used to regulate and oversee learning. First, planning activities (predicting outcomes, scheduling strategies, and various forms of vicarious trial and error, etc) prior to undertaking a problem. Second, monitoring activities (monitoring, testing, revising, and re-scheduling one's strategies for learning) used during learning.

1.1.6. Metacognition and Relationship to Other Concepts

Researchers in cognitive psychology have linked metacognition to a number of other constructs, including cognition, intelligence, and critical thinking.

1.1.6.1. Metacognition and Intelligence

Some research approach metacognition and intelligence as related constructs, whereas, according to others the two constructs are not related at all. Research agree that metacogniton is completely related to intelligence are the ones argued that metcognition and intelligence are dependent variables.

The relation between metacognition and intelligence is investigated in two studies. The first cross-sectional study, they reported positive significant correlations between these two variables of $1^{ST,}$ 3^{rd}, and 5^{th} graders with kindergartners for all age groups. In the second study, they also found positive significant correlations between metacognition and intelligence with kindergartners and 1^{st} graders. (Alexander et al., 2006, p. 59).

Other research believes that metacognition and intelligence are correlated. Rozencwajg (2003) reported a positive significant correlation between metacognitive knowledge and intelligence (p.281).

However, there are also a number of researchers that found no significant correlation between metacognition and intelligence. Veenman and Colleague(2004) studied metacognition and intelligence in relation to learning performance. They developed three models as a result to this study. First, the intelligence model regards metacognition and intelligence as highly correlated constructs. Second, the independency model, regards metacognition and intelligence as entirely independent predictors of learning because metacognition cannot have a predictive value for learning. The mixed model, according to it, metacognition is related to intelligence, however, metacognition can predict learning (p. 89-109).

1.1.6.2. Metacognition and critical thinking

Critical thinking also relates to metacognition. Flavell (1979) and Martinez (2006) claimed that critical thinking is related to metacognition. For example, Flavell argued that the definition of metacognition should include critical thinking which can lead to "wise and thoughtful life decisions" (p. 910). Martinez (2006) considered critical thinking as a type of metacognition in addition to metamemory and problem solving types (p. 697). In addition to that, Schraw et al. (2006) view both metacognition and critical thinking as self-regulated learning skills. The latter, self- regulation, they define as "our ability to understand and control our learning environments" (p. 111). At the very least, metacognition can be seen as a supporting condition for critical thinking because the ability to control the quality of one's thought, as a metacognitive process, means that one is doing high-quality (critical thinking).

Lee (2009) studies and examined the relationships between metacognition, self-regulation and critical thinking for high school students. Results of this study reveal the effect of metacognitive tasks on students' development of self-regulation. He also studied the effect of the metacognitive tasks developing students' critical thinking (p. 185).

1.1.7. Teaching Metacognition in L2

Like many other processes, metacognition can be taught to students. The approaches in teaching students the metacognitive strategies include *direct instruction, teacher modeling,* and *application.* The National Academy of Sciences, after decades of research on the effectiveness of a metacognitive approach to instruction, they concluded that metacognitive practices develop students' abilities to transfer or adapt their learning to new situations and contexts (Bransford, et al., 2000, p. 12).

For direct instruction, teachers give clear explanation about the strategies to be taught, why they are important and when students will need to use them. Teachers also present a number of examples to illustrate their instruction. They should have awareness above the subject matter, they also should think of different learning situations and themselves in these contexts as learners. Pintrich (2002) asserts that students who are aware of the different strategies, their thinking, and problem solving situations are more likely to use them (p. 222).

Hartman (2001) views that other than giving direct explanation, teachers can model the strategies by using the technique "think out loud" to show "when and how" the metacognitive strategies should be used. The important point in this approach is that teachers would provide a model of the thinking process by saying out loud what is going on inside their heads. As important, students must be given opportunities to perform the same task under the guidance of teachers in order to internalize them until they become automatic. This application of the strategies serves as independent practice accompanied by teachers' feedback. Recognizing

and practice in applying metacognitive strategies will help students successfully solve problems not only in their subject areas but throughout their lives as well (p. 51-52).

Summary

Throughout section one it becomes clear that metacognition is a multifaceted topic of research. The most important metacognitive models that are related to the present research were introduced and explained to be able to decide on a clear theoretical standpoint

Light is also shed on the components of this concept which are metacognitve knowledge and metacognitve regulation and show its importance in the learning enterprise and in developing learners' independence and autonomy. Our research has benefited from this literature that has identified the metacognitive skills that play an important role in helping students develop metacognitive awareness.

1.2. Section two: Reading Fluency and Comprehension

Introduction

Reading is one of the most important skills. It is a constructive process that can help students to acquire new knowledge of language, experience about life and so on. Simply, reading is an active process of understanding print and graphic text. In this section, we will introduce both terms reading and reading comprehension through stating different definitions by different research. It also deals with some methods of reading which are: extensive and intensive methods in addition to the reading purposes. As comprehension is one of the purposes of reading, definition and difficulties in comprehension were also mentioned in this section. Moving to reading fluency because is a crucial element in addition to its relation with reading comprehension. Finally, we conclude our section speaking about reading strategies which may help in solving problems of fluency and difficulty at reading comprehension.

1.2.1. Definitions of Reading

Researchers in the field of teaching and learning have proposed many definitions of reading. They consider reading as a complex cognitive process which involves many components students need in order to read effectively.

Broadly, reading is "to look at and understand something printed or written." (Longman Dictionary, 1992, p. 863)

Traditionally, it was believed that reading is the process of decoding words, phrases, sentences, paragraphs, and even the whole text to understand the contextual meaning. Recent research provides other definitions of reading as an interaction involving a reader and a text which leads to reading fluency and comprehension. According to Tesser (2005), this latter "requires not only the decoding of symbols (cognitive approach), but also the construction of meaning by the reader." (p. 5). There is an interaction between the text and the reader in which he/she tries to interpret the meaning.

However, Davies (1995) provides a more precise definition of reading when he says that "reading is private. According to him reading is a cognitive process that requires interaction between text and reader in which the reader tries to construct meaning from writer who is away in time and space (p. 1). Hence, reading needs high cognitive actions for the reader to comprehend the author's intended meaning. Vacca et al. (2000) have asserted that "reading is not a passive activity; it is an active thinking process that takes place behind the eyes." (p.265) this means that reading goes beyond just decoding the written symbols. That is to say it is not considered as passive process in contrast to that, reading is an active and mental process that happens inside the brain of the reader to get the meaning of the text and understand effectively. Similarly, Alderson (2000) views reading as an interaction between the reader end the text while many actions happen: the reader does not move his eyes through

the text, but decipher in some sense the symbols on the page, guess what they mean, and how they relate to each other (p.4).

It is clear from this chronological development that reading is a complex process. In this respect, Grabe (1991) analyzed the process fluent reading into a set of component skills (p. 379).

> Six general component skills and knowledge areas are proposed:
> 1. Automatic recognition skills
> 2. Vocabulary and structural knowledge
> 3. Formal discourse structure knowledge
> 4. Content/world background knowledge
> 5. Synthesis and evaluation skills/strategies
> 6. Metacognitive knowledge and skills monitoring.
>
> (Hesham 2005, p.144)

Figure 05: Component Skills of Fluent Reading

Reading is a complex cognitive ability that is considered one of the basic language skills which can help students in learning foreign language; this in turn enables them to increase their knowledge in specific areas.

1.2.2. Types of Reading

There are two categories in teaching reading: extensive and intensive reading. Depending on the students' level and the text used, the teacher selects which type of reading to use either intensive or extensive reading to achieve the students' understanding.

1.2.2.1. Extensive reading

Bamford et al (2004) consider extensive reading as a language teaching where learners are expected to read huge amounts of materials or long texts for general comprehension with the

main goal of gaining pleasure from reading (p. 1-4).This means that extensive reading refers to reading texts for pleasure and searching for a general understanding of the content. Extensive reading is reading huge quantities of materials in the second language over time for pleasure and without a lot of instruction for tasks (Hafiz & Tudor, 1989, p. 4).This means that Extensive reading means reading in quantity and in order to gain a general understanding of what is read. It is intended to develop good reading habits, to build up knowledge of vocabulary. For example, take a book, a newspaper, or a magazine and enjoy reading without interruption.

In EFL classrooms, extensive reading develops reading ability and independency. Similarly, Hedge (2003) argued about the advantages in using extensive reading. He argued that extensive reading builds learners' reading ability, and their independency, and develops their cultural knowledge, confidence and motivation to learn (p.204-205). This means that extensive reading is of a great importance in educational context in that it helps learners to develop their language, increase their reading comprehension and enriches their vocabulary.

1.2.2.2. Intensive Reading

In contrast to extensive reading, intensive reading refers to a high degree of understanding and retention over a long period of time, in other words, it is reading in depth or carefully to comprehend a given text. For example; Palmer (1964) contrasted extensive reading with what termed intensive reading, by which he means "to take a text, study it line by line, referring at every moment to our grammar, comparing, analyzing, translating, and retaining every expression that it contains." (qtd. In Day and Bamford, 1998, p. 5) Intensive reading is a slow and concentrated reading that students pay much attention to vocabulary and grammar. Also they do it inside the classroom with the use of material that is teacher directed.

Mikulecky and Jeffries (2004) have affirmed that "intensive reading is an activity in which students (usually in a class group, led by the teacher) carefully read and examine together a reading passage assigned by the teacher many times." (p.257) this means that during such a type of reading, students usually read the passage in details and carefully to construct the meaning under a great attention with the guidance of the teacher. According to Nuttall (1982) the aim of intensive reading is to arrive at a profound and detailed understanding of the text, not only of what it means, but also of how the meaning is produced. The "how" is as important as the "what", for the intensive reading is intended primarily to train student in reading strategies (p.23).

Furthermore, some reasons lead the teacher to use this type of reading in the teaching process. Paran (2003) talked about the reasons for intensive reading that are: comprehension, awareness of text organization. He also added that intensive reading "to learn how to use and monitor effective reading strategies, and to develop literacy skills necessary to generate productive expressions in L2."(p. 40). During this type of reading the students will be able to form critical analysis about the content, the arguments, the language used, the message, and will be able to focus more on the features of the text.

Thus, all these reasons contribute to better comprehending the written text and developing language study and accuracy.

1.2.3. Models of Reading

Reading models explain how the process of reading works. These models shows how readers construct meaning from text that means are concerned with how readers decode words starting from recognition of text by eyes and arriving to its perception by the brain. This include three main theoretical models that are: Bottom-up, top-down and interactive models (Redondo, 1997. p, 140).

1.2.3.1. The Bottom-up Model

The Bottom up approach is about matching letters to sounds by which readers start to decode a text word by word, forming phrases and then sentences' meanings (Gray and Rogers 1956, qtd. in Kucer 1987, p. 27-51). This model of reading sees that the construction of text meaning begins from the word level, letters, and phonemes, then the sentential level, and finally the text level (qtd. in Rumptz, 2003, p.71).

Using this model, students, start through word recognition to comprehension in which the reader begins letters and then move to the higher units of text (clusters) and finally get to words.

1.2.3.2. The Top- down Model

The top-down model referred to by Richards (1990) as using background knowledge in understanding the meaning of a given text (p. 50-51).

Grabe (1988) explained that this model is about the process of connecting information in the text with the reader's background. Reading, in this sense, is like a dialogue between the reader and the text (p. 56). The more readers know in advance about the topic and text to be read, the less they need information from the text. So, this process is based on the interpretation of assumptions and drawing inferences.

1.2.3.3. The Interactive Model

This model makes connection between both models of reading; the bottom up and top down ones throughout the reading process. Similarly, Eskey (1988) sees that the interactive model is about the continuous interaction between bottom-up and top-down processes for meaning construction from texts (p. 93-100). Additionally, Carell (1998) says: is a model of reading in which the reader starts with a linguistic surface encoded by the writer which is the language used and ends with constructing his own meaning from the print.(p. 240-254).

1.2.4.Teaching reading comprehension

A common agreement among reading researchers upon the interactive characteristic of the reading process is reached. Yet, there is still a debate among teachers about the type of knowledge and processing strategies that must be emphasized.

This debate gives birth to two major approaches to reading instruction, namely, Phonics and Whole Language. While advocates of the phonics approach place more importance on bottom-up processing to comprehension, advocates of the latter emphasize top-down processing instruction.

1.2.4.1.Whole Language Approach

This approach draws upon psycholinguistics and represents a top-down approach to reading instruction. Many reading researchers make it clear that "Whole Language is not a "method" or collection of activities, but a philosophy underlying all the teacher's instructional decisions" (Hayes&Stahl, 1997, p.07). The basic principle of whole Language is that meaning develops "from whole to part" (Reid et al., 2003, p.13)

The core of the Whole Language approach is Goodman's guessing game hypothesis. Many reading scholars assume that Whole Language approach is difficult to define and yet many principles are shared by most of them. The most salient one is the fact that language is used for authentic purposes, so it is best learned if it is learned for authentic purposes (Stahl, 1997, p.06). The pedagogical implication of this principle is the use of authentic reading tasks using whole texts in the classroom, not looking at parts of language, such as symbol correspondences.

1.2.4.2. Phonics Approach

Phonics refers to the relationship between sound and spelling patterns which a reader may use to decode words (Rasinski et al., 2010, p.93). Phonics instruction focuses on the sounds produced by both vowels and consonants and blending of these sounds by also paying

attention to root words (Pressley, 2006, p.96).This is in contrast to some whole-language proponents who discourage the emphasis on skills instruction. Pressley (2006) continues to say that phonics instruction lead to skilled reading and enable readers recognize words effortlessly and not mere sounding-out words. With phonics instruction, learners are able to use their new knowledge (phonics) to read words and text (p.96).

Rasinski et al. (2010) argue that, "it is not a question of whether to teach phonics or not, but rather to whom and how" (p.93). This indicates that teaching phonics in reading comprehension is important. Therefore, concerning learners' needs for learning this requires balancing two approaches.

1.2.4.3.The Balanced Approach

Many researchers think that an intermediate position between Whole Language and Phonics approaches must be established , an approach that would be more in line with the interactive view to reading (Carson 2002 in Reid, G. et al. 2003,p.10). According to Birch (2002), the balanced approach to reading with its focus on both bottom-up and top down processes reflects the interactive nature of the reading process. She explains that reading is interactive in three ways:

-The different processing strategies, both top-down and bottom-up, along with the knowledge base, interact with each other to accomplish the reading.

1.2.5. Reading Comprehension

Reading comprehension is defined as the ability to extract the required information from a written text and interpret this information properly (Grabe & Stoller, 2002, p.17). In reading comprehension, Grellet (1981) views that the type of the reading text, the aim of reading passage, and the strategy of reading the reader follows may have an impact on comprehension (p. 3-4). It is noticed that most students focus on knowing the type of the reading passage first where they mostly prefer stories and descriptive texts. Also when the reader has specific aim and he wants to achieve, comprehension will be easy and enjoyable. In addition to that,

reading comprehension should not be taught and learned randomly but it should follow some techniques and appropriate strategies and activities that enrich texts' understanding. To better comprehend a text, the instructor provide his learners with comprehension strategies that encourage a range of mental abilities in order to understand the text.

1.2.6. Purposes of Reading

It is clear that each one of us has his/her own reason to read. We may read to learn; to improve our abilities or to find information, etc. Harmer (2001) has considered two reasons of reading, Instrumental and pleasurable. The first one means that the reader should has clear purpose in his/her mind. In addition, the second reason means that the reader can read for entertainment or enjoyment (p .200). Also, Grabe and Stoller (2002) have suggested that before readers come to read they should have purposes. This purpose is a decision made quickly in order to reach the overall goal which is the general comprehension (p.13).

Rivers and Temperly have claimed that "reading activities from the beginning should have some purposes and should concentrate on the normal purposes of reading". (qtd. In Hedge , 2000, p. 195). Reading decisions that readers have before the reading activities are good thing for them to become aware and conscious of why they have decided to read and also how are going to read. It means the way of how they are going to select the significant information but not all the data that are presented in the text. For that Grabe and Stoller (2002) have classified reading purposes under three points. Which are: reading to search for the information that student need, to skim or scan the text quickly in order to determine the important elements to read, and to learn from the text .(p.13).

Based on these purposes, students are going to be aware and conscious about their reading, so they improve their abilities in a good manner without any complexity and ambiguity. In addition, having reading purposes help to overcome the reading problems and difficultie.

1.2.7. Types of Reading Difficulties

Wood (2001) stated six major reading difficulties that are: decoding, comprehension, language, topic genre, negative expectation and fluency (p. 29). They are as follow:

1.2.7.1. Decoding Difficulty

Giving a definition to the term decoding is important before talking about its difficulties. According to Vacca, et al. 2000 “decoding process is based on learner’s attention by which he/she breaks down a word into individual phonemes and recognition based on those phonemes.”(p. 27). That is, decoding process is the reader’s ability to make a combination between sounds that represent letters.

However research in this field, have argued that students encounter difficulties to make a relationship between sounds and letters to get the right meaning. Wood (2001) states that, “failing readers with poor phonemic awareness are much less likely to discover letter-sound relationship.”(p.31). Students with this type of difficulty cannot progress better because decoding process is an essential part in learning to read that take a long period of time and this is what researchers called “Bottom-up" model difficulty. Wallace (1992) states that “students with this difficulty cannot initially make necessary connection between the language they hear and the language they see print.” (p.9) To explain this more take this example: the word "danger" is written like this but it is pronounced /deinʒə/, so students find difficulty to combine and integrate what they hear (sounds) to what they observe (letters, words in the text) to get the meaning.

1.2.7.2. Comprehension Difficulty

Clearly, when we speak about comprehension we mean the way in which the words are related to get sentences and sentences with each other in terms of form, meaning, and function to get the comprehension. Thus, comprehension relies on the ability to recognize sounds and

letters relationship that is represented in the words and also the ability to interact with the text. Wallace (1992,) states that "readers are helped in their interpretation of text both by their knowledge of the principals of words formation and by their ability to attributes an appropriate function of texts." (p.14). However, some students have problems to comprehend the text because they are not able to decode sounds and letters relationship and also they are not able to communicate with the text and this is what Wood (2001) called "word-recognition" and "text processing difficulties." He states that "whereas good language reader becomes fast and accurate at recognizing words without context, poor reader often remain dependent on text." (p. 31).

Comprehension difficulty can be summarized in some points: trouble decoding, confusion about the meaning of words and sentence, inability to connect sentences with each other, problems to make difference between important ideas and less important ones, and lack of reading strategies.

1.2.7.3. Language Difficulty

It is so obvious that any language is made up of structures. These structures involved (letters, words, clauses, sentences…). If the text contains long sentences and ambiguous words it seems to be difficult by students to understand the general idea. In addition, this type of difficulty occurs because students have back ground problems especially in their memories. They find problems to remember what they have been read. This difficulty deals with both decoding and comprehension difficulties. They are not able to remember and review the ideas presented in the text. This lack of ability is called (dyslexia). Wood (2001) asserted that Dyslexia is a learning disability characterized by difficulties in word decoding that reflects insufficient phonological processing, in addition to, problems in writing and spelling (p. 35).

So students cannot decode words because they have problems of phonological processing and also because of problems in comprehension. First, they have limited vocabulary, Second,

they have problems in remembering or summarizing what they read, and third, they have lack of phonological awareness. The next, difficulty will be discussed is inability to discover how language is build and related and also they are not able to connect what they read to their prior knowledge.

1.2.7.4. Topic Genre Difficulty

In certain times and when students dealing with new topics which they are not familiar with, they feel that the topics are not suitable and appropriate to deal with. This sense may occur due to the lack of engagement with the topics, so the reading difficulty might take place. Harmer (2001) points those receptive skills activities will not be effective mainly because of the unfamiliar topic or genre the students deal with (p. 205).

1.2.7.5. Negative Expectation Difficulty

When students have low level in reading are not motivated to read. They feel that they are not going to read better and comprehend what the text is spoken about. Moreover, they always feel that the reading activity is too difficult and they always have bad attitude toward reading when they fail to read and comprehend effectively. Harmer (2001) states that "such attitudes, where they exist, are often due to previous unhappy or unsuccessful experience, if in the past; students have been given reading texts which are too difficult for them, that will color their view of the process." (p. 208).

1.2.7.6. Fluency Difficulty

A fluent reader reads the text rapidly with a great attention to the intonation and punctuation. However, many students find it difficult to read fluently. They read several words without any attention to intonation. They are not able to read orally with speed. Micheal, et al. (2007) have stated that "non fluent reader can find reading punishment. They may be so unmotivated to read that they do not choose to read and, therefore, do not enjoy the

benefits of reading such as increased vocabulary and fluency. This is a vicious cycle that can result in a trajectory of poor achievement that is difficult to reverse." (p. 83).

1.2.8. Definition of Reading Strategies

Reading strategies have no clear cut definition. According to Garner (1987), reading strategies are deliberate, playful activities to remedy cognitive failure (p. 95). Additionally, Barnett (2002) has used the term reading strategy to refer to the comprehension processes that readers use to make sense of what is written (P.1-14). So, Reading strategies are effective techniques that are used by EFL learners to succeed in reading comprehension. Concerning teaching, the EFL teachers play major role in this, they should be aware of the use of reading strategies and should teach learners on how to use them successfully.

1.2.8.1. Reading Comprehension Strategies

Some strategies used by EFL learners namely are; summarizing, scanning, inferring, and setting a purpose.

1.2.8.1.1. Summarizing

It is a way that enhances students' comprehension of texts. Duke and Pearson (2002) argued that practice in summarizing improves students' overall comprehension of text (p. 221) .Summarizing passages or text focuses on the fundamental concepts and ideas. Therefore, it develops students' comprehension and understanding of the read language.

1.2.8.1.2. Scanning

According to Grellet (1981) the technique of scanning a text as a whole requires searching only for specific information through tests' titles, tables, and so on (p.58). In addition, Wood clarified it as a strategy reader often use when looking for specific information by reading something quickly such as search for key words or ideas. In most cases, reader knows what he

is looking for; therefore, he is concentrating based on finding a particular answer. Scanning involves moving the eyes quickly through the text (Wood, 2001, p.1-2). In this way, we can say that scanning is reading quickly to search for specific information.

1.2.8.1.3. Inferring

Prezler (2006) said that "inferences are evidence-based guesses." (P. 4). According to Zimmermann (2009) saw that inferences are what you we read between the text lines that means to make the same conclusion the author has made. This requires using prior knowledge and text information to arrive at conclusions, make judgments, and personal interpretations from text (p23). Generally, making inferences are the conclusions the reader draws about the unsaid based on what is said by the writer within the passage.

1.2.8.1.4. Anticipating

Anticipating what might be up-coming in a text on the basis of structure and content clues. At first sight, it seems that anticipating and predicting are similar. However, Grellet (1981) draws a significant distinction. For her, anticipation is a psychological sensation, means that, the aim is simply to create the need and wish to read as well as to familiarize the learners with some of the ideas they will come across in the text. And for prediction, she considers that it relates to more detailed guessing of the text content. (p. 58)

1.2.9. Reading Fluency

The importance of developing fluency in reading within English as a Second Language/ English as a Foreign Language learners has become an important issue for pedagogy in ESL/ EFL setting because one of the problems faced by these students is that the lack of reading. A number of researches, since 1974, found that reading fluency is important in a successful reading. Their main attempts were to define this concept. Rasinski (2006) argues that the

reason behind that is the emphasis on what constitutes reading fluency has changed over time.(p.5).

The Collins Co build English Language Dictionary (1987) views this concept of fluency as the ability to speak, write and read accurately and without hesitation. In addition, The Collins Dictionary provides the main characteristics of a fluent reader, writer and speaker. The fluent reader reads smoothly and rarely stops at unknown words. Similarly, the Concise Oxford English Dictionary (2001) sees fluency as the ability to speak smoothly, easily and accurately. However, according to the Cambridge Advanced Learner's dictionary (2005), fluency is defined in relation to speech. It refers to the ability to speak a language easily, well and quickly. This means that, according to Rasinski (2006) fluency is viewed as being characterized by smoothness, easiness and accuracy in all the language skills speaking, writing, or reading, since reading fluency is considered as a new phenomenon (p. 5).

Researchers have not agreed on one single definition of reading fluency. Rasinski (2006) points out the following:

To some it is an act of oral reading (proper expression and prosody) and oral production of written texts. To others, it concerns accuracy and speed in reading. In addition to others, reading fluency deals with appropriate decoding speed and accuracy that results in comprehending texts easily (p. 4-5).

Rasinski (2004) argues that fluency in speech and fluency in reading are not different since the same fluency characteristics are used in both speaking and reading. The fluency features of accuracy, expression and appropriate speed, facilitate understanding of speech and also facilitate the reader's comprehension too (p. 2).

Another definition of reading fluency generally refers to the automatic word recognition. This can be seen in Shanahan's (2006) definition to this concept as it has been influenced by

LaBerge and Samuels' (1974) theory of automaticity. Reading fluency, according to him, is referred to as "the ability to read texts aloud with sufficient speed and accuracy." (p. 30).

The last view, however, considers that reading fluency has to do with comprehension. Reading fluency is, then, defined as the ability to decode and comprehend at the same time. Samuels (2006) considers reading fluency as the ability to decode and understand the written text simultaneously. He states the following "the essence of fluency is not reading speed or oral reading expression, but the ability to decode and comprehend text at the same time.'' (p. 9).

1.2.9.1. The Relation between Reading Fluency and Reading Comprehension

Fluency, alongside decoding and comprehension, is one of the major pillars of reading instruction. Fluency refers to the rate, expression, and smoothness with which a student is able to read. Fluency is more than just reading quickly, though pacing is a part of it. Fluent readers read as though they are talking. They attend to punctuation, use different voices to represent characters in dialogue, and change their tone and pace to reflect the mood or register of what they are reading.

Despite its significance, fluency often gets overlooked in reading instruction. For many readers, fluency comes naturally as a by-product of good decoding. However, some readers need help to become more fluent. Increasing a reader's fluency contributes to enhancing their comprehension, or ability to make meaning from text.

Hollingsworth (1993) investigated the connection between fluency development and reading comprehension using modeling and repeated reading methods. The use of repeated reading and modeling is proven to be effective in developing reading fluency, which then directly effects reading comprehension (p. 330). Reutzel and Hollingsworth (1993) claim that "there appears to be an effect of fluency training on the reading comprehension of second

grade students" (p. 330). In other word, it is clear that when giving students the ability to practice reading fluency directly reading comprehension is improved.

Fluency is an important reading skill it creates a bridge to reading comprehension and makes connections in order to fully comprehend the reading act.

1.2.10. Variables Affecting Second Language Reading

Reading involves an interaction of a number of variables. Research of the process of reading has been divided according to the factors that affect it. The two factors that have been investigated are respectively the ones of 'reader' and the others of 'text'. What follows will shed light on the two types of factors affecting reading comprehension in second and FL

1.2.10.1. Reader Variables

It is true that reading comprehension involves the writer and the reader besides the presence of the text, but this is not sufficient. There are variables that are connected to and concern the reader him/herself. These include schemata and background knowledge, motivation, and purpose for reading. The following will describe all these variables.

1.2.10.1.1. Schemata and Background Knowledge

Comprehending a text involves an interaction of not only linguistic knowledge but knowledge of the world as well. This knowledge of the world, the background knowledge has been dealt with under schema theory (qtd. in Carrell & Eisterhold, 1983, p.553). The latter stresses that any text does not carry meaning by itself, which means that another element comes into play so as to enable the reader to make sense of text (ibid: p.553). This element is referred to as the previously acquired knowledge or the reader's background knowledge, and the structures of this knowledge are called schemata (ibid: 556), as stated clearly: "Efficient comprehension requires the ability to relate the textual material to one's own knowledge.

According to Moreillon (2007), background knowledge is "what the reader brings to the reading event" (p. 19). Also, Krashen (2004) claims that background knowledge facilitate comprehension (p.17-19). Backgroung knowledge according to Vitale and Romance (2007) is a very important factor in content-area reading comprehension (p.73-104).

According to schema theory, making sense of text is an interactive process between the readers' prior or background knowledge and the text. In other words, the reader does not find the meaning of a text just in the sentences themselves, but s/he derives it from "the previous knowledge stored in her /his mind and the process through which the reader tackles it." (Cook, 2008 p. 121).

The process of interpretation, then, according to schema theory is guided by bottom-up (text-based) and top-down processing (knowledge-based). Put another way, once the content of a text is recognized by the reader, comprehension is much higher (Carrell & Eisterhold, 1983, p.556-573)

1.2.10.1.2. Reader Purpose in Reading

A number of researchers have found out that the purpose of reading plays a major role in the process and control of reading. Research findings have demonstrated that different readers read with different purposes. So, the way of reading depends on the reason of reading. For instance, if one is reading for getting the text content, they will not pay attention to the text details. Davies (1995) argues that there is a strong relationship between the reading purpose and the types of reading such as skimming, scanning, skipping details, etc (p.11). Grabe (2002) lists four functions for reading in academic settings:

a- Reading to find information: scan or search text for a specific topic, word, or phrase

b- Reading for general understanding: get the main ideas and at least some supporting ideas and information

c- Reading to learn: understand the main ideas and store meanings and supporting details in a coherent organizational frame

d- Reading to critique and evaluate: in addition, reflect on text content; integrate it with prior knowledge, and judge quality and appropriateness of texts in relation to what is already known about the topic

(qtd. in Saville-Troike, 2006, p. 157*)*

1.2.10.1.3. Reader motivation

Motivation has been of a great importance in learning in general and in reading in particular. Day and Bamford (1998) define motivation as what pushes people to perform or not to perform something (p. 27). According to Dörnyei (2001) motivation is the key of success or failure (p. 5). He argues that the lack of sufficient motivation may lead even the best learnersfail at reaching their objectives to better acquire language (p. 5). Takeuchi et al. (2007) also argue that "learners who are more motivated tend to use a wider range of learner strategies and to use these strategies more frequently." (p. 71).

A great body of research has taken place since the 1980s on the importance of motivation not only for understanding language learning, but maximizing its success as well (Ellis, 2004, p. 536).

1.2.10.2.Text Variables

The other factors that affect the reading process are those of text. It has been argued that a text includes many linguistic variables that either facilitate its comprehension or make it difficult. We are concerned here with 'text topic and content', 'text type and genre', and 'text organization.'

1.2.10.2.1. Text topic and content

It has been proved that text content will affect the way the readers process it. Interesting and concrete topics are judged to be readable. Moreover, familiar texts are likely to be easier to process.

1.2.10.2.2. Text type and genre

Genre is a conventionalized category and type of discourse. Martin (1984) defines a genre as "a staged, goal-oriented, purposeful activity in which speakers [or writers] engage as members of our culture." (qtd. in Davies, 1995, p. 91). In the book of 'Genre Analysis', Swales views that "genre comprises a class of communicative events, the members of which share some set of communicative purposes." (p. 58). It is obvious that both definitions stress the importance of purpose. All in all, it has been claimed that different genres are characterized by different functions requiring different patterns of organization.

1.2.10.2.3. Text organization

Text organization assists readers to comprehend written texts. According to Grabe (2009) "texts convey a considerable amount of discourse information, at multiple levels."He argues that this information assists readers in building "coherent representations of texts." (p. 244). In their turn, Aebersold and Field (1997) point out that rhetorical structures "describe the organization of information in texts", and they are conventional, including "description, classification, comparison, contrast, cause and effect, process, argument, and persuasion" (p. 11-12).

Summary

In section two, we have examined the reading skill by providing different authors' definitions, and we have discussed some related points such: types of reading especially extensive, intensive, models of reading, reading strategies, reading fluency, and factors affecting reading.

To sum up, we can say that reading in EFL classes is an important thing that students should do as much as they can, till they become good language readers, this can be done through the help of the teacher in their learning.

1.3. Section three: Metacognitive Awareness as a Reading Comprehension Process

Introduction

Reading is a complex cognitive process which led research of the field to examine its multiple components skills and knowledge bases, and to understand how this components works together to build an effective reading comprehension.

This section aims to introduce working memory as an effective component to understand this process. Also, it outlines the lower and higher level processing in relation to reading. The lower level includes word recognition, orthographic processing, phonological processing, semantic and syntactic processing, and morphological processing. The higher level contains metacognitive awareness as a reading comprehension process that involves attentional processes. These attentional processes include goal setting, strategy use, metacognitive awareness, and comprehension monitoring. This section ends with explaining the metacognitve aspects of fluent readers that leads the reader to build an effective reading comprehension of the reading material.

1.3.1. The Cognitive Processes of comprehension

Reading comprehension involves ‘attentional processing’ mainly when students read difficult texts. According to Grabe (2009), processing attention is important in reading difficult text or when learning or evaluating goals (50). Some theories have discussed this kind of attentional processing involved in reading comprehension:

1.3.1.1. Working memory processes for reading

working memory is a concept that reflects the interaction between reading and memory. The term is concidered as synonym of short-term memory. According to Baddeley (1999) " short term memory is not one but a complex set of interacting subsystems", he refers to them as "the working memory." (p.16). Greene(1987) claims that the working memory is the responsible part in the information processing. On the role of the working memory during the reading activity, Greene (1987) points out that the the working memory is the working space in which new inputs are received and information from long term memory are retrieved. Thus, he views the working memory as a necessary aspest for cognitive functions that are mainly about the interaction between new and old information (p. 39).

The processing of the new information in the working memory is mainly dependent on the previews information which will be soon recalled from long term memory. For example distinguishing and connecting speech sounds and recognizing speech and letter correspondence are activated from long term memory to the working memory, so that the processing of the new information becomes possible. Accordingly, Baddeley's (1998) states that the working memory makes "an alliance of temporary memory systems that play a crucial role in many cognitive tasks such as reasoning, learning and understanding." (qtd. in. Nieuwenstien, 2004, p. 198).

The temporary memory systems facilitate many cognitive processing. According to Kaplan (1995), in the processing of the new information during the reading activity three different mechanisms are involved "one is specialized in the orthographic attributes of letter string, one for processing phonological attributes, and one for processing semantic information." (qtd.in G.Glosser et al., 1997, p.234). This means that the phonological, and the semantic mechanisms are activated in the memory during the reading activity to help in the understanding and acquisition of new information.

There are two levels of processing with which the working memory is involved. In the Reading Comprehension (RC) literature, two levels of processing are recognized: lower and higher. In this section, we shall shed some light on the two levels of processing. We begin, first, by describing components of lower-level processing. Then, we move to the higher level one.

1.3.1.1.1. Lower-Level Processing

Fluent reading implies recognizing the role that lower-level processes play in the reading process. The latter are mainly word recognition, orthographic processing**,** phonological processing, semantic and syntactic processing (Grabe, 2009, p.23).

1..3.1.1.1.1. Word Recognition

Research agreed that word recognition is the most fundamental process in reading comprehension. Gough (1984) defines word recognition as "the foundation of the reading process" (qtd. in Roberts et al. 2011, p. 229). Jennings et al (2006), claim that in order to read a text, readers need to recognize words in an accurate way. That is, fluent reading comprehension depends heavily on rapid and automatic word recognition, on the part of readers (Grabe, 2009, p. 23).

For many research, word recognition is unique to reading in the sense that readers are able to activate comprehension, "specifically from graphic symbols and their combinations." (Grabe, 2009, p.23) According to Grabe (2009) fluent reading involves interaction of: orthographic, phonological, semantic, and syntactic information. He explains this clearly in that: "in order for fluent word recognition to occur, a reader must recognize the word forms on the page very rapidly, activate links between the graphic form and phonological information, activate appropriate semantic and syntactic resources, recognize morphological affixation in more complex word forms, and must access her or his mental lexicon." (p. 23).

Davies (1995) affirms that automatic identification is partially influenced by "the thematic processor in which lexical, syntactic, semantic and background knowledge interact."(p.70).

1.3.1.1.1.2.Orthographic Processing

These processes refer to the visual recognition of word forms (Cunningham, etal., 2001, qtd. in Grabe, 2009, p. 24).

Current theories of word recognition focus on the information processing in 'word groups' instead of letter by letter. Nonetheless, word recognition depends on the length of the words. Moreover, orthographic processing is important in recognizing more complex words which have one or more morphological affixes such as un-, -ful (Grabe, 2009. p. 24). This means that it is important for readers to know how words are put together to form derived words.

1.3.1.1.1.3. Phonological Processing

As an important word recognition sub-skill, too, phonological processing has had a great attention among researchers. It is considered as a major factor contributing to reading comprehension. This is clearly stated in Koda (2004): "ability to obtain phonological information is vital to successful comprehension, and in all probability is causally related to reading proficiency. One might wonder why phonology is critical in silent reading, where overt vocalization is not required. The best answer, perhaps, lies in the ways phonology facilitates comprehension."(p. 33). He adds that phonological decoding includes accessing, storing, and manipulating phonological information. In which he talked about the importance of phonological codes in enhancing the storage of information in working memory and which help in the quick access to oral vocabulary because it is stored in phonological forms" (ibid: 33).

Phonological processing is a universal aspect of reading; in that, it is not found in alphabetic languages only, but also exists even in non-alphabetic languages such as Chinese and Japanese (ibid: 33).

1.3.1.1.1.4.Semantic and Syntactic Processing

The role of semantic and syntactic processing has been studied for nearly 30 years. Grabe (2009) states that "the issue raised has been, whether or not, semantic information contributes to lexical access. The answer is that semantic and syntactic information take place only after word recognition." (p. 25). However, this processing has little effect in the word integration and comprehension processes of spreading activation notion. That is, recognized or activated words spread some activation to the neighboring words having the same meaning and once accessed, the related word will be activated by being with a previously activated word. In other words, semantic and syntactic processing take place after word recognition and, in return, also contribute to word recognition used in word integration and comprehension processes in reading. Thus, semantic and syntactic information directs word recognition for fluent readers. (p. 25-26).

1.3.1.1.1.5.Morphological Processing

Morphological processing has received importance among researchers for 15 years. Studies show that readers who know the affixes and recognize words improve their reading comprehension better (Grabe, 2009, p. 27). So, morphological processing facilitates text comprehension

1.3.1.1.1.6.Automaticity and Word Recognition

Automaticity is special in fluent reading ability. For Hoffman (2009), automaticity is "processing without attention." Automaticity is the result of a long time of meaningful input and accompanies word recognition (p. 57).

Cunnigham et al (2011) claims that "Automaticity with word recognition plays a fundamental role in facilitating comprehension of text…" (p. 259).

Davies (1995) argues that the eye fixation which is limited to a general (universal) perception of words leads to the identification of about one to three words and their meanings either directly, from visual information, or indirectly through reference to grapho- phonic rules. This latter option provides the activation of inner speech. Whichever the route is chosen, with fluent adult readers it typically leads to the automatic identification of words, which is calculated from experiments to be as rapid as 60-70 milliseconds (msec) (p. 70).

Automatic word recognition is very important in reading comprehension. It has been claimed that contrary to good readers, poor readers do not make sense of what they read in an automatic and rapid way. In this case, it is argued that automatic word recognition is a characteristic of good readers.

1.3.1.1.2. Higher-Level Processing

Since the early 1980's, there have appeared terms such as Text Model of comprehension and Situation Model of interpretation. These models are referred to by Grabe as; a text model, a situational model, and two model account of comprehension. Actually, they have been introduced by discourse comprehension researchers such as van Dijk and Kintsch. They argued that these models are not seen as specific models to reading, but as discourse comprehension networks, as the term is widely used by cognitive psychologists (qtd. in Grabe, 2009, p.48).

1.3.1.1.2.1. A Two-Model Account of Comprehension

This model includes the two models mentioned above; the Text Model and the Situational Model. The Text Model is to understand what the text itself is trying to say, whereas,the Situational Model is to understand the text by combining background knowledge with the text

information and in addition to an effective interpretation of the text in line with the reader's goals. (Grabe, 2009, p.46)

In this third model "a Tow-Model" includes both models explained before. That is, "it combines an author's meaning and a reader's construction of text meaning." (Grabe, 2009,p.46)

A two model account of comprehension allows the reader to do both models with the emphasis on either of them depending on tasks types. It assists readers when they encounter difficult texts. This includes the use of background knowledge during comprehension, the use of strategies, inferences, goal setting, and comprehension evaluation properly in addition to implications for improving comprehension instruction (ibid: 49).

1.3.2. Metacognition as a Higher Level Process in Reading

1.3.2.1. Additional Higher-Order Processing Components

Reading comprehension involves 'attentional processing' mainly when students read difficult texts. According to Grabe (2009), processing attention is important in reading difficult text or when learning or evaluating goals. They are goal setting, strategy use, metacognitive awareness, metalinguistic awareness and comprehension monitoring processes (p. 50). These processes are as what follows:

1.3.2.1.1. Goal Setting

It is a cognitive process that is driven by attentional processing. It provides causes for reading. In academic environment, students read for different purposes and plan for attaining those purposes. The latter can range from, for example, checking information to summarize a text. Research has shown that goals can affect comprehension results in both L1 and L2 contexts (Perfetti el., 2005, qtd. in Grabe.2009, p. 51).

1.3.2.1.2. Strategy Use

Strategies are important in reading. They are intentional actions used by readers to "facilitate reading at any level of processing."(Erler & Finkbeiner, 2007, p. 189) According to Oxford (2002), the appropriate use of language learning strategie results in improved L2 proficiency in general, or in improvement in specific language skills (p. 126). Nonetheless, according to Grabe (2009) the readers are required to be aware of the use of reading strategies which will help them in developing main-idea comprehension (Grabe, 2009, p. 51).

The reading strategies as argued in the literature and proved to be effective are: identifying a purpose for reading, activating background knowledge, previewing, predicting, forming questions, recognizing text organization, skimming, scanning, repairing miscomprehension, inferring and so on.

In sum, findings from L1 and L2 reading-strategy use are summarized below:

1. All readers use many strategies.

2. All readers engage in more basic and more local strategies when reading frustration-level texts.

3. Good readers and poor readers use the same types of strategies.

4. Good readers use strategies more effectively than do poor readers.

5. Good readers are more metacognitively aware of strategic responses to text difficulties.

6. Good readers use repertoires of strategies in combination rather than overusing single strategies.

7. Good readers automatize certain combinations of strategies as routine effective responses to reading-comprehension needs.

8. Good readers are actively engaged in reading comprehension.

9. Reading strategies can be taught effectively.

10. Strategy instruction can improve reading comprehension.

11. Strategy instruction should be a central component of reading-comprehension instruction.

(Grabe, 2009, p. 227)

Figure 06: L1 and L2 Reading Strategy Use.

To be strategic, readers need skill and will. The latter represents "the motivational intent to become engaged with reading, to continue reading to reach goals, and to persist through difficulties." (Miller & Faircloth, 2009, p. 308)

In a Nutshell, strategic reading implies that readers select the most convenient strategy, monitor their reading so as to check whether they have met their goals (ibid, Miller & Faircloth,p.308)

1.3.2.1.3. Metacognitive Awareness

Metacognitive awareness is no less important in reading. It refers to the reader's controlling of his/her reading through strategy use (Caccamise et al., 2007, p. 375). Metacognition is defined as "conscious awareness and control of one's own cognitive processes or thinking about thinking" (Irwin, 2007, p. 5).

In reading, this involves the selection of strategies to be used by the reader, the way some strategies are combined, and when they are used. Garner (1987) claims that "self-regulated learners are metacognitively aware, when something has disrupted their understanding, and

they know how to select and use a repair strategy to remedy their comprehension" (qtd. in Almasi & Garas-York, 2009, p. 473).

On the whole metacognitive awareness entails the reader's knowledge of strategies and tasks' requirements. It is a characteristic of good readers.

1.3.2.1.4. Metalinguistic Awareness

Metalinguistic awareness is also important in making sense of texts. Grabe (2009) argued that metalinguistic awareness refers to the understanding of language in a more general sense. That is, it is the broad understanding of linguistic information, at a metacognitive level (p.56-57).

1.3.2.1.5. Comprehension Monitoring

Comprehension monitoring contributes to reading comprehension. In this meaning "Successful reading comprehension depends not only on readers' ability to access appropriate content and formal schemata," successful reading according to Casanave (1988), "also depends on their ability to monitor what they understand and to take appropriate strategic action" (p. 283).

To give an illustration, monitoring written texts, contrary to oral interactions, is challenging, for written texts (Guthrie et al., 2007, p.241). In general, this means that written texts may include lesscommon vocabulary. Moreover, they contain new information that does not exist in our prior knowledge. To put it differently, depending on the goals of the reader and the requirements of the reading tasks; the reader uses some strategies to overcome comprehension difficulty. In this way, the reader is monitoring comprehension.

Irwin (2007) argues that "Good readers are more effective comprehension monitors than are poor readers."(p.125). He adds that, the former have the ability to find out any

inconsistency in a passage and to seek for previous and subsequent information rather than the latter (ibid: p.125).

In sum, reading comprehension is the result of combination of both lower level and higher level processes. Depending on the reading tasks, readers may rely on either of them.

1.3.4. Metacognitive Aspects of Fluent Readers

There are several features of fluent reader who understand reading as a complex process. Effective readers get comprehension effectively because they are good language readers. These readers always use their skills in a good manner when they read and they are, also, always aware of their reading and this researchers called as the metacognition awareness. Hedge (2000) affirms that "good language readers recognize, and decode quickly and accurately, words, grammatical structure, and other linguistic features, and are aware of the process as they engage in this." (p.192)As many linguists, Wallace (1992) argues that "good language reader is the one who have the ability to use the metacognitive skills effectively."(p.5).

In addition, Grabe (2009) has described good language reader as: fluent, efficient, comprehensible, interactive, flexible, purposeful, evaluative, learning, linguistic and strategic person. (p.14)we define these terms as follow:

1.3.4.1. Fluent

The term fluent concerning language reader means a rapid reader who reads the text quickly with attention to its intonation, pronunciation and rhyme at the sametime. Hedge (2000) states "a fluent reader has a good knowledge of language structure and can recognize a wide range of vocabulary automatically."(p. 192).

1.3.4.2. Efficient

Fluent language reader is always making a connection between his/her receptive (reading and listening) and productive (speaking and writing) skills in a good way to comprehend the text effectively.

1.3.4.3. Comprehensible

Micheal, etal (2007) states that “comprehension requires more than the extraction of meaning from the author's message, it is generally understood that a reader must read and interpret text.” (p .87).

Fluent language reader is a comprehensible person in which he/she reads the text many times to understand what the writer intends to convey, so he/she interpret the text

1.3.4.4. Interactive

Hedge (2000) offers that this term describes the relationship between the reader and the text, so fluent language reader interacts with the text by making a combination or balance between his/her prior knowledge and the one that presented in the text in order to interact effectively. (p.188). He explains that the term "interactive" is used to describe fluent language reader who communicates with the text effectively as a result of applying a range of reading strategies that lead students to obtain the comprehension.

1.3.4.5. Learning

A learning person means that good language reader is still learning from the text by the activities that he/she has done. Also, he/she cannot think that reading ability is mastered and there is no need to read. For this reason, each text is considered by him/her as a learning activity that a person can learn from. Grabe (2009) asserts that “fluent reader makes reading as a learning process and each time he evaluates the process.”(p. 15)

1.3.4.6. Critical

The term critical demonstrates that fluent language reader makes a careful analysis of the text by reading the lines, reading between the lines, and reading beyond the lines. To define these terms, we can say that good language reader reads the lines to get the explicit meaning, implicit meaning, and to get the critical evaluation of the text. This evaluation should occur with a great awareness to get what the writer means.

1.3.4.7. Linguistic

Fluent language reader is always aware of the language structure (i-e. letters**,** words, and phrases) which plays an important role in processing reading comprehension. Smith quoted in Vacca, etal (2000) states that "the more you already know, the less you need to find out.''(p.27)

1.3.4.8. Strategic

Aebresold and Field (1997) argued that strategic reader is the one who select information, and monitors comprehension (p. 50). Fluent language reader knows when and what to read and he/ she have strategies and skills to be able to construct and monitor comprehension. Some examples of reading strategies that he may use are cognitive, communicative, and metacognitive strategies

Moreover; fluent language reader is able to use his/her metacognitive skills effectively. Metacognitive knowledge means that the readers have knowledge about cognition. Aebresold and Field (1997) have affirmed that "Meta means after the behind and cognition means the act or process of knowing or perception. Thus, meta is understanding what is behind, what supports or informs, and reader's knowledge perception." (p.56). On this respect, metacognition skills involve several elements. First, the reader is able to recognize the patterns and organization of the text directly. Second, good language reader is able to identify the important elements that are presented in the text quickly through applying a range of

reading strategies such as: skimming scanning, predicting, previewing. Furthermore, good language reader is able to adjust the reading strategies rapidly to get comprehension. Also, good language reader uses the context to avoid misunderstanding, which will help them comprehend easily.

All these terms are the characteristics of fluent reader who is able to comprehend and interact successfully with the text. Cummins (2005) summarized these characteristics on one term which is "proficient language reader" or "knowledge language reader." Who usually has the ability to connect the skills and communicate with others in a good manner. (qtd. in Alderson & Lyle 2005, p .24).

1.3.4. The Role of Metacognition in Reading

The role matacognition plays in reading is not contested in itself as thisrelationship has fairly been confirmed by research in the field. What is to be explainedis the nature of this relationship and the factors underpinning its mechanism. Forexample, Bialystock and Ryan (1985) suggested that "Typically, children who do well in metalinguistic tasks also learn to read quickly and easily, although it is not clear how to interpret such correlations."(p.207)

Thus, when attempting to enhance students'smetacognitive skills in this area, the following activities may be of capital importance: "establishing the purpose for reading, modifications in reading due to variations in purpose, identifying important ideas, activating prior knowledge, evaluation of the text for clarity, completeness and consistency, compensation for failure to understand, and assessing one's level of comprehension." (Brown &Baker, 1984 in Brown 1987, p.66).

The role of the teachers, in this respect, is to make their learners able to tune theirstrategies to the text comprehension requirements. Students should be trained to bemore strategic by

being able to make the most appropriate choice as regards theintentional application of a strategy among many others to attain a given goal.

1.3.5. Metacognitive Reseach in Fluency and Reading Comprehension

The relationship between fluency and comprehension seems so strong that fluency is often referred to as "the bridge between decoding and comprehension" (Pikulski & Chard, 2005, p. 511). According to the theory of Automaticity two aspects are involved to get meaning from printed words: decoding and comprehension. Rapid readers who are able to recognize words rapidly can save greater attention that leads to comprehension (Iwahori, 2008, p.73). Other research views that "Although, word recognition skills are necessary for reading comprehension, they are not sufficient" (Arrington et al., 2014, p. 325). In relation to this, the theory of Attentional Resource Emancipation and other theories like Verbal Efficiency theory seem to provide us with a better explanation on this relation between lower level word identification, higher level basic comprehension, and metacognitive research (Reynolds, 2000, p. 169).

Summary

In section three, many research in the field of cognitive psychology confirmed that metacognition plays an important role in reading by explaining the nature of this relationship and factors that are involved in its mechanism. Reading is a complex cognitive skill involving mental process at the higher and the lower levels. Reader is supposed to be metacognitively aware with overall organizational structure of the text as well as the author's intended meaning. Also he/she is obliged to make constant use to his background knowledge concerning the current content. Moreover, reader should know when to use the reading strategies appropriately. All these operations are known as metacognitve awareness of the reading comprehension process, which is the aim of the present study.

Conclusion

This chapter was divided into three sections. First section was meant to introduce metacognition in its general framework and to remove some ambiguous surrounding of this concept. Many explanations were offered as regards its utility in cognitive psychology and educational settings. The most important metacognitve models in addition to metacognition and its relation to other concepts making a relation with the present research were presented and explained to have a clear theoretical view.

Second section shed light on reading as one of the important skills in learning foreign language, different types of reading was presented such as extensive and intensive reading. As seen in the section, it does not matter there have been different definitions given to reading. What matters is that all those definitions agreed on one idea that reading has no meaning without one's ability to understand and comprehend what is being read. Moreover, some reading strategies were presented as solution for different types of reading difficulties.

The last section provided that reading comprehension is very complicated process which requires different cognitive capacities and skills. These capacities are flexible to change and to develop, consequently in the last part in the section; we aim to provide a variety of metacognitve procedures through which learners' metacognitve awareness could be assessed and enhanced. These abilities are perceived as one of the main requirements to raise students' reading comprehension achievement.

Chapter Two

Research Methodology and Discussion of Results

Introduction

In the previous chapter, we have presented the literature review related to our research. We reported what other scholars and researchers discuss about our field of interest. This chapter will present the practical part of this study where both method and process used to conduct this study are explained. The first section in chapter two is concerned with the research methodology and design where in the setting, subjects, materials, instruments, procedures are clearly investigated in this section. In the second section, data obtained are analyzed, compared, and then discussed using ANOVA test. After that and based on the results obtained in the second section, section three aims to suggest some implications. This will include different activities and strategies to help learners raise their metacognitive awareness about the reading process and about using reading strategies in order to improve comprehension. Besides, the second part in section three puts forward the limitations and advice on further study.

2.1. Section One: Research Methodology and Design

Introduction

As it is aforementioned, this section is concerned with the research methods and design in which both tools and procedures are explained. The present study is designed to investigate the effects of raising learners' metacognitive awareness on their reading fluency and comprehension. Thus in order to carry out the study, an experiment is done into steps.

First, two student' questionnaires were administered both at the beginning and the end of the course about participants' general matacognitive awareness (MAI) and their existing reading strategies (MARSI) to collect more specific information (reading comprehension).

Then, a pretest was organized in order to determine students' level in reading comprehension. After the pretest, a fluency test was conducted to illustrate students' average reading rates in terms of words per-minute. After the pretest and the fluency test, practical sessions took place where in students received reading strategies training of the experimental group that have been perceived more advantageous in working out the students' matacognitive awareness. It is noteworthy that the course has been designed by the researcher who was in charge of teaching the English subject to the three groups of participants. After the training, a posttest took place so as to evaluate students' performance in reading comprehension after developing their metacognitive awareness in reading in addition to another fluency test to examine their fluency development.

2.1.1. Research design

Research design is defined by Lia (2010) as a framework or scaffold around which we organize our study and collect data (p.57). In the first chapter, we have presented a review of the related literature to reading and metacognitive awareness. The next step of the research design is to move to a more practical part. In relation to the literature presented in chapter one, the researchers argued that raising metacognitive awareness increases students' reading fluency and comprehension. Accordingly we have already argued, this study is conducted to investigate the effects of raising metacognitive awareness on third year MS students reading fluency and comprehension level.

Thus, in investigating the effects of the dependent variable -metacognitive awareness- on the independent variable -students' reading fluency and comprehension, in addition to – reading the strategy instructional framework - as a mediator variable that account for the relation between the independent variable and the dependent variable, our study is based on an experimental quantitative and qualitative research design that is considered to be the most appropriate design for the topic under discussion.

The implementation of this design is easy and fits one of the researchers' positions as a teacher. As it is aforementioned, the experimental quantitative, qualitative approach is used in our study in order to collect reliable data by means of students' questionnaire and the experiment respectively. Using both the quantitative and qualitative approaches in this study is appropriate because they are useful in generalizing research findings which explains their objectivity,on the one hand, and providing in-depth, rich data, which explains its reliability of data collection on the other. In such a way, combining both qualitative and quantitative approaches -Methodological Triangulation- is argued as "a central methodological concept comes high on the list of key features of good research designs" (Cohen & Manion, 1994,p.233). This would illustrate their usefulness which would help in counteracting the weaknesses of both of them. Zoltán (2007) believes that "quantitative and qualitative inquiry can support and inform each other." (p.42).

2.1.2. Setting

This study took place at Walli Ben Sawsha middle school in M'sila during the academic year 2017/2018 for two (2) months, with the allocation of three (3) sessions of one hour per-week along the year. These students have the English subject as one of the courses which they have during the year like; French, Arabic, Mathematics, ect. These subjects have coefficients that are no more than three (3) as compared to the English coefficient which isgenerally two(2).

The reason behind choosing to work with third year MS students is that they have a sufficient level concerning morphological awareness knowledge as an important component contributing to reading abilities, in addition to vocabulary knowledge about the English language, and knowledge of the higher-level organization of texts, such as; cause and effect, comparison and contrast, problem and solution, ect. These students were identified by the teacher who is familiar with their English proficiency level and their general academic

progress. In addition to that, these learners have already dealt with reading texts in English along with comprehension questions.

2.1.3. Subjects and Sampling

The target population is defined by Sim and Wright (2000) as "the collection of cases in which the researcher is ultimately interested and to which he or she wishes to make generalizations." (p.111). A sample is then selected from this target population.

As far as the participants' ability to comprehend reading materials is concerned, it had been evaluated before the course started via a pretest that was a reading comprehension test. The test aimed at checking the group's homogeneity in terms of reading comprehension ability. Furthermore, this test is crucial for the reliability of the experiment, since the aim of the experiment is to prove the effectiveness of raising metacognitive awareness of the reading process in enhancing the participants' ability to comprehend reading materials.

The learners then worked on a Metacognitive Awareness Inventory (MAI) that contains a number of questions probing the metacognitive awareness of their mental processes during reading. These questions were joined with another questionnaire aims at assessing learners' metacognitive awareness of their reading strategies use (MARSI).

The tests and the questionnaires helped us to elicit sufficient data about the learners in order to decide on a successful plan in the action phase during the experiment.

After choosing to work with third year MS students, a sampling frame is then drawn from this target population. The groups in the study have been chosen because the participants are our students. This allowed us to carry out the experiment in good conditions. The sample consists of 98 students (30 males and 68 females) with average age of 13 ranging from 12 to 14. The sample is divided into two experimental groups that include 32 and 33 students in

each group and one control group that also includes 33 students with the allocation of three sessions of one hour per week along the academic year.

2.1.4. Materials

2.1.4.1. The Training Sessions

It is crucial for a teacher willing to conduct a strategy training to have a clear plan for such a task. The practical part of this research is based on conducting metacognitive strategy training for the sake of checking the effectiveness of developing students' metacognitive awareness of the reading process and promoting their use of these strategies. This is considered as the attempt to answer the research question about the possibility of raising students' metacognitive awareness through metacognitive strategy training in the enhancement of students' reading fluency and their ability to comprehend reading materials.

The instructional framework suggested by Schraw (1998) has been chosen for the training. This framework is adequate for the training for its metacognitive aspect, as it is intended to be a metacognitive model of strategic learning. It targets making students know how and when to use learning strategies to be more independent learners. It is based on explicit teaching of learning strategies and works out learners' autonomy in the use of strategies through a process going from teacher-guided activities to students' independent use of the target strategies.

In the light of this claim and in order to achieve the purpose of our study that is improving third year MS reading fluency and comprehension through raising their metacognitive awareness in reading texts, we have decided to train our students on the most effective and most fruitful metacognitive reading strategies. This training is based on the use of six metacognitive reading strategies: reading for main points, imaging, summarizing, skimming and scanning, inferring, and predicting. The treatment period has lasted for 5 weeks with 3 sessions of one hour per week, having a total of 15 sessions.

2.1.4.1.1. Description of the Training Sessions

Third year MS students were divided into three groups: Group A and B were the experimental groups, whereas, the third group was taken as the control group.

2.1.4.1.2. Imaging Session

In the first session, group A received a lesson on how to create an image to represent information in text as metacognitive reading strategy. This type of strategy includes the metacognitive processes of planning, monitoring, problem solving, and remembering information.

A. Introducing the Strategy

At this phase, the teacher is meant to demonstrate the new learning strategy and explain how and when to use it. The learning strategy of imaging at this stage is explicitly modeled, named, and explained as the teacher thinks aloud while modeling the strategy in order to show students how it is used. It is very useful to highlight the importance and the usefulness of the strategy with specific examples. For example, students were asked whether they have ever read a story or a book then watched the movie version on TV of the exact story or the book they have already read. Examples, Snow White and the Seven Dwarfs, Cinderella, Little Red Riding Hood, ect. The teacher also showed pictures and discussed about how the movie or TV version might be different from what we read and how sometimes people prefer the version or the images they create in their minds to the ones they see on the TV screen.

This simple example from their daily life was to inform students on the importance of imaging and drawing pictures since this can be more creative and very broad than what we can see on TV. In this respect, Chamot et al. (1999) states that, “students need to hear this type of explanation because they may not realize the value of strategic learning for themselves until they have practiced it over and over time.” (p.78). While presenting the strategy, the

teacher can describe the typical situations in which the strategy can be effective. Linking the strategy to the student's real life helps him/her in remembering it. For instance, imaging, inferring, predicting, summarizing are all useful strategies in reading in classroom settings and in everyday life in general.

B. Practice of the Strategy

After presenting the strategy by modeling it, naming it, and describing how and when to use it, the teacher should offer to students the opportunity to share the way it is used. This can be conducted through class discussion through which students can describe their use of the strategy.

At this phase, students practise using the strategy with regular class activities of moderate difficulty. The teacher wrote the title of the text to be read on the board, that was "The Fish That Fishes" (See appendix F), and asked the students to use the title and guess what the main idea would be. They were also encouraged to make pictures in their mind to visualize what "The Fish That Fishes" look like and what it does. While students were drawing, the teacher encouraged inclusion of details through prompts such as; what are you picturing? What does it look like? How tall or big is it? What is its color? in order to guide students and make sure that they did not get out of the topic. To make the task more challenging the teacher might also ask for volunteers to show their drawings. All this occurred before reading the text.

After discussing the topic, students were given the target text to read. They were asked to read the text and draw pictures in the column on the left about what they made in their mind as they read, whereas in the column on the right, they were asked to include details from text to explain what these pictures show. After that, the teacher displayed a picture of "the Anglerfish" and had students compare their drawings with those of their classmates and how the fish actually looks like. This activity took students about 15 minutes. Another 15 minutes

were devoted to a second task on answering five comprehension questions on the text. Students were asked to read the questions and answer them relying on the previous task about drawing and including details of what they pictured. The questions asked in this task are:

1. How does the "Anglerfish" catch its prey?
2. Why does the fake bait have to be lighted?
3. Why is the "Anglerfish" able to catch fish that is bigger than it is?
4. The text is called "The Fish That Fishes" what might be another title for it?
5. Explain your answer with information from the text?

These questions were very useful because the teacher wanted to make sure that students relied on specific components from the text to complete the task of imaging; titles, main idea, supporting details, as well as paying attention to key words -clues- in order to make good relation between text and what they pictured in their mind. In addition to that, students have already received training on all these skills previously as part of the experiment.

For further practice, the teacher tried to extend the use of the learned strategy to other reading situations. Expanding the use of the strategies to new contexts completes the instructional framework suggested. It may also be possible for students to evaluate the usefulness of a strategy. At this phase, the teacher gave students two other high imagery passages and had students draw the images which they create. This made students practise on making images while they read. At the end of the session, students were required to finish the task as homework since they have already learned the strategy in class. What cannot be ignored and was noticeable during the whole session is students' motivation and their ability to be more creative which made the lesson more successful and interesting since they were all highly excited about the idea of drawing.

At the end of the training courses both the control group and the experimental group were given a posttest that is a reading comprehension test, another fluency test, and the two questionnaires (MAI) and (MARSI) in order to assess the improvement they realized as a result of the training. Later on, data gathered from the questionnaires were compared and so were the results of the fluency tests and pre and posttests in order to find out more about the effectiveness of this training.

2.1.5. Instruments

2.1.5.1. The Student's Questionnaire

A questionnaire is frequently used for gathering information from individuals. Interestingly, a questionnaire is one of the most popular methodological tools used in order to provide valid and reliable data. This tool is claimed to be a quick and easy way to amass vast amount of data. This can be supported by Zoltán's (2007) point of view who claims that "The popularity of questionnaires is due to the fact that they are relatively easy to construct, extremely versatile, and uniquely capable of gathering a large amount of information quickly in a form that is readily processible"(p.101). Questionnaires are workable tools in an attempt to address any research topic, for this reason, questionnaires need thorough planning in thinking about how, when, in which order, and who with (in terms of sample) we conduct them.

2.1.5.1.2. The Aim of the Questionnaire

The aim behind designing the questionnaire in this study is to provide a good contrast between domain specific and more general metacognitive knowledge. The Metacognitive Awareness Inventory (MAI) is the one suggested by Schraw and Dennison (1994) was administered to measure what degree of metacognitive awareness participants brought to any given reading task, while the Metacognitive Awareness of Reading Strategies Inventory

(MARSI) is the one suggested by Mokhtari and Reichard (2002) was designed to yield more domain specific (reading comprehension) that makes participants reflect on their actual implementation of strategies for different purposes.

It is noteworthy that this questionnaire was used for three different purposes within this study. First, it was used at the beginning of the strategy training for the identification of learners' existing reading strategies which is part of the strategy training throughout the sessions. Second, for the fact that it includes metacognitive reading strategies targeted by the training sessions, it was used also as a checklist of metacognitive reading strategies for participants to refer to while practicing reading throughout the course. And third, it was used at the end of the training for assessing the improvement students made at the level of metacognitive awareness about strategy use during the reading comprehension process as a result of the training.

2.1.5.1.3. Description of the Questionnaire

For the purpose of examining the various aspects of metacognitive knowledge involved in the reading comprehension process, two questionnaires were administered; the Metacognitive Awareness Questionnaire (MAI, Schraw &Dennison, 1994) and the Metacognitive Awareness of Reading Strategies Questionnaire (MARSI, Mokhtari & Reichard, 2002).

2.1.5.1.3.1. The Metacognitive Awareness Questionnaire (MAI) (See appendix B)

The MAI is an attempt to elicit metacognitive knowledge using a traditional self-report instrument. It is composed of 52 items grouped into two categories one called Knowledge of Cognition and a second one called Regulation of Cognition. Originally, the MAI includes 52 items, however, as the length of the questionnaire seems too long, regarding the individual participants' level and capacity of concentration, we modified the number of its items and reduced it into 21 items in respect of keeping the balance of equal items in each category and

keeping only the most relevant ones to the research question. Out of these 21 items, the MAI includes 9 items assessing students' Knowledge of Cognition that include: Declarative, Procedural, and Conditional Knowledge. The other 12 items on the MAI assess students' Regulation of Cognition which include: Information Management Strategies, Planning, Comprehension Monitoring, and Evaluation.

Category	**Operational Definitions**	**Sample Item**
Knowledge of cognition **Declarative Knowledge (DC)** **Procedural Knowledge (PC)** **Conditional Knowledge (PC)**	knowledge about one's skill, intellectual resources, and abilities as a learner. knowledge about how to implement learning procedures (e.g., strategies) Knowledge about when and why to use learning procedures.	I learn more whenI am interested in the topic. I try to use strategies that have worked in the past. I learn best when I know something about the topic.
Regulation of Cognition **Information**		

Management (IMS)	skills and strategy sequences used on-line process.	I slow down when I encounter important information.
Planning (P)	planning, goal setting, and allocating resources prior to learning.	I ask myself questions about the text before I begin.
Monitoring (M)	assessment of one's learning or strategy use	I stop regularly to check my comprehension.
Evaluation (E)	Analysis of performance and strategy effectiveness after a learning episode.	I ask myself if I learned something new once I finish a task

Figure 7: Operational Definition of Component Categories of the MAI

2.1.5.1.3.2. Metacognitive Awareness of Reading Strategies Inventory (MARSI) (See appendix C)

The MARSI was designed "to assess adolescent and adult readers' metacognitive awareness and perceived use of reading strategies while reading academic or school related materials." (Mokhtari & Reichard,2002,p.241). There are three strategy subscales and the table below illustrates details of each category:

(a) Global Reading Strategy; this category contains 6 items including the strategies readers use in the global or general analysis of text. Examples include: "I decide what to read closely and what to ignore" and "I skim the text first by noting characteristics like length and organization".

(b) Problem Solving Strategies; these strategies can be thought of as generalized intentional reading strategies used to, or unfamiliar concepts. These strategies as defined by Mokhtari and Reichard (2002) help readers take action plans skillfully throughout their reading (p. 252). Examples of these strategies include: "When text becomes difficult, I reread to increase my understanding" and "I adjust my reading speed according to what I read."

(c) Support Reading Strategies: this third category contains 5 items focusing more on readers' use of supporting materials and references such as dictionaries, support techniques of taking notes or understanding, which are considered to enhance readers' comprehension and retention of information. Some examples include: "I take notes while reading" and "I understand or circle information in the text to help me remember it."

It is noteworthy that the number of items in this questionnaire had also been reduced into 15 items. In addition, we provided students with its Arabic translation since it contains technical words in English which were difficult for 3MS students to grasp them easily.

Category	Example	Item	Total
Global Strategy	Setting purpose for reading, previewing the text for content, skimming to note text characteristics, making decisions in relation to what to read closely and what to ignore, using text structure, and using other textual features to enhance reading comprehension.	1, 2, 5, 8, 10, 14	6
Problem Solving Strategy	adjusting reading rate,visualizing information to help me remember what I read, rereading, and guessing meaning of unknown words.	7, 11, 13, 15	
Support Strategy	discussing reading with others, underlining text information, using reference materials as aids, revising previously read information, and writing summaries of reading.	3, 4, 6, 9, 12	4
Total			15

Figure 8: Categories of Reading Strategies Measured by the MARSI

2.1.5.2. The Reading Tests

Two pairs of language tests are used in this study. Two reading speed tests; were conducted immediately before and after the training sessions, in addition to another two important tests; a pretest and a posttest. The reason behind the need for these pretests and posttests is to find out any changes occur after the experiment treatment and to discover whether there is an initial difference between the experimental and control group.

2.1.5.3. The Fluency Test

In order to answer a research question which says: "Does raising students' metacognitive of the reading comprehension process enhances their reading fluency?" two fluency tests were conducted to measure students' development in reading speed before and after the training.

Before presenting the reading fluency test, an appropriate description of how to measure fluency seems crucial element in this domain. While the National Reading Panel defines fluency as the ability to read text with accuracy, appropriate rate, and good expression (NICHD, 2000, p. 3-5), is widely accepted among researchers, many research have focused on the more easily two quantifiable components of fluency that are rate or speed and accuracy.

Researchers have established a simple procedure for measuring students' oral reading speed and accuracy. The procedure depends on using texts to determine the number of words that students can read correctly during a given period of time. The fluency passages used for the assessment were adopted from "Reading A-Z" dedicated to Timed Reading Procedures. The first pretest on fluency entitled "Basketball" and the second passage of the posttest entitled "Spider and Fly" (See appendix B and K). The two passages were at students' level which was neither so hard nor so easy.

2.1.6. Procedures

2.1.6.1. Administration of the Questionnaire

As it is aforementioned, the sample of our study consists of 98 third year MS students. The students' questionnaire was administered on the 14th December 2018 to 98 students of the three groups. After they accepted to answer the questionnaire, the students were given full explanation about the purpose of this questionnaire, why they are requested to answer it, and how to answer the questions annexed with the mother tongue translation in order to facilitate

its understanding. The students were informed that the questionnaire is part of a research work that aims to investigate the effects developing metacognitive awareness on EFL learners' reading fluency and comprehension.

The meaning of the term "metacognitive awareness" has been explained. They were requested to tick (√) the appropriate box in the (MAI) questionnaire and select the appropriate number according to the scale given in the second questionnaire about metacognitive awareness of the reading strategies (MARSI). Besides, the students were informed that the information they will provide will be anonymous and that their answers are very important for the validity of this research.

The questionnaire was administered in good conditions within the ordinary daily sessions of the course study where the researcher was present for the guidance and explanation of what was not clear for the students. It took the students about 35 to 40 minutes to deliver their answers. However, a growing number of researchers argue that using a single method to conduct a study is not enough and indeed, adopted approaches which attempt to combine quantitative and qualitative methods of analysis for the reliability of the study, using quantitative methods as essential background to help in the detailed qualitative sources (Mackey &Grass, 2005, p. 181).

2.1.6.2. Testing Fluency

Concerning the steps we followed in the test, two copies of the assessment passage were required; one for the student and one for the teacher in addition to a stopwatch. It is noteworthy that students enjoyed this type of activity, where the test started by asking each one of them to read the passage for one minute giving the stopwatch to a partner. In this way, observing one's partner way of reading for the first time made the activity more interesting and motivating for the students. The teacher follows along on his copy word by word with a

pencil and makes a slash through the error. After the one minute, the teacher says “stop”, the partner stops the watch, and asks the student to circle the last word read. Students are assessed individually as they read aloud for one minute.

To calculate the score we referred to the oral reading fluency norms established by Hasbrouk and Tindal (2006). In this assessment tool, the teacher subtracts the total number of errors from the total number of words read in one-minute. By the end, if the WCPM score is low then the student is not sufficiently fluent.

2.1.6.3. Testing Reading Comprehension

Before the training sessions took place, the participants had a reading comprehension test. The test consists of a reading passage entitled “The Positive Effects of Owning a Dog” (See appendix A) followed by 10 multiple questions with 4 alternatives. And a second task includes 5 comprehension questions with yes/no questions, what, how, and why types of questions. This test was administered in order to measure students’ comprehension level.

In a regular session, students were given a text. They read the passage and worked on the two tasks, the first one in which they selected the appropriate option to answer each question and the second one in which they were required to write correct statements on answering the reading comprehension questions. This variety of tasks helped students to use different strategies throughout the test. Students have read the passage for about 15 minutes silently and then started to answer the questions that followed it. Sometimes students were required to go back to the text to find out and search for the appropriate information. It took them from 30 to 45 minutes to work on all the questions.

This test has been chosen because it is appropriate for the sample’s population intermediate level in English. In addition to that, this test is followed by multiple choice questions and comprehension questions that are easy to correct where scoring is easy, objective, and

reliable. Generally, the pretest is meant to verify the homogeneity of the two groups of students in terms of reading comprehension ability, regarding the students profile in English as a foreign language.

2.1.6.4. The Posttest Measuring Improvement

In order to check to what extent students' reading performance has improved after the training sessions, a posttest was administered as a final step in the experiment. The text used after the training sessions is entitled "The Causes of Flood" (See appendix L). The text is followed by five multiple choice questions, five true and false statements, and five short answer questions. In a regular session, the test was administered to the three groups. The participants worked on the three tasks. After that, the answer sheets were collected for correction, analysis and comparison of the results with those of the pretest.

It took them for about 30 to 45 minutes answering the comprehension questions. It is highly important to notice that both texts in the pretest and in the posttest have the same length, density, and the same level of difficulty which will make the comparison between the two tests scores objective and reliable.

Summary

Through this chapter, we have presented the research tools used and the steps followed in conducting the study. In order to examine the effects of raising students' metacognitive awareness of the reading comprehension process on third year MS students reading fluency and comprehension, the researchers used more than one research tool; a questionnaire for students, a pretest, posttest and training sessions raising their awareness about reading using metacognitive reading strategy training. The experimental study was conducted in good conditions, and a detailed explanation about the participants and the procedures applied in this

study was also provided. Data interpretation and results will be discussed in the following chapter.

2.2. Section Two: Data Analysis and Discussion

Introduction

The second section in Chapter Two is concerned with data analysis, interpretation and discussion of the questionnaire and the experimental study results. In the second section, data obtained are analyzed, compared and then discussed. Concerning the students' questionnaires, which were administered so as to investigate how their metacognitive awareness affects the choice and the amount of strategies they use, the respondents' answers obtained are written in forms of descriptive summaries, analyzed and discussed. The scores obtained in the pretest and the posttest are also analyzed, compared and then discussed using "One Way Anova" test, as statistical method of analysis, in order to evaluate the participants' improvement in reading fluency and comprehension and to be able to interpret the results.

2.2.1. The Students' Questionnaire Results

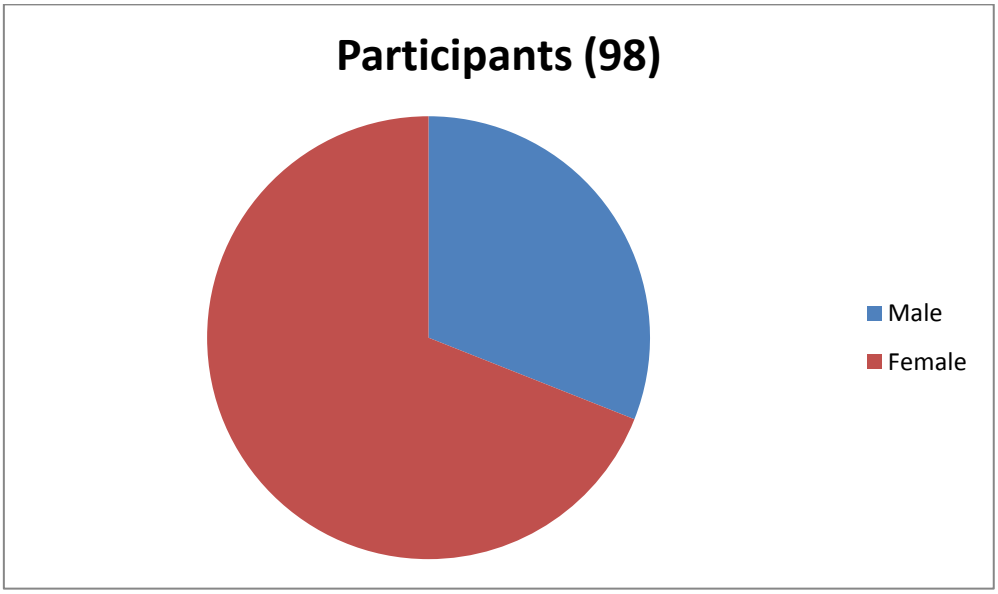
Section One: General Information

Gender

- Male
- Female

Options	Participants (98)	%
Male	30	31
Female	68	69
Total	98	100

Table 01: Gender



Graph 01: Gender

The table (1) above shows that little more than half of the participants are girls (68) and the rest are boys. (31) Male students out of 98 have been recorded.

2.2.1.1. The Metacongnitive Awareness of the Reading Strategies Questionnaire Findings (MARSI)

The post- training and the pre-training Metacognitive Awareness of the Reading Strategies Questionnaires show reading strategies used by participants at both phases.

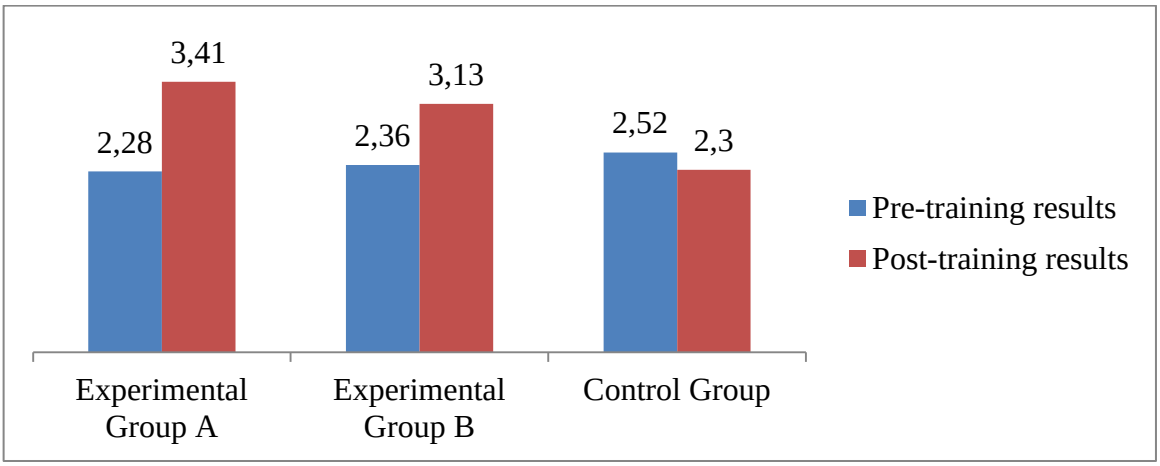
The tables below present the mean scores each group obtained for each question as well as the overall score of the different categories as presented in the previous section. The scores were interpreted into three levels according to the guideline suggested by the authors (Mokhtari and Richard, 2002): a high score group (mean of 3.5 or higher), medium (mean of 2.5 to 3.4), and low (mean of 2.4 or lower).

Section One: Global Strategies

Strategy1: I have a purpose in mind when I read.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,28	3,41	1,13
Experimental Group B	2,36	3,13	0,77
Control Group	2,52	2,3	-0,22

Table 02: Having a Purpose in Mind for Reading.



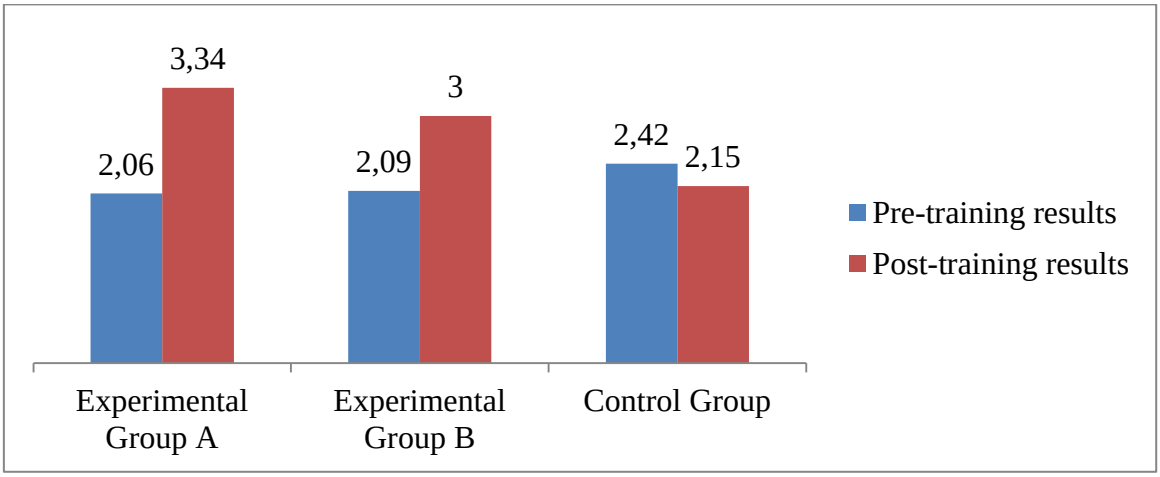
Graph 02:Having a Purpose in Mind for Reading.

Data gathered via the questionnaire show that both experimental groups A and B have significant mean difference at 0.66 which means they agree with strategy1 with high mean scores ($\overline{x}_1$= 3.41 and $\overline{x}_2$= 3.13) while the mean difference in the control group is not significant that means they disagree with the strategy with low mean score ($\overline{x}_3$= 2.3).

Strategy2:I preview the text to see what it is about before reading.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,06	3,34	1,28
Experimental Group B	2,09	3	0,91
Control Group	2,42	2,15	-0,27

Table 03: Text Previewing.



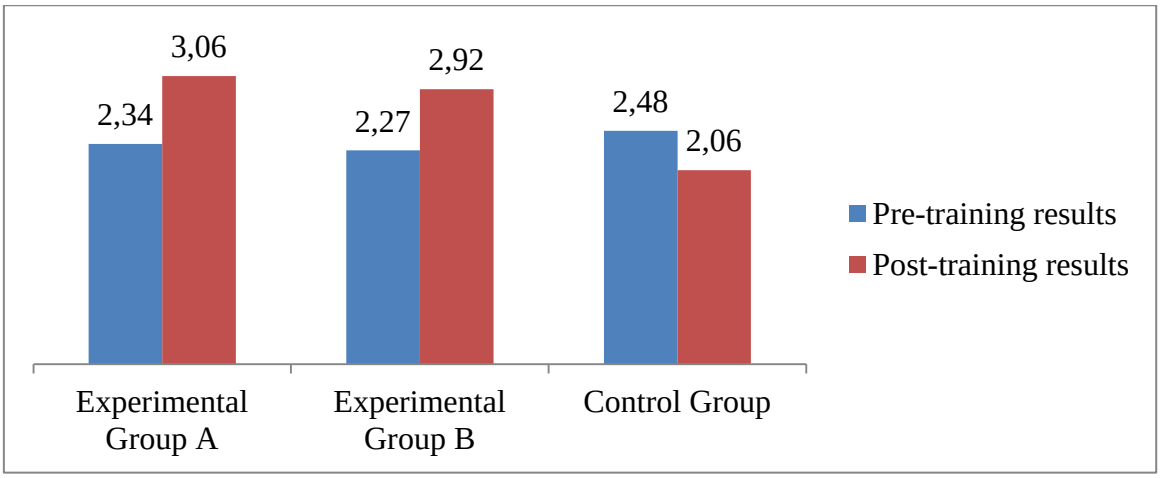
Graph 03: Text Previewing.

Data gathered via the questionnaire show that both experimental groups A and B agree with strategy2 and they have high mean scores ($\bar{x}_1$= 3.34 and $\bar{x}_2$= 3) while the control group disagree with the strategy with low mean score ($\bar{x}_3$= 2.15).

Strategy5:I skim the text first by noting characteristics like length and organization.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,34	3,06	0,72
Experimental Group B	2,27	2,92	0,65
Control Group	2,48	2,06	-0,42

Table 04: Skimming the Text to Note its Characteristics.



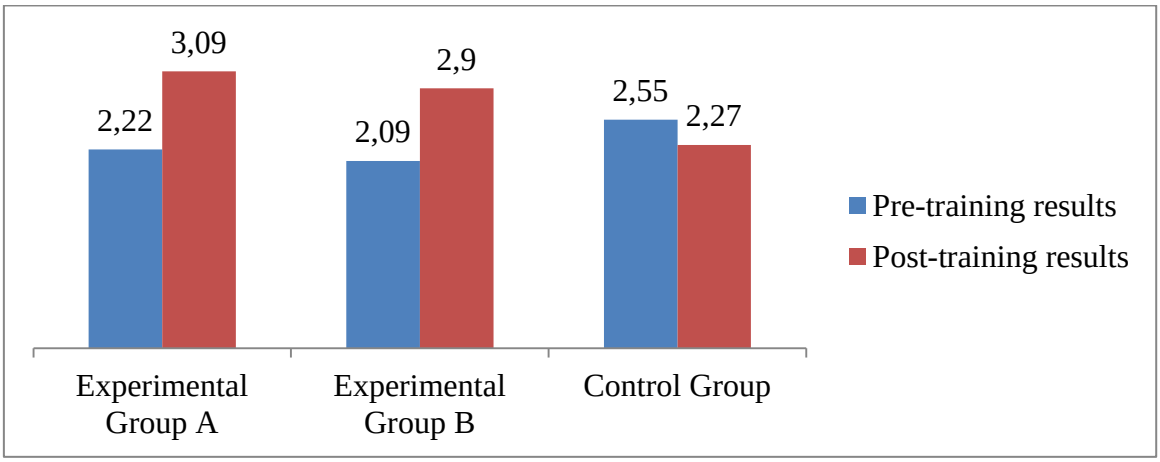
Graph 04: Skimming the Text to Note its Characteristics.

Data gathered indicate that experimental group A have significant difference at 0.66 which means they agree with strategy5 with high mean score ($\bar{x}_1$= 3.06). Besides that, whereas the mean difference in experimental group B is not significant, their mean score is high ($\bar{x}_2$= 2.92) which means they also agree with the strategy. While the difference in the control group is not significant and they have low mean score ($\bar{x}_3$= 2.06), this means they disagree with the strategy.

Strategy8:I decide what to read closely and what to ignore.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,22	3,09	0,87
Experimental Group B	2,09	2,9	0,81
Control Group	2,55	2,27	-0,28

Table 05: Deciding on Important Information in the Text.



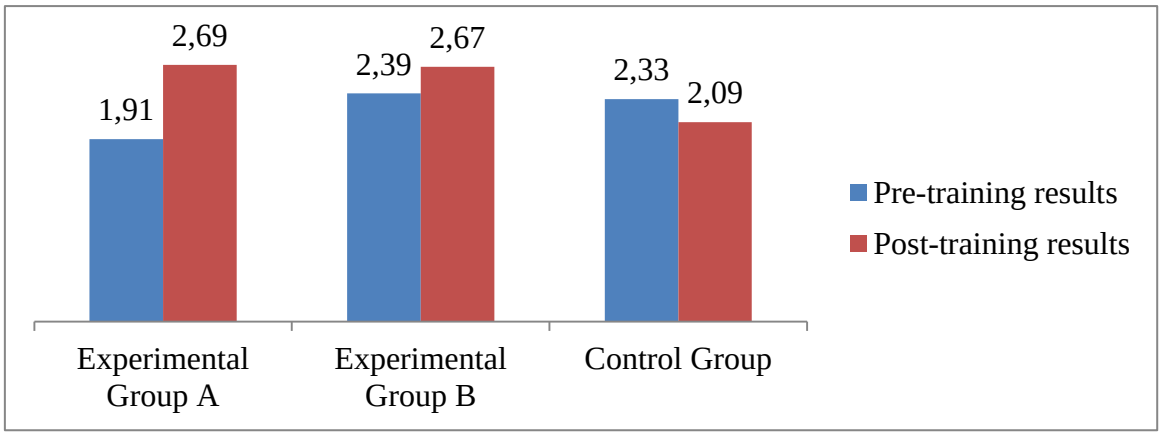
Graph 05: Deciding on Important Information in the Text.

Data gathered via the questionnaire show that there is significant difference in both experimental groups A and B with high mean scores ($\bar{x}_1$= 3.09 and $\bar{x}_2$= 2.9). This means that they agree with strategy8 while the control group have different attitude which indicates that they disagree with the strategy because the difference is not significant and they have low mean score ($\bar{x}_3$= 2.27).

Strategy10:I use tables, figures, and pictures in text to increase my understanding.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	1,91	2,69	0,78
Experimental Group B	2,39	2,67	0,28
Control Group	2,33	2,09	-0,24

Table 06: Using Visual Aids to Increase understanding.



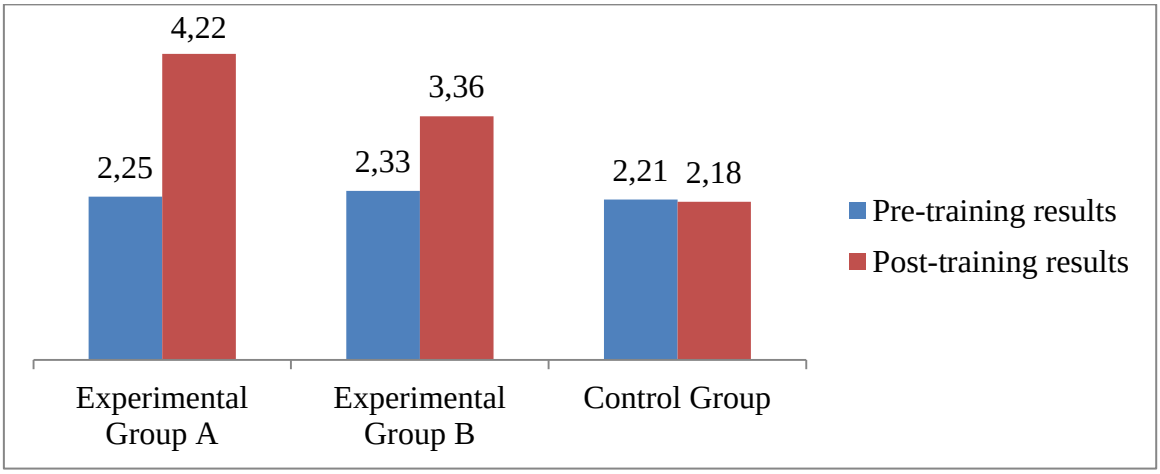
Graph 06: Using Visual Aids to Increase understanding.

As mentioned in table 4, in this table above the difference in experimental group B is not significant whereas they have high mean score ($\overline{x}_2$= 2.67) which explains that they still agree with the strategy whereas the control group disagree with the strategy because the difference is not significant and their mean is low ($\overline{x}_3$= 2.09). However in experimental group A the difference is significant and they have high mean score ($\overline{x}_1$= 3.09) reveals that they agree with the strategy.

Strategy14:I check to see if my guesses about the text are right or wrong.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,25	4,22	1,97
Experimental Group B	2,33	3,36	1,03
Control Group	2,21	2,18	-0,03

Table 07: Checking for Understanding.



Graph 07: Checking for Understanding.

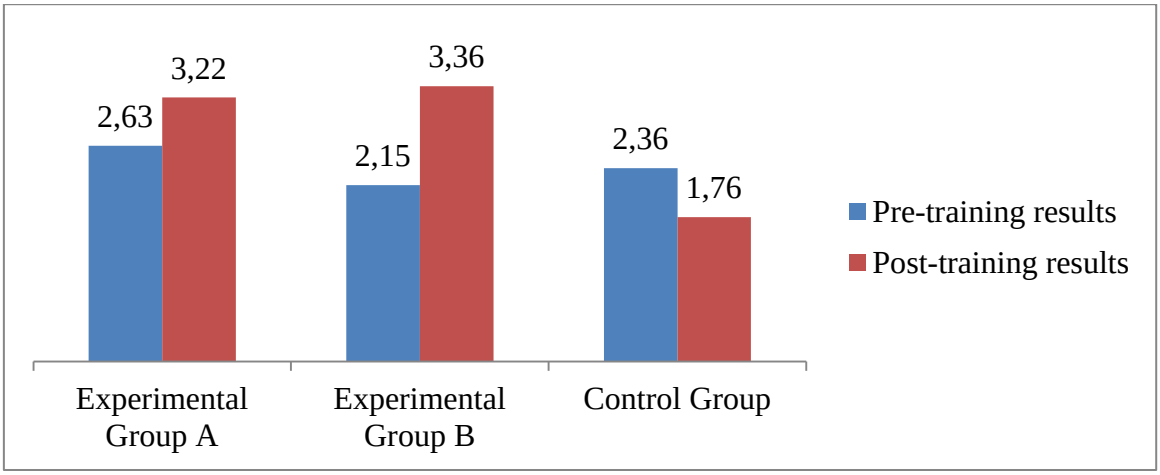
Data gathered via the questionnaire show that both experimental groups A and B agree with strategy14 and they have high mean scores ($\overline{x}_1$= 4.22 and $\overline{x}_2$= 3.36) while the control group disagree with the strategy with low mean score ($\overline{x}_3$= 2.18).

Section Two: Problem Solving Strategies

Strategy7:I adjust my reading speed according to what I am reading.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,63	3,22	0,59
Experimental Group B	2,15	3,36	1,21
Control Group	2,36	1,76	-0,6

Table 08: Adjusting Reading Speed.



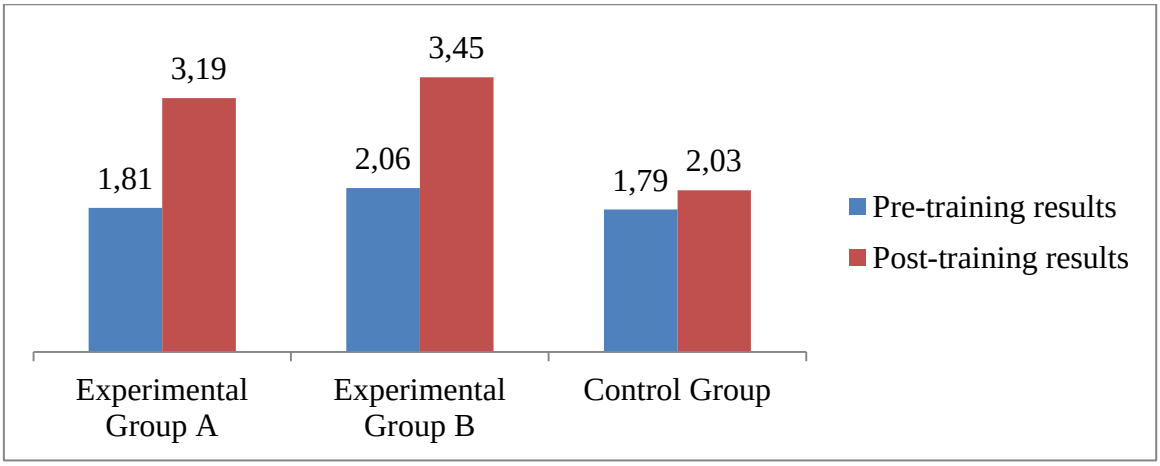
Graph 08: Adjusting Reading Speed.

Data gathered show that the mean difference in experimental group A is not significant whereas in experimental group B is significant, however, both groups have high mean scores ($\bar{x}_1$= 3.22 and $\bar{x}_2$= 3.36) which means they agree with strategy7. By contrast, the difference in the control group is not significant and they have low mean score ($\bar{x}_3$= 1.76) which means they disagree with the strategy.

Strategy 11: I try to picture or visualize information to help me remember what I read.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	1,81	3,19	1,38
Experimental Group B	2,06	3,45	1,39
Control Group	1,79	2,03	0,24

Table 09: Drawing Pictures in Mind While Reading To Help the Memory.



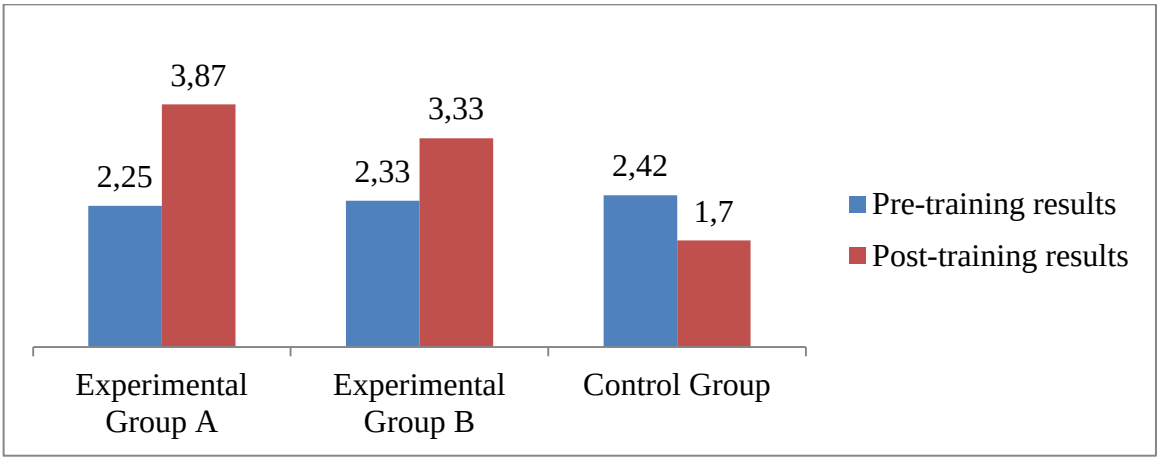
Graph 09: Drawing Pictures in Mind While Reading To Help the Memory.

Data gathered via the questionnaire show that both experimental groups A and B have significant differences at 0.66 which means they agree with strategy11 with high mean scores ($\bar{x}_1$= 3.19 and $\bar{x}_2$= 3.45) while the mean difference in the control group is not significant that means they disagree with the strategy with low mean score ($\bar{x}_3$= 2.03).

Strategy13: When text becomes difficult, I reread to increase my understanding.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,25	3,87	1,62
Experimental Group B	2,33	3,33	1
Control Group	2,42	1,7	-0,72

Table 10: Rereading Information to Overcome Difficulty.



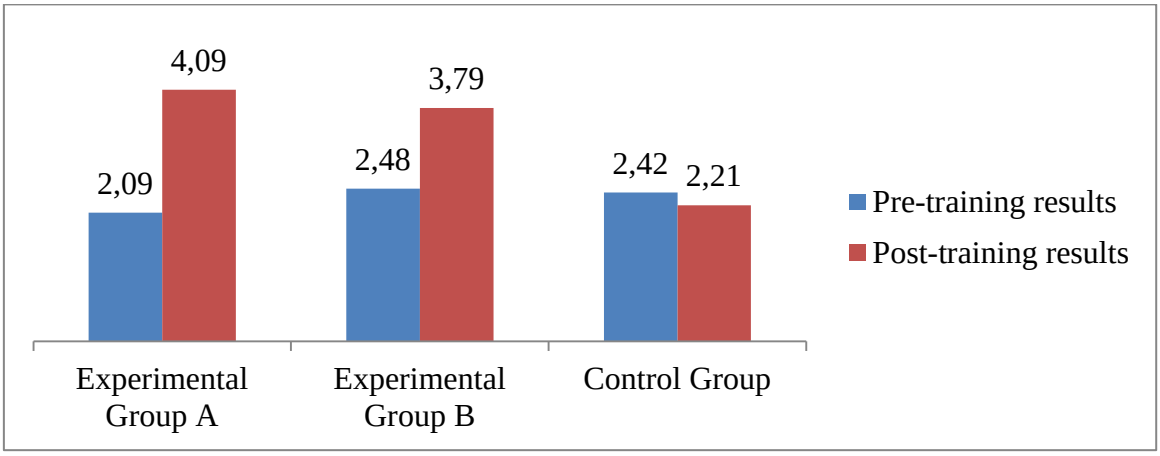
Graph 10: Rereading Information to Overcome Difficulty.

Data gathered via the questionnaire show that both experimental groups A and B agree with strategy13 and they have high mean scores ($\bar{x}_1$= 3.87 and $\bar{x}_2$= 3.33) while the control group disagree with the strategy with low mean score ($\bar{x}_3$= 1.7).

Strategy15:I try to guess the meaning of unknown words or phrases from context.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,09	4,09	2
Experimental Group B	2,48	3,79	1,31
Control Group	2,42	2,21	-0,21

Table 11: Strategies to Determine the Meaning of Unfamiliar Words.



Graph 11: Strategies to Determine the Meaning of Unfamiliar Words.

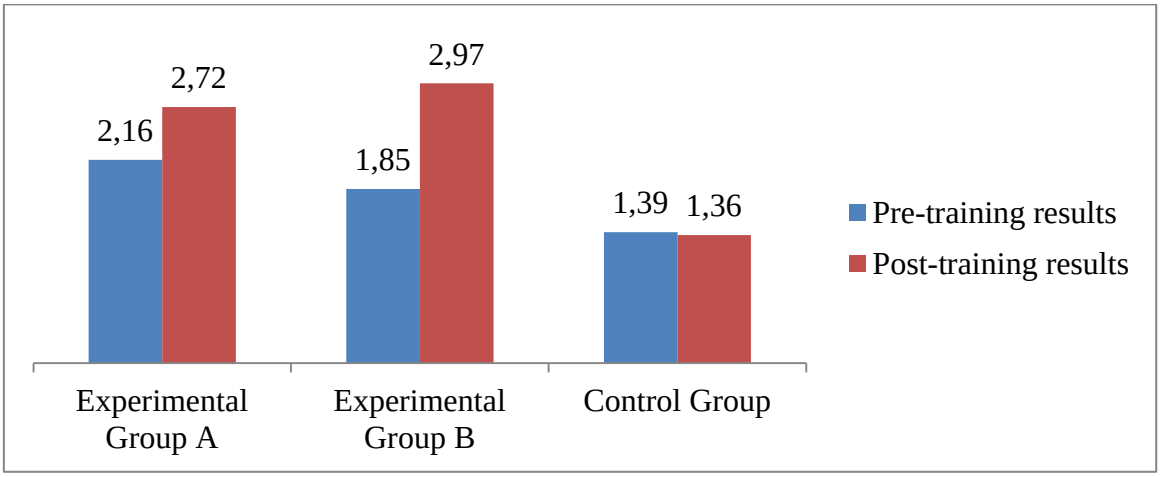
Data gathered show that there is significant differences in both experimental groups A and B with high mean scores ($\overline{x}_1$= 4.09 and $\overline{x}_2$= 3.79) this means that they agree with strategy15 while the control group have different attitude which indicates that they disagree with the strategy because the difference is not significant and they have low mean score ($\overline{x}_3$= 2.21).

Section Three: Supportive Strategies.

Strategy3:I summarize what I read to reflect on important information in the text.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,16	2,72	0,56
Experimental Group B	1,85	2,97	1,12
Control Group	1,39	1,36	-0,03

Table 12: Focusing on Important Information Using Summaries.



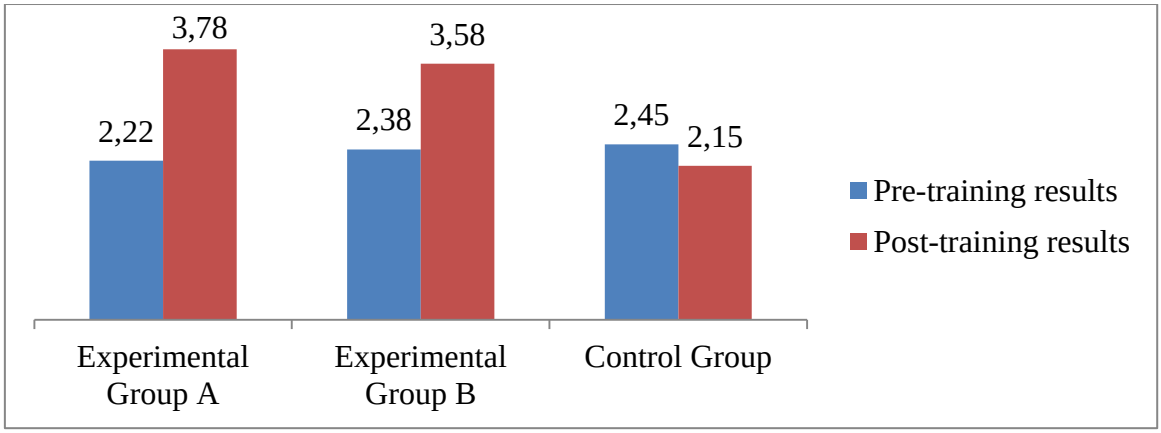
Graph 12: Focusing on Important Information Using Summaries.

Data gathered show that the mean difference in experimental group A is not significant at 0.66 whereas it is significant in experimental group B, however, both groups have high mean scores ($\bar{x}_1$= 2.72 and $\bar{x}_2$= 2.97) which means they both agree with strategy3. While the difference in the control group is not significant and they have low mean score ($\bar{x}_3$= 1.36), means they disagree with the strategy.

Strategy4:I discuss what I read with others to check my understanding.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,22	3,78	1,56
Experimental Group B	2,38	3,58	1,2
Control Group	2,45	2,15	-0,3

Table 13: Discussing about the Text to Foster Understanding.



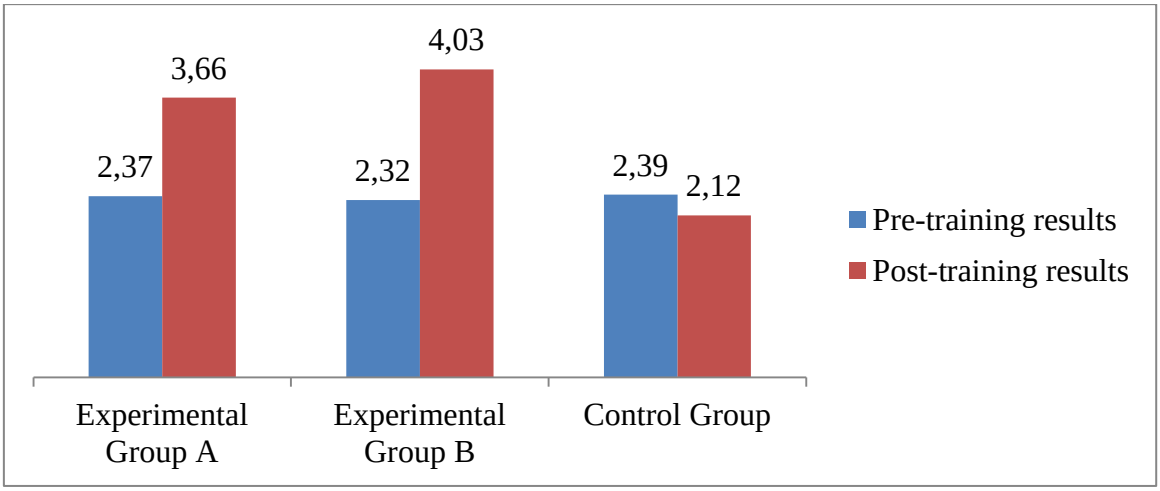
Graph 13: Discussing about the Text to Foster Understanding.

Data gathered via the questionnaire show that both experimental groups A and B have significant mean difference at 0.66 which means they agree with strategy4 with high mean scores ($\bar{x}_1$= 3.78 and $\bar{x}_2$= 3.58) while the mean difference in the control group is not significant that means they disagree with the strategy with low mean score ($\bar{x}_3$= 2.15).

Strategy6:I underline or circle information in the text to help me remember it.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,37	3,66	1,29
Experimental Group B	2,32	4,03	1,71
Control Group	2,39	2,12	-0,27

Table 14: Highlighting Important Information in the Text.



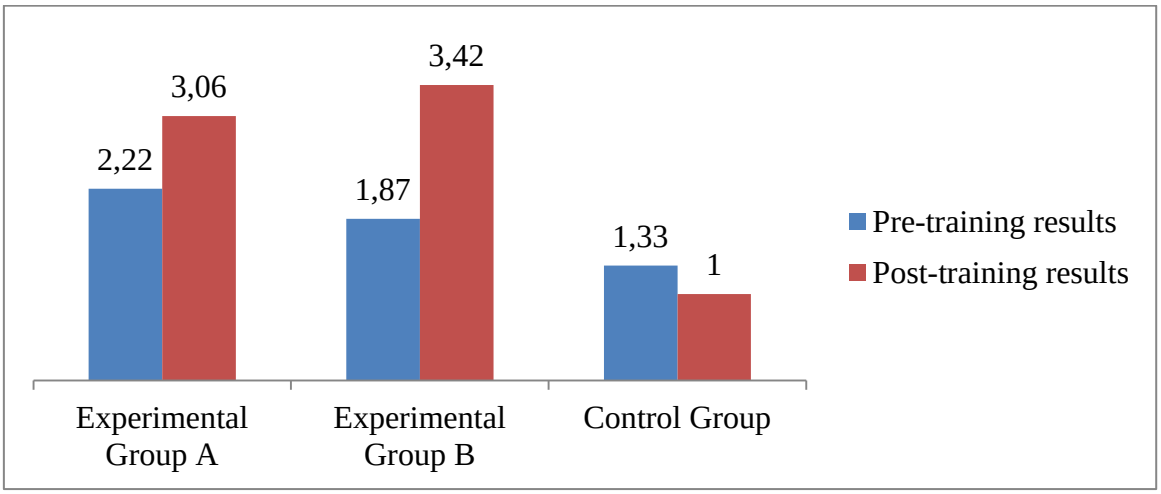
Graph 14: Highlighting Important Information in the Text.

Data gathered via the questionnaire show that there is significant differences in both experimental groups A and B with high mean scores ($\bar{x}_1$= 3.66 and $\bar{x}_2$= 4.03) this means that they agree with strategy6 while the control group have different attitude which indicates that they disagree with the strategy because the difference is not significant and they have low mean score ($\bar{x}_3$= 2.12).

Strategy9:I use reference materials such as dictionaries to help me understand what I read.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,22	3,06	0,84
Experimental Group B	1,87	3,42	1,55
Control Group	1,33	1	-0,33

Table 15: Using Reference Materials for Reading.



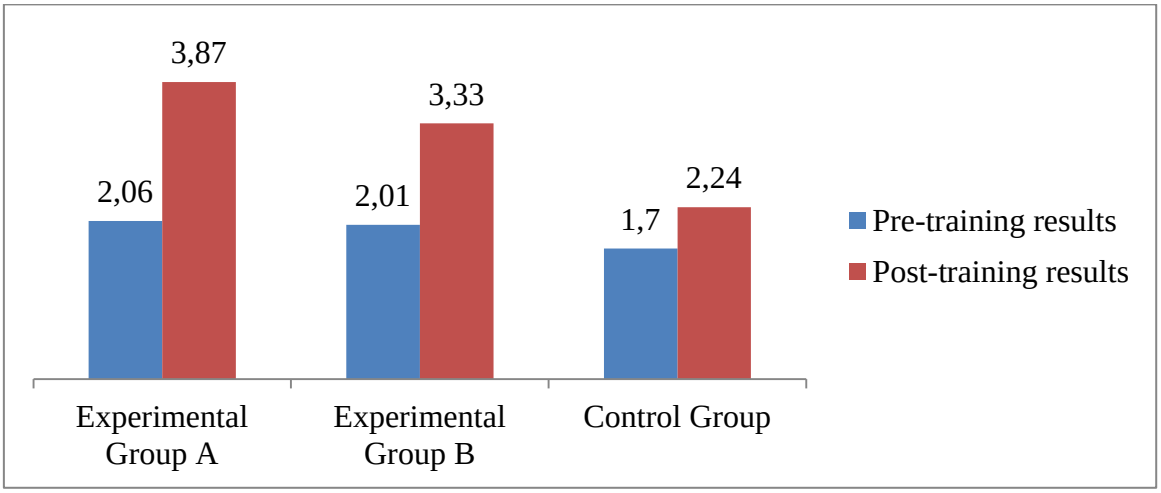
Graph 15: Using Reference Materials for Reading.

Data gathered indicate that there is significant differences in both experimental groups A and B with high mean scores ($\bar{x}_1$= 3.06 and $\bar{x}_2$= 3.42) this means that they agree with strategy9 while the control group have different attitude which indicates that they disagree with the strategy because the difference is not significant and they have low mean score($\bar{x}_3$=1).

Strategy12:I go back and forth in the text to find relationships among ideas in it.

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	2,06	3,87	1,81
Experimental Group B	2,01	3,33	1,32
Control Group	1,7	2,24	0,54

Table 16: Moving Throughout the Text to Find Relationships.



Graph 16: Moving Throughout the Text to Find Relationships.

Data gathered indicate that there is significant difference in both experimental groups A and B with high mean scores ($\bar{x}_1$= 3.87 and $\bar{x}_2$= 3.33) this means that they agree with strategy12 while the control group have different attitude which indicates that they disagree with the strategy because the difference is not significant and they have low mean score ($\bar{x}_3$=2.24).

2.2.1.2. Discussion of the Results

The post-training and the pre-training Meatcognitive Awareness of the Reading Strategies Questionnaire show reading strategies used by participants at both phases. Comparison of data gathered via the questionnaire at the pre-course phase with those gathered via the post-course phase will show whether the metacognitive reading strategies training for participants in the experimental group undertook promoted their use of these strategies or not.

According to data gathered via the reading strategies questionnaire given to the participants after they undertook the training, participants in the experimental group have made a remarkable progress in their use of the strategies they were trained on within a metacognitive frame. This progress appears in the considerable increase in the mean scores of participants in the experimental group. The high mean scores of the participants explain their

regular use of the reading strategies in the post-training phase, as compared to their mean scores in the pre-training phase. These findings answer the fourth research question which says: "Is it possible to raise students' metacognitive awareness of the reading process through metacognitive strategies training to promote their use of these strategies?" by confirming the hypothesis that says that teachers can design different strategies and activities in raising students' metacognitive awareness to enhance their reading comprehension.

2.2.1.3.The Metacognitive Awareness Questionnaire (MAI) Findings

For the purpose of examining the various aspects of students metacognitive awareness involved in the reading comprehension process: the Metacognitive Awareness Questionnaire (MAI, Schraw & Dennison, 1994) was administered. The tables below present the mean scores each group obtained for each question as well as the overall score of the different categories as presented in the previous section.

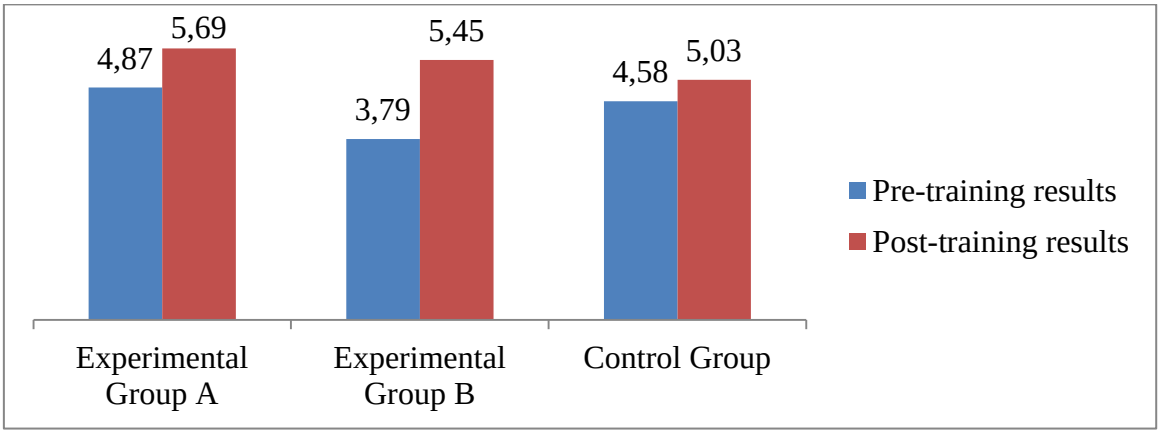
Section One: Knowledge of cognition

Question1: Declarative Knowledge

	True	False
1- I know what information is important in the text.		
2- I understand what the teacher asks me to do.		
3- I understand more when I like the topic.		
Total		

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	4,87	5,69	0,82
Experimental Group B	3,79	5,45	1,66
Control Group	4,58	5,03	0,45

Table 17: Knowing about one's Knowledge of Strategies.



Graph 17: Knowing about one's Knowledge of Strategies.

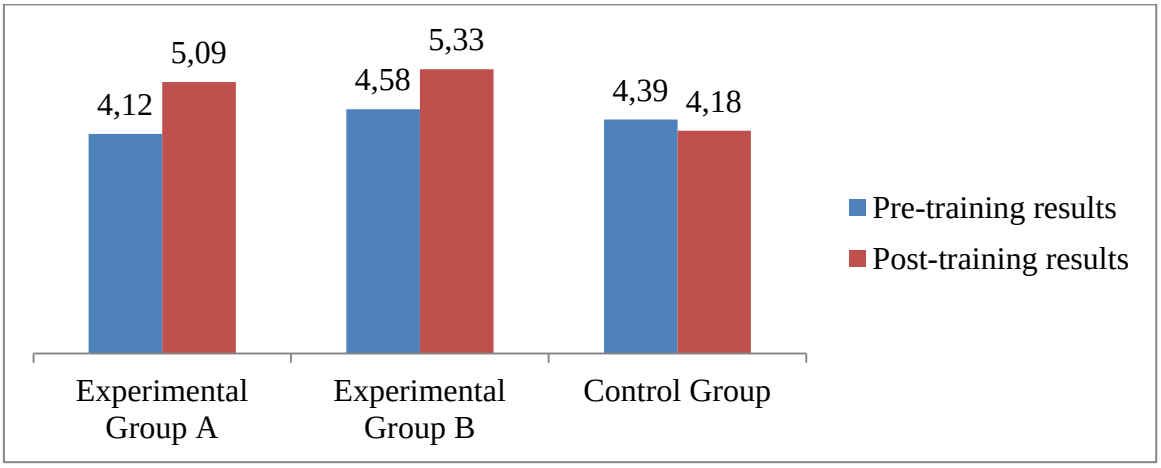
Data gathered show that mean difference in both experimental groups A and B is significant at 0.66 with mean scores ($\bar{x}_1$= 5.69 and $\bar{x}_2$= 5.45) which indicates that they agree with question1 while the difference in the control group is not significant which means they disagree with the question.

Question2: Conditional Knowledge

	True	False
4- I understand better when I know something about the topic.		
5- I use different ways to do one task.		
6- I am sure when I use a strategy that it will succeed.		
Total		

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	4,12	5,09	0,97
Experimental Group B	4,58	5,33	0,75
Control Group	4,39	4,18	-0,21

Table 18: Knowing When to Use strategies.



Graph 18: Knowing When to Use strategies.

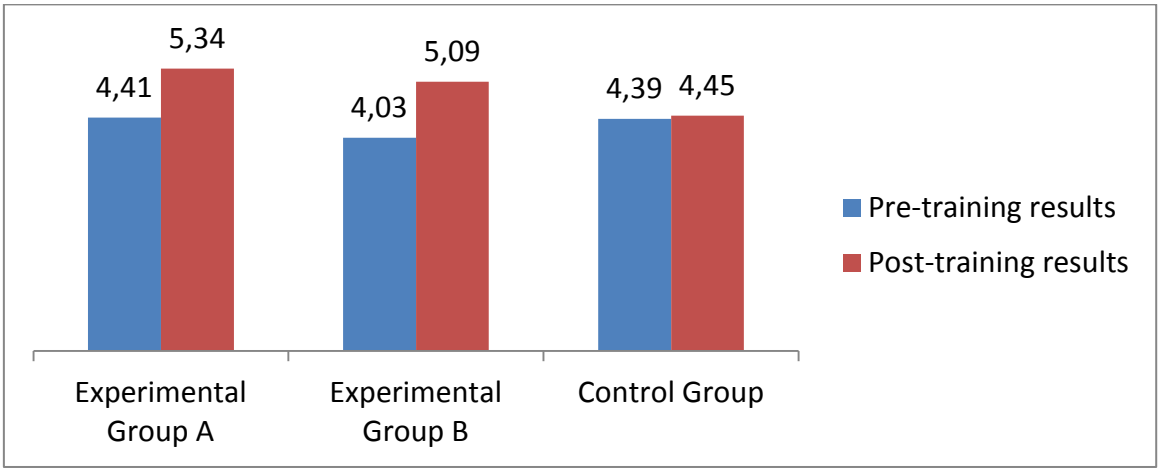
Data gathered via the questionnaire indicate that both the experimental groups A and B have significant mean difference with mean scores ($\bar{x}_1$= 5.09 and $\bar{x}_2$= 5.33) which means they agree with question2 while the control group have a mean difference that is not significant which means they disagree with the question with mean score ($\bar{x}_3$= 4.18).

Question3: Procedural Knowledge

	True	**False**
7- I benefit from strategy that succeeded with me in the past.		
8- I have a purpose for each strategy I use.		
9- I find myself using reading strategies automatically.		
Total		

Groups	**Pre-training results**	**Post-training results**	**Mean Difference**
Experimental Group A	4,41	5,34	0,93
Experimental Group B	4,03	5,09	1,06
Control Group	4,39	4,45	0,06

Table 19: Knowing How to Use strategies.



Graph 19: Knowing How to Use strategies.

Data gathered indicate that there is significant mean difference in both experimental groups A and B which means they agree with question3 with mean scores ($\overline{x}_1$= 5.34 and $\overline{x}_2$= 5.09) while the difference in control group in not significant that means they disagree with the question with mean score ($\overline{x}_3$= 4.45).

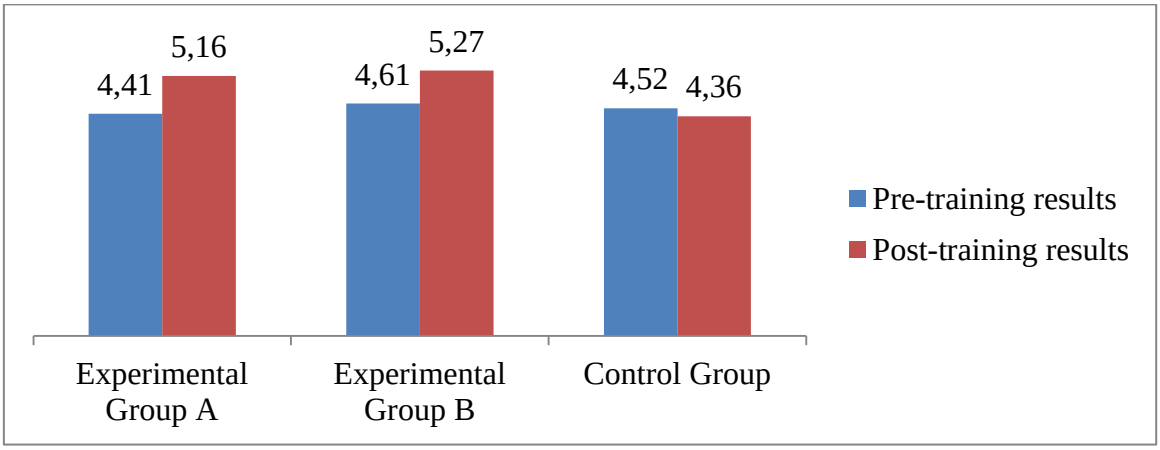
Section Two: Regulation of Cognition

Question1: Information Management Strategies

	True	False
10- I read slowly when I find important information.		
11- I draw pictures or diagrams to help me understand texts.		
12- I use the organization of the text to help me understand.		
Total		

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	4,41	5,16	0,75
Experimental Group B	4,61	5,27	0,66
Control Group	4,52	4,36	-0,16

Table 20: Managing the Use of Strategies.



Graph 20: Managing the Use of Strategies.

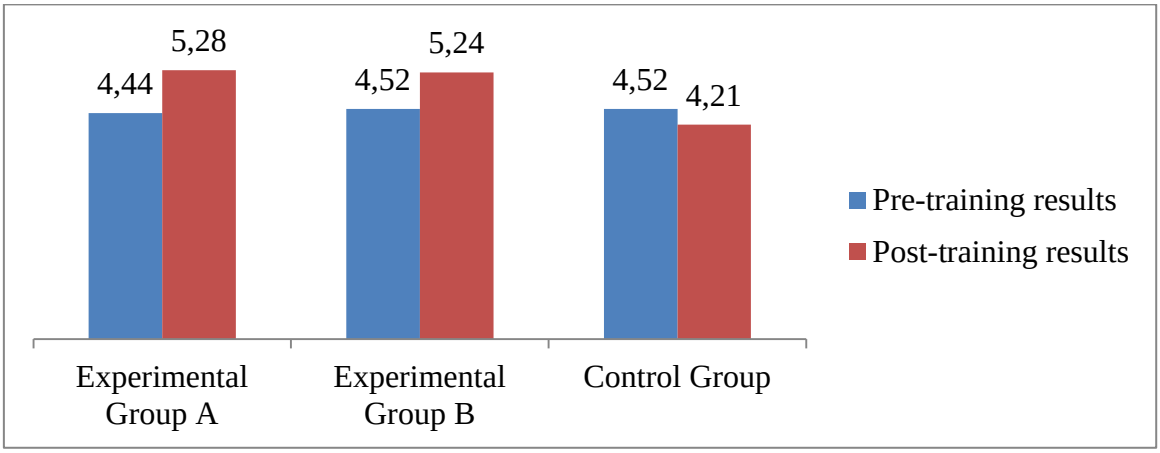
Data gathered show that there is significant difference in both experimental groups with mean scores ($\overline{x}_1$= 5.16 and $\overline{x}_2$= 5.27) which means they both agree with question1 while the mean difference in control group is not significant which means they disagree with the question with mean score ($\overline{x}_3$= 4.36).

Question2: Planning

	True	False
13- I ask myself questions about the text before I begin.		
14- I think of many strategies to solve a task and choose the best one.		
15- I organize my time when I am reading the text.		
Total		

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	4,44	5,28	0,84
Experimental Group B	4,52	5,24	0,72
Control Group	4,52	4,21	-0,31

Table 21: Planning for the Use of Strategies.



Graph 21: Planning for the Use of Strategies.

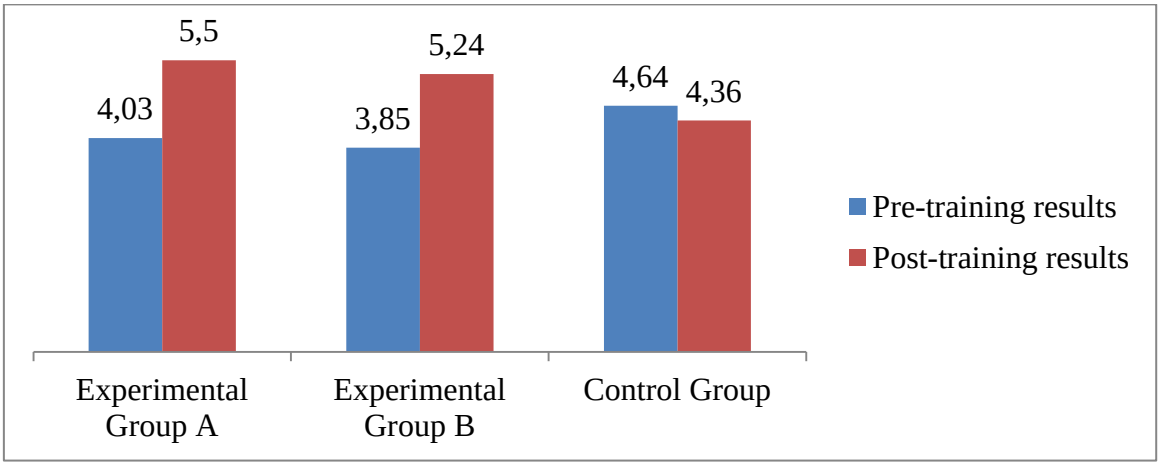
Data gathered show that both experimental groups A and B agree with question2 since the difference is significant with mean scores ($\bar{x}_1$= 5.28 and $\bar{x}_2$= 5.24) while the control group disagree with the question since the difference is not significant with mean score ($\bar{x}_3$= 4.21).

Question3: comprehension Monitoring

	True	False
16- I revise my answers from time to time to understand important relationships.		
17- I stop regularly to check my comprehension.		
18- I ask myself if I am doing better when I learn a new text.		
Total		

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	4,03	5,5	1,47
Experimental Group B	3,85	5,24	1,39
Control Group	4,64	4,36	-0,28

Table 22: Monitoring the Use of Strategies.



Graph 22: Monitoring the Use of Strategies.

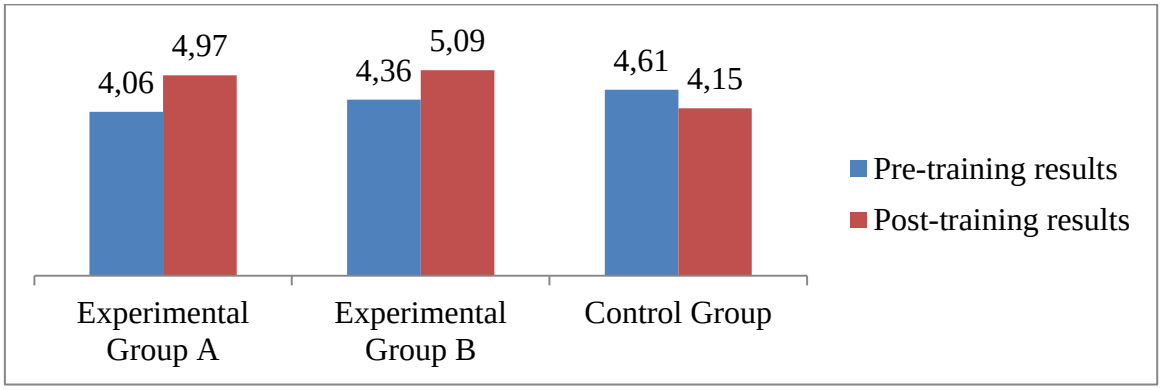
Data gathered show that the mean difference is significant in experimental groups A and B which means they agree with question3 with mean scores ($\bar{x}_1$= 5.5 and $\bar{x}_2$= 5.24) while the control group have no significant difference with mean score ($\bar{x}_3$= 4.36) which means they disagree with the question.

Question4: Evaluation

	True	False
19- I ask myself if there was easier ways to do things after I finish a task.		
20- I summarize the text after I finish it.		
21- I ask myself if I learned something new once I finish a task.		
Total		

Groups	Pre-training results	Post-training results	Mean Difference
Experimental Group A	4,06	4,97	0,91
Experimental Group B	4,36	5,09	0,73
Control Group	4,61	4,15	-0,46

Table 23: Evaluating the Use of the Strategies.



Graph 23: Evaluating the Use of the Strategies.

Data gathered show that the mean difference is significant in experimental groups A and B which means they agree with question4 with mean scores ($\overline{x}_1$= 4.94 and $\overline{x}_2$= 5.09) while the control group have no significant difference with mean score ($\overline{x}_3$= 4.15) which means they disagree with the question.

2.2.1.4. Discussion of the Results

Comparison of data gathered via the questionnaire at the pre-course phase with those gathered via the post-course phase will show whether developing students metacognitve awareness of the reading comprehension process through the metacognitive reading strategies training was effective or not.

According to data gathered via the Metacognitive Awareness Questionnaire (MAI), participants in the experimental group have made a remarkable progress in the various dimensions of metacognitive awareness that skilled readers have. The findings of the post-course questionnaire show the remarkable increase in the mean scores of the experimental group. These results explain the development made in participants' use of the various strategies metacognitively in their reading comprehension process. Thus, these findings answer the third research question which says "Is it effective to raise students' metacognitive awareness of the reading comprehension process through the metacognitive reading strategies training?" by confirming the hypothesis that says that training students on meatacognitive

strategies is an effective way to enhance their metacognitive awareness of the reading comprehension process.

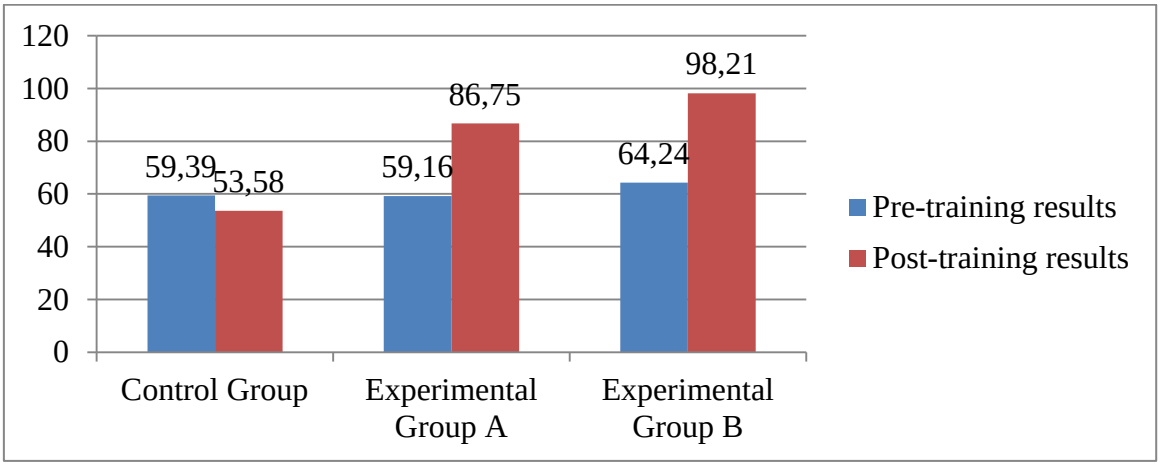
2.2.2. Fluency Test Results

Participants in both control and experiment groups took a pre-fluency test ($WCPM_1$) in the pre-course phase and a post-fluency test ($WCPM_2$) at the post-course phase.

Table 24, below shows the results of the pretest and posttest for the three groups.

Groups	Pre-training results ($WCPM_1$)	Post-training results ($WCPM_2$)	Mean Difference
Control Group	59,39	53,58	-5,81
Experimental Group A	59,16	86,75	27,59
Experimental Group B	64,24	98,21	33,97

Table 24: Fluency TestsResults.



Graph 24: Fluency Tests Results.

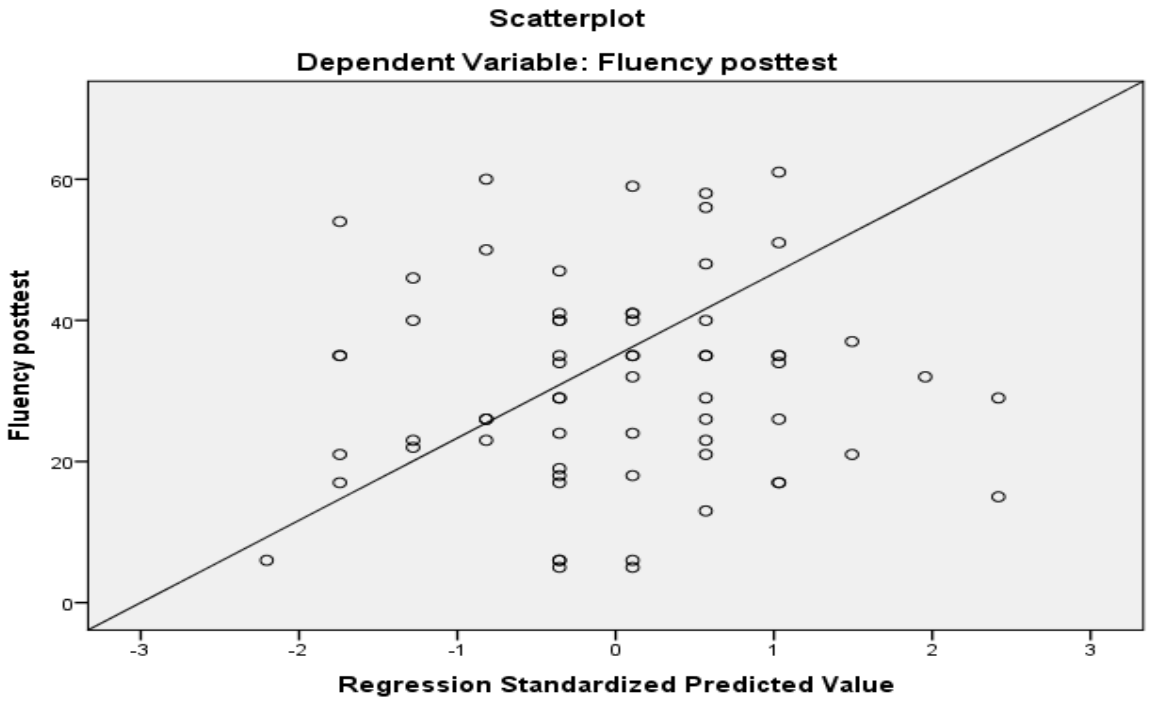
Analysis:

On the pretest, participants in the three groups performed similarly. Pretest similarities between the groups are understood by no significant comparison at $p<0.05$ on the $WCPM_1$ of the pretest in table of multiple comparisons. On the posttest, the experimental group A, on the one part, started out reading faster ($\bar{x}$=86.75) with change in mean score (46.63 %). As for the second experimental group B ($\bar{x}$=98.21) with change in mean score (52.87 %), although the reading rate in the experimental group B remained slightly higher than group A. On the other part, the mean in the control group ($\bar{x}$=53.58) had a backward change in its score (- 9.78 %) which shows a general decrease in the reading rate of this group.

2.2.2.1. Linear Regression

Correlations			
		comprehension posttest	Fluency posttest
Pearson Correlation	comprehension posttest	1,000	-,045
	Fluency posttest	-,045	1,000
Sig. (1-tailed)	comprehension posttest	.	,362
	Fluency posttest	,362	.
N	comprehension posttest	65	65
	Fluency posttest	65	65

Table 25: Linear Correlation between Fluency and Reading Comprehension.



Graph 25: Residuals of the Dependent Variable

Analysis

Although the ANOVA tables (26 and 28) indicate a significant development in both fluency and comprehension in the posttest. The table of Linear Regression above shows that there is no correlation between fluency and comprehension. The p value is higher than 0.05 which indicates no significant correlation between the variables. The non-significant correlation results means fluency and comprehension of texts cannot be developed at the same time in short period; however this can be reached through longer practice.

Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
WCPM1	Control Group	Experimental Group A	,238	5,246	,999
		Experimental Group B	-4,848	5,205	,622
	Experimental Group A	Control Group	-,238	5,246	,999
		Experimental Group B	-5,086	5,246	,598
	Experimental Group B	Control Group	4,848	5,205	,622
		Experimental Group A	5,086	5,246	,598
WCPM2	Control Group	Experimental Group A	-33,174*	5,584	,000
		Experimental Group B	-44,636*	5,541	,000
	Experimental Group A	Control Group	33,174*	5,584	,000
		Experimental Group B	-11,462	5,584	,105
	Experimental Group B	Control Group	44,636*	5,541	,000
		Experimental Group A	11,462	5,584	,105

*. The mean difference is significant at the 0.05 level.

Table 26: Multiple Comparisons of Fluency Test Difference between the Groups (One Way Anova Test)

2.2.2.2. Discussion of the Results

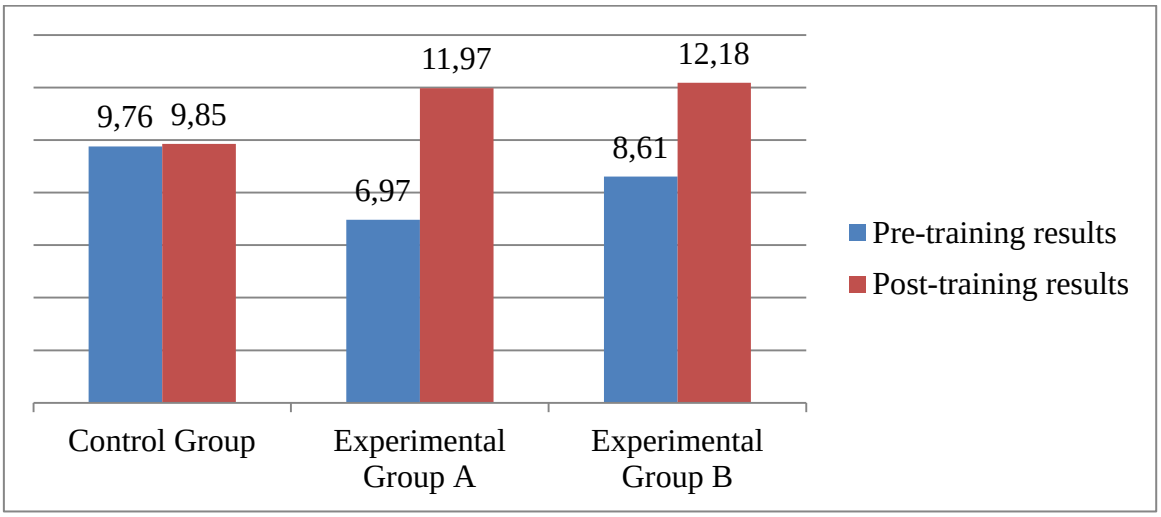
The hypothesis that raising students' meatcognitive awareness of the reading process enhances their reading fluency is very strongly supported by the data. The comparisons presented in table 26 show this to be true. In particular, the significant difference between the groups on gains in the posttest, as revealed in the table of multiple comparisons, strongly suggests that raising students' metacognitive awareness of the reading process is much more beneficial to the development of the reading speed than traditional reading lessons.

The results of the reading comprehension tests also provide very strong support for this hypothesis.

2.2.3. Pretest and Posttest Results

Groups	Pre-training results	Post-training results	Gain
Control Group	9,76	9,85	0,09
Experimental Group A	6,97	11,97	5
Experimental Group B	8,61	12,18	3,57

Table 27: Pretest and Posttest Results.



Graph 26: Intra and Inter-group Comparison of Tests' Means.

a. The Pretest Results

The pretest results revealed mean scores ($\bar{x}_1$= 6.97 and $\bar{x}_2$= 8.61) for the experimental groups A, B respectively and a mean score ($\bar{x}_3$= 9,76) for the control group.

The pretest results will be analyzed with those of the posttest through a comparison, after the presentation of the posttest results.

b. The Posttest Results

The posttest results revealed mean scores of ($\bar{x}_1$=11,97 $\bar{x}_2$= 12,18) for the experimental groups A, B and a mean score of ($\bar{x}_3$= 9,85) for the control group.

2.2.3.1. Discussion of the findings

Discussion of data obtained by means of the pretest and the posttest will be lead through a two-level comparison: intra-group and inter-group. The intra-group comparison highlights the difference in participants' performance within the same group, while the inter-group comparison highlights the difference in participants' performance across the two groups.

Values from the intra-group comparison of the groups are revealed in order to get a description of the gains obtained by each group in reading comprehension ability. The inter-group comparison reveals the significance of difference in reading ability between the groups as a result of the training. Data obtained as a result of this two-level comparison is evidence that shows the impact of the metacognitive awareness training the experimental groups undertook.

The Intra-group Means' Comparison

According to data collected as shown in table 27, participants of the control group obtained means of ($\overline{x}$ = 9.76) ,in the pretest, and ($\overline{x}$ = 9.85) in the posttest, that is to say a gain of (0.09). As for the experimental group A, data collected show that they obtained means of ($\overline{x}$ =6.97) ,in the pretest, and ($\overline{x}$ = 11.97) in the posttest, that is to say a gain of (5). Also for the second experimental group B, data collected show that they obtained means of ($\overline{x}$ = 8.61) , in the pretest, and ($\overline{x}$ = 12.18) in the posttest, with a gain of (3.57) as a result of the course that aims at developing the student reading skill.

Values obtained from the intra-group comparisons show that participants in experimental group A outperformed those of experimental group B but this difference was not significant at $p<0.05$. However, participants in both experimental groups A and B outperformed those of the control group in reading comprehension performance. This means that experimental groups realized a bigger gain in terms of reading comprehension ability.

The Inter-group Means' Comparison

The inter-group comparison highlights the significance of difference at $p<0.05$ between the results obtained by each of the groups While comparison of results in the pretest is meant to check homogeneity of these groups.

According to data collected, as table 27 shows, the mean score of the control group in the pretest is ($\overline{x} = 9.76$), while the mean score of the experimental group A in the same test is ($\overline{x} = 6.97$) and the experimental group B is ($\overline{x} = 8.61$). The table above shows a significant difference at 0.05 between the control group and experimental group A in the pretest. And this difference, when we look back at the groups' mean, was because the control group outperformed the experimental group A in the pretest. However experimental group B stands as evidence for the homogeneity of the three groups in reading comprehension ability.

Values obtained from the comparison of the three groups' posttest results are considered as an evident descriptor of the effect of the metacognitive awareness training undertaken by the experimental group.

Where the results of the posttest show that the control group has a mean score of ($\overline{x} = 9.85$), while in experimental group A is ($\overline{x} = 11.97$) and in experimental group B in the same test is ($\overline{x} = 12.18$). This comparison between groups' means in the posttest shows that the experimental groups outperformed the control group with significant.

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.
Pretest	Experimental group A	Control group	-2,789*	,705	,000
		Experimental group B	-1,637	,705	,057
	Control group	Experimental group A	2,789*	,705	,000
		Experimental group B	1,152	,699	,231
	Experimental group B	Experimental group A	1,637	,705	,057
		Control group	-1,152	,699	,231
Posttest	Experimental group A	Control group	2,120*	,589	,001
		Experimental group B	-,213	,589	,931
	Control group	Experimental group A	-2,120*	,589	,001
		Experimental group B	-2,333*	,585	,000
	Experimental group B	Experimental group A	,213	,589	,931
		Control group	2,333*	,585	,000

*. The mean difference is significant at the 0.05 level

Table 28: Multiple Comparisons of the Pretest and Posttest Results. (One Way Anova Test)

Summary

Although experimental groups A and B and the control group joined the course with a homogeneous ability to comprehend reading materials, as proved by the pretest results, the experimental groups outperformed the control group in the posttest. Besides that, both of experimental groups realized bigger gains than the control group as revealed by the inter-comparison. This outperformance made by the experimental groups over the control group is due to the metacognitive awareness of the reading comprehension process training. These findings answer the first research question which says: “Does raising students’ metacognitive

awareness of the reading comprehension process help learners achieve comprehension?" by confirming the hypothesis that says that raising student's metacognitive awareness of the reading comprehension process make them comprehend the text easily. This hypothesis is strongly supported by the data. The comparisons presented in table 28 shows this to be true. In particular, the mean difference between the groups in the comprehension posttest is significant $p<0.05$ as was revealed by ANOVA statistical comparison test.

2.3. Section Three: Pedagogical Implications and limitations

Introduction

From a pedagogical perspective, results of this study point to the need to urge language teachers to reconsider the effectiveness of raising learners' metacognitive awareness of the reading process in the enhancement of participants' reading fluency and their ability to comprehend reading materials. As it is aforementioned in the literature; metacognition consists of two components: knowledge of cognition and regulation of cognition. The two are empirically related and may be integrated in the form of metacognitive theories. Researchers have recommended a number of specific instructional approaches to teaching metacognition. For this reason, this section presents some suggested implications based on the findings of the present study. Furthermore, the limitations of the study and advice for further research are provided.

2.3.1. Pedagogical implications

Several research offer evidence that metacognition is teachable (cross and paris 1988). For example, Cross and Paris (1988) have made to improve the metacognitive skills and reading comprehension of 171 students in an academic context, were they noticed that readers are helped tremendously when they develop an idea of the structure of the academic text, what components academic texts consist of, and how the information, ideas, and concepts are

organized. This type of metacognitive knowledge can be developed through accumulated experience in reading, but this accumulation may take a long time for readers to figure out on themselves. As a result students will encounter many problems in constructing the meaning of the print. This was noticed in the marks obtained by the control group in the posttest. The emphasis here is on the importance of being instructed properly about how to approach academic texts rather than going through a long trial and error period. Although one might argue that reading many texts is important and can be helpful, the more important thing is to know how to read text properly and metacognitively.

2.3.1. Promoting Metacognitive Awareness

It is crucial for a teacher willing to conduct training on developing metacognitive awareness to have a clear plan for such a task. Since the practical part of this research is based on conducting a training for the sake of checking the effectiveness of developing metacognitive awareness in the enhancement of students reading fluency and their ability to comprehend reading materials. An instructional framework suggested by Schraw (1998) has been chosen for the training for its metacognitive aspect of strategic learning. It targets making students know how and when to use learning strategies to become more independent learners. This instructional framework is considered as an effective way for conducting learning strategies instruction. It is based on explicit teaching of learning strategies and works out learners' autonomy in the use of strategies through a process going from teacher-guided activities to students' independent use of the target strategies. According to Schraw (1998) there are four general ways to increase metacognition in classroom settings. These are promoting general awareness of the existence of metacognition, improving knowledge of cognition, improving regulation of cognition, and establishing proper environment that promotes metacognitive awareness.

2.3.2. Promoting General Awareness

At this phase students need to understand the distinction between cognition and metacognition to become self-regulated (Schraw, 1998,p.118). Teachers, other students, and reflection each play an important role in this process. Research on metacognition in reading comprehension has identified self-regulatory processes that improve teacher instructional practices. Palinscar and Brown (1984) described six strategies consistently found to monitor and foster comprehension: (1) clarifying the purpose of reading to determine the appropriate reading strategy; (2) activating relevant background knowledge and linking it to the text; (3) allocating attention to the important ideas; (4) evaluating content for internal consistency and compatibility with prior knowledge; (5) self-monitoring (e.g. by self-questioning) to verify comprehension; and (6) drawing and testing inferences (p.120). The teacher is meant to demonstrate the new learning strategies and explain how and when to use them. The learning strategies at this stage are explicitly modeled, named and explained. "The more explicit this modeling, the more likely is that students will develop cognitive and metacognitive skills" (Butler &Winne,1995, p.272). Other students may provide effective models as well, and in many situations, are better models than teachers.

2.3.2.1.Teacher Modeling:

Before asking the students to practise a given strategy the teacher should demonstrate how the strategy is used by modeling it on a similar task. The teacher then, while dealing with a similar task, thinks aloud so as to make his thought processes as clear as possible, either by writing them or illustrating them on the board or on overhead.

2.3.2.2.Naming the strategy:

While the teacher shows the way the strategy works in the modeling phase, he/she should name the strategy explicitly. The strategy name should be written (in L2 or L1) out for

students on a board, a poster, or a strip of cardboard that the teacher can raise every time the strategy name is mentioned. Knowing the strategy name is important for the evaluation of strategy, so as to decide upon which strategy is better for a task. Chamot (1999) states that, "this explicit training leads to a more conscious understanding of strategies that, in turn, contributes to learner's metacognitive knowledge and control over strategies use" (p.77).

2.3.2.3. Explaining the importance of the strategy:

As the teacher thinks aloud while modeling the strategy in order to show the students how it is used and what its name is, it is very useful to highlight the importance and usefulness of the strategy with specific examples.In this respect, Chamot (1999) states, "students need to hear this type of explanation because they may not realize the value of strategic learning for themselves until they have practised it over time" (p.78).

2.3.2.4.Telling when to use the strategy:

While presenting the strategy, the teacher can describe the typical situations in which the strategy can be effective. Linking the strategy to the student's real life helps him/her in remembering it. For instance, while inferring is a useful strategy in reading and listening in classroom settings, it is used and useful in real life. A teacher can provide the example of someone talking on the phone while a truck is passing by, you use what you hear to understand what you do not hear, that is inferring and you can use it in class for similar situations. The same thing can be said about the use of summarizing while answering on someone's question, as we need to mention only the important ideas.

2.3.2.5.Asking Students to Describe their Use of the Strategies:

After presenting the strategy by modeling it, naming it and describing how and when to use it, the teacher should offer students the opportunity to share the way they use them. That can

be conducted through class description through which students describe their use of the strategy like to elicit from them how they are already using a strategy.

Several instructional principles emerge regarding the promotion of metacognitive awareness. The first is for teachers to take the time to discuss the importance of metacogntive knowledge and regulation including the unique role it plays in self-regulated learning (Schon, 1987, p. 116). Second, teachers should make effort to model their own metacognition for their students. Third, teachers should allot time for group discussion and, despite the many pressures.

2.3.2.2. Improving Knowledge of Metacognition

Earlier, students made a distinction between knowledge of cognition and regulation of cognition. The former included three components; declarative, procedural, and conditional knowledge. We have used an instructional aide to improve knowledge of cognition. This aide is referred to as Strategy Evaluation Matrix (SEM) which is shown in figure 1. Many research reports suggest it is an effective way to increase metacognitive knowledge. In addition, empirical studies also suggest that using summary matrixes like the SEM may significantly improve learning (Jonassen et at., 1993, p. 132).

Figure 1 includes information about how to use several strategies, the conditions under which these strategies are most useful, and a brief rational for why one might wish to use them. The purpose of each row of the SEM is to promote explicit declarative (column 1), procedural (column 2), and conditional (column 3) knowledge about each strategy. In addition to comparing strategies across rows adds an even more sophisticated level of conditional knowledge about one's strategy repertoire.

Strategy	**How to Use**	**When to Use**	**Why to Use**
Skim	Search for headings,highlighted words, previews, summaries	Prior to reading an extended text	Provides conceptual overview, helps to form one's attention
Slow down	Stop, read, and think about information	When information seems especially important	Enhances focus of one's attention
Activate prior knowledge	Pause and think about what you already know. Ask what you don't know	Prior to reading or an unfamiliar task	Makes new information easier to learn and remember
Mental integration	Relate main ideas. Use these to construct these a theme or conclusion	When learning complex information or a deeper understanding is needed	Reduces memory load. Promotes deeper level of understanding.
Diagrams	Identify main ideas, connect them, list supporting details under main ideas, connect supporting details.	When there is a lot of interrelated factual information	Helps identify main ideas, organize them into categories. Reduces memory load.

Figure09: A Strategy Evaluation Matrix.

Source: (Schraw, 1998, P. 120)

There are a variety of ways that a teacher could use a SEM in the classroom. The basic idea is to ask students, either individually or in group, to complete each row of the matrix over the course of the school year.

The SEMs are a good tools used in this study because they promote strategy use. And second, because the SEMs promote explicit metacognitive awareness. A third reason is that SEMs encourage students to construct knowledge about how, when, and where to use strategies.

2.3.2.3.Improving Regulation of Cognition

SEMs presumably are effective at improving knowledge of cognition, but may not impact regulation. Another approach has been used in this study is a Regulatory Checklist (RC). The purpose of the RC is to facilitate the regulation of the cognition. Figure 2 provides an example of a RC. The RC enables learners to implement systematic regulatory steps that help them control their performance. In this respect, Schraw (1998) stated that "students who used a checklist similar to figure 2 outperformed control on a number of measures, including written problem solving, asking strategic questions, and elaborating information." (p.120) This explicit prompts in the form of checklists help students to be more strategic and systematic when solving problems. Figure 2 shows three main categories, including planning, monitoring, and evaluating:

Planning

1. What is the nature of the task?
2. What is my goal?
3. What kind of information and strategies do I need?

Monitoring

1. Do I have clear understanding of what I am doing?
2. Does the task make sense?
3. Am I reaching my goals?
4. Do I need to make changes?

Evaluating

1. Have I reached my goal?
2. What worked?
3. What didn't work?
4. Would I do things differently next time?

Figure 10: A Regulatory Checklist.

Source, Schraw, 1998, p. 120.

2.3.2.4.Fostering Conductive Environment:

"Metacognitive skills do not exist in a vacuum. All too often, students possess knowledge and strategies that are appropriate for a task but do not use them. One reason is that students fail to engage and persist in a challenging task, or fail to attribute their success to the use of strategies and self-regulation." (Schraw, 1998, p. 121). Sometimes students do not make the effort needed to do well at a task because they believe that they lack the intellectual ability required.

A number of recent motivational theories have addressed these issues directly. For example, Graham and Weiner (1996) viewed that "students enter each classroom with a set of achievement-related beliefs including expectations for success, perceptions of academic competence and self-efficacy, perceptions of control over achievement outcomes, and perceptions of the cause of those outcomes." (p.95). In general, successful students with self-efficacy are goal oriented because they persevere, experience less anxiety, use more strategies, and relate their success to controllable factors (Schraw, 1998,p. 122).Thus, for the sake of establishing such environment, teachers should create learner-centered classroom and foster learners' self-efficacy.

2.3.2.4.1.Creating the Learner-Centered Classroom:

A teacher who aims at conducting strategy training should target first the establishment of the learner-centered atmosphere, since it is an environment that creates and fosters independent students who are aware of their learning process, and who through this awareness can take control of their own learning.

The researcher, being the teacher of the course through which the strategy training has been conducted, implemented mainly learning analogies and setting personal goals as tools for the establishment of the learner-centered classroom in addition to sharing the learning responsibility and class expectations with the students.

2.3.2.4.2. Self-efficacy:

Highly motivated learners work hard and persevere in the face of difficulty, and they find satisfaction in the successful accomplishment of a learning task. Self-efficacy or task-based refers to students' beliefs about their ability to solve a problem. They also recognize that errors are part of learning. Students with low self-efficacy, have poor abilities, choose to do

less demanding tasks and do not try hard in doing a task because they do not believe in their abilities to perform good results.

At this stage, the researcher, as the teacher of the course, conducted a talk with the students of the experimental group in order to boast their confidence level, mainly for achieving the objectives of the course. As a result, students have shown a positive attitude towards learning English in general and the course specifically.

2.3.3. Limitations and Advice on Further

As any other research this research has some limitations worth mentioning:

The first limitation is time constraint. Although the time of the training sessions was reasonable, more practice and exercises would be beneficial for the automatic and independent use of strategies as one of the important aspects in teaching metacognition.

Second, metacognition is a complex construct, involving cognitive knowledge and cognitive regulation. Metacognition also includes affective and motivational aspects. For this reason assessing metacognition would be a challenge. In this study, the use of rating scales or questionnaires and “think aloud” methods while performing a task could not capture implicit cognitive processes. New methods for measuring or assessing metacognition including observational methods could have had more convincing results. Thus, further research needs to be done and other studies have to be conducted to examin the results and have control over other factors that may affect the aim of this study in raising students’ metacognitive awareness of the reading comprehension process.

Summary

The results of the two questionnaires, mainly, metacognitive awareness (MAI) and awareness of reading strategies (MARSI), revealed that there is an area of agreement among most of the participants in the experimental group with the questions. The positive attitude towards the questions in the post-training phase also revealed the effectiveness of the training undertook to raise students' metacognitive awareness and to promote their use of learning strategies. Then, the scores of the pretests about comprehension and reading fluency came to prove those results in that the majority of the participants' scores revealed a poor level in comprehension and reading and reading speed. This indicates that there should be an intervension from the part of the teacher in order to improve students' level of comprehension. To do that, training sessions have been organized to develop students' metacognitive awareness of the reading comprehension process, mainly most reading strategies that perceived more advantageous in working out students' metacognitive awareness.

All in all, the positive results obtained in the posttests on comprehension and reading fluency confirmed our hypothesis in that raising students' meatacognitive awareness of the reading process has positive effects on learners' reading fluency and comprehension. The majority of students in the experimental groups have excelled, and an improvement in their level of reading fluency and comprehension was noticeable. The results of the current study have demonstrated that third year MS students' reading comprehension and fluency improves when their metacognitive awareness of the reading comprehension process is developed through metacognitive strategy training. Thus, the third section in this chapter provided some pedagogical implications. Teachers need to raise their learners' metacognitive awareness while reading a given text so as to be independent learners and get meaning easily from a print.

General conclusion

The need to conduct the present study emerged from the researchers' observations of third year MS students. These students were unable to read fluently because most of their attention is directed toward decoding individual words, without having a purpose for reading. Doing that results in learners having problems in comprehension because they do not have the metacognitive awareness skill involved in the reading comprehension process. Additionally, teachers and students do not give strategies, mainly metacognitive strategies, the importance they deserve that would help them recognize the most important information and construct meaning from what is written easily. Metacognitive awareness plays a crucial role in enhancing comprehension. The present study investigated the effects of raising learners' metacognitive awareness on third MS students' reading fluency and comprehension. It started from one principle question:

To what extent is raising students' metacognitive awareness using strategy instructional framework is effective in positively improving Algerian Middle School Learners' reading fluency and comprehension? Based on this question we hypothesized that: If 65 Middle School learners undertake five (5)week strategy training aiming at raising their metacognitive awareness, they will exhibit a positive improvement in reading fluency and comprehension.

The first chapter "the review of the literature" was divided into three main sections. The first section aimed to introduce the concept of metacognition and the basic issues related to it. The second section in chapter one has been devoted to reading, reading comprehension, and the issue of reading fluency. Also, section three attempted to explore the relationship between metacognitive awareness and the reading comprehension process.

The second chapter was devoted to the practical study. The second chapter is the "field work" was also divided into three sections. The first section was devoted to research

methodology and tools including research questions and hypotheses, the research design, target population and the sample. Additionally, this section was about instrumentation and procedures where the research tools used to collect data were described. The research instruments used in this study were the students' questionnaire and an experimental research design divided into three steps: pretests, training sessions, and posttests. Moving to the second section devoted to this practical study. It is mainly concerned with data analysis and discussion in addition to section three on pedagogical implications. After collecting data using the above mentioned tools, these data were analyzed, interpreted and discussed. The analysis of the results allowed us to provide some interpretations in relation to the research questions and hypotheses set in the very beginning of this work.

At the pre-course phase, the first instrument used was the metacognitive awareness and the metacognitive reading strategies questionnaires. They were administered for the purpose of examining the various aspects of metacognitive awareness, as described in this chapter, involved in the reading comprehension process in relation to the reading strategies participants use before.The second instrument used was a pretest on reading fluency ability in measuring students' oral reading speed and accuracy.The third data collection instrument used was the pretest. Before the training sessions took place, the participants had a reading comprehension test. The results obtained confirm the homogeneity of both groups in terms of reading comprehension ability. In which data gathered revealed a non significant difference at 0.05 between the groups.

At the post-course phase, the fourth data collection instrument used is the reading comprehension and fluency posttests. It aimed at evaluating the participants' reading fluency and comprehension ability after having taken the course and whether there was improvement or not. By contrast to data gathered in the pretest, the inter-group comparison in the posttest, reveals a significant 0.05 mean difference between the groups. The significance of the

difference was realized by each of the experimental groups. The results of these posttest revealed that the experimental group outperformed the control group in the posttest. This outperformance made by the experimental group over the control group is due to the metacognitive awareness of the reading comprehension process training. The fifth instrument used is the questionnaire. The two questionnaires were the same used in the pre-course phase. They aimed, again, at examining the various aspects of metacognitive awareness involved in the reading comprehension process and the reading strategies participants use, but, this time, the aim is to assess the development in their use of these strategies after they were trained on within a metacognitive frame.

We concluded the second section of this chapter by confirming our research hypotheses and showing the significant role played by raising students' metacognitive awareness in enhancing their reading fluency and comprehension. Based on the results obtained from this study, the third section in chapter two has been written so as to provide some pedagogical implications and suggest some techniques that would help teachers increase students' metacognitive awareness in classroom settings and achieve better fluency and comprehension of the print. Among these implications, we suggested that teachers have to promote general awareness of the importance of metacognition, improve knowledge and regulation cognition, and foster a classroom environment that would promote metacognitive awareness

The present study had some limitations due to time constraints and a challenge in assessing students' metacognitive awareness in observing implicit aspects of cognition. New methods for assessing metacognition including observational methods have to be conducted to be able to generalize the results to the whole population. Thus, it was suggested that further research and other studies on assessment have to be done to examine the results and have control over other factors that may affect the aim of this study in raising students' metacognitive awareness of the reading comprehension process.

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APPENDICES

Appendix A: ComprehensionPretest Sample.

Appendix B: Fluency Pretest Sample.

Appendix C: Metacognitive Awareness Questionnaire (MAI).

Appendix D: Metacognitive Awareness of the Reading Strategies Questionnaire (MARSI).

Appendix E: Reading for Main Points Session.

Appendix F: Imaging Session.

Appendix G: Summarizing Session.

Appendix H: Inferring Session.

Appendix I: Predicting Session.

Appendix J: Skimming and Scanning Session.

Appendix K: Fluency Posttest Sample.

Appendix L: Comprehension Posttest Sample.

Appendix M: Fluency Tests' Results.

Appendix A: Pretest Sample.

English Test **Full name: …….**

The Positive Effects on Children of Owning a Dog

Brendan's best friend is Tip. Tip and Brendan are inseparable. They teach each other things and they look after each other. Brendan is a nine-year-old boy, and Tip is a ten-year-old dog. As a dog owner, the child must take care of the animal's daily needs. The dog must be fed and exercised every day. A dog is completely dependent on its owner for all its needs, including the need for good health and a safe environment. This teaches the child that his responsibility to the dog is more important than his desire to play with his toys, talk on the phone, or watch TV. This is true not only for the care of a dog, but also for the care of oneself, another person, or one's job. Learning how to take responsibility for the health and welfare of a dog leads to learning how to take responsibility for oneself.

A dog cannot express itself with speech, so its owner must learn how to interpret its behaviour. The child must learn to understand what the dog's behaviour means. Is the dog frightened, aggressive, or sick? The child needs to understand what is going on in the dog's mind. The result of learning to read a dog's behaviour is that the child develops empathy.

A dog gives unconditional love to its owner. A dog will not stop loving its owner because of a little anger, indifference, or neglect. This acceptance of the negative qualities and appreciation for the positive qualities of its owner provide a wonderful model of how to be a good friend.

Task 1: Read the text and circle the letter of the right answer:

1. **The dog's name is …….. .**

   A. Tip

   B. Brendan

   C. Brennan

   D. Kip

2. **Which of the following have a positive effect on a child's development?**

   A. Feeling responsible

   B. Feeling empathy

   C. Building friendship

   D. All of the above

3. **A child learns how to be responsible for a dog by :**

   A. Taking care of the dog's daily needs

   B. Taking away a safe environment

   C. Feeding the dog weekly

   D. Becoming dependent on the dog

4. **Learning how to care for a dog can help children :**

   A. To take care of themselves

   B. To choose the dog over playing

   C. To get welfare

   D. To ignore the dog's needs

5. **Children can learn how to :**

   A. Understand the dog's needs

   B. Only care about themselves, and not others.

   C. Get rid of the dog they don't want to take care of it

D. Be irresponsible

6. The dog's owner must interpret which of the following from their dog's behaviour?

A. Fear

B. Happiness

C. Illness

D. All of the above

7. Which of the following is a positive result of learning how to interpret a dog's behaviour?

A. Becoming selfish

B. Becoming empathetic

C. Becoming arrogant

D. Becoming thoughtless

8. What kind of love does a dog provide?

A. Shallow

B. One-side

C. Conditional

D. Unconditional

9. In what ways is a dog loyal?

A. It is able to tolerate the negative qualities of human.

B. It protects people

C. It neglects its owner

Task 2: Answer the following questions according to the text

1. What kind of relationship is between Brendan and Tip?

   ……

2. Why are Brendan and Tip inseparable?

   ……....

3. Does learning how to take care of the animal's needs leads to learning how to take care of oneself?

   ……

4. How can the child develops empathy and become a more caring person?

   ……

5. Who can give the unconditional love to its owner?

   ……....

Appendix B: Fluency Pretest Sample

Reading A-Z

LEVEL J

Fluency Passage–Nonfiction

Basketball

Name _____

Word Count: 111

Basketball

Many people like the game of basketball. 7
Players need basketball nets and a court to play. 16
There are two nets on a court. 23
There are five players on a team. 30
Two teams play each other. 35
Players also need a large ball. 41
The ball is orange or brown. 47
Players try to put the ball in the other team's net. 58
Sometimes they run with the ball. 64
Sometimes they catch the ball. 69
If they put the ball in the net when they are close to it, 83
they get two points. 87
If they are far from the net, they get three points. 98
The team with the most points wins. 105
Would you like to play basketball? 111

Number of Errors | 1 | 2 | 3 | 4 | 5 | 6 |

Accuracy (%): _____

Reading Rate (Words Per Minute):

TARGET

10 20 30 40 50 60 **70** 80 90 100 110 120 130

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Appendix C: Metacognitive Awareness Inventory (MAI)

Direction: List below is statements about readers' general metacognitive awareness. Tick, true or false, as appropriate.

Section one: Knowledge about cognition	True	False
Declarative Knowledge		
22- I know what information is important in the text		
23- I understand what the teacher asks me to do		
24- I understand more when I like the topic		
Total		**6**
Conditional knowledge		
25- I understand better when I know somthing about the topic		
26- I use different ways to do one task		
27- I am sure when I use a strategy that it will succeed		
Total		**6**
Procedural knowledge		
28- I benefit from strategy that succeeded with me in the past		
29- I have a purpose for each strategy I use		
30- I find myself using reading strategies automatically		
Total		**6**
Section two: Regulation of cognition		
Information management strategies		
31- I read slowly when I find important information		
32- I draw pictures or diagrams to help me understand texts		
33- I use the organization of the text to help me understand		

Total		**6**
planning		
34- I ask myself questions about the text before i begin		
35- I think of many strategies to solve a task and choose the best one		
36- I organize my time when I am reading the text		
Total		**6**
Comprehension monitoring		
37- I revise my answers from time to time to understand important relationships		
38- I stop regularly to check my comprehension		
39- I ask myself if I am doing better when I learn a new text		
Total		6
Evaluation		
40- I ask myself if there was easier ways to do things after I finish a task		
41- I summarize the text after I finish it		
42- I ask myself if I learned something new once I finish a task		
Total		**6**

Appendix D: METACOGNITIVE AWARENESS OF READING STRATEGIES INVENTORY

***1 mean** "I never or almost never do this."

***2 mean** "I do this occasionally." ***3 mean** "I sometimes do this."(About 50% of the time).

***4 mean** "I usually do this." ***5 mean** "I always or almost always do this."

N	Strategy	scale
1	I have a purpose in mind when I read.	1 2 3 4 5
2	I preview the text to see what it is about before reading it.	1 2 3 4 5
3	I summarize what I read to reflect on important information in the text.	1 2 3 4 5
4	I discuss what I read with others to check my understanding.	1 2 3 4 5
5	I skim the text first by noting characteristics like length and organization.	1 2 3 4 5
6	I underline or circle information in the text to help me remember it.	1 2 3 4 5
7	I adjust my reading speed according to what I am reading.	1 2 3 4 5
8	I decide what to read closely and what to ignore.	1 2 3 4 5
9	I use reference materials such as dictionaries to help me understand what I read.	1 2 3 4 5
10	I use tables, feagures, and pictures in text to increase my understanding.	1 2 3 4 5
11	I try to picture or visualize information to help me remember what I read.	1 2 3 4 5
12	I go back and forth in the text to find relationships among ideas in it.	1 2 3 4 5
13	When text becomes difficult, I reread to increase my understanding.	1 2 3 4 5
14	I check to see if my guesses about the text are right or wrong.	1 2 3 4 5
15	I try to guess the meaning of unknown words or phrases from context.	1 2 3 4 5

Appendix E: Reading for main points Session

Level: Middle School 3rd year

Lesson: Reading for main points

Theme: The wonderful world of animals

Text source: Gunning, T.G. (2010)

Teaching Materials: White board + pictures + Reading passage (handouts)

Text: Alligators

Learning Objective(s): By the end of this reading lesson students will be able to:

-Identify and use the main idea to create a title.

-Apply their concept of main idea by choosing from the sentences in a paragraph the one that includes all the others.

Timing	Teaching Steps/ Procedures	Rational of the tasks
10 mn	**Warm-up** **Task 01:** -Using the list below, ask students to tell how they are the same,then have them provide a category label: 1- Collies – poodles- german shelpherds (dogs)	Develop the reasoning of being able to see similarities and differences

10 mn **15 mn**	2-Cows- robbins- blue jays- eagles (birds) 3-Tigers-lions-leopards-panther(with cats) 4- Bass- tuna-flounder-cod (fish) -Explain that just as words can be classified, so too sentences can be classified and given labels **Pre-reading** **Task 02:**Read the sentences and identify which one tells about the others: -Buffalo have sharp senses -Buffalo can see moving animals or people as far away as a mile. -Buffalo also have good hearing. Discuss why "Buffalo have sharp senses" is the main idea. Emphasize that this sentence includes the ideas in the other sentences in its group. **While Reading:** **Task 03** This text is called "Alligators" what could be another title for it?	Identify the main idea and its supporting details Use the main idea and supporting details to create a title

10 mn **15mn**	-Use information from the text to support your answer. 1- A good title for this text is: 2- This is a good title because the main idea of the article is that: 3- The main idea is supported by information from the text.The text explains that: 4- The text also tells that: **Task 04:** Now compare your answer with this sample answer: A good title for this text is "Helpful Alligators" this is a good title because the main idea of the text is that Alligators can be helpful. -The text explains that alligators dig holes and that these holes fill up with water and become wells that other animmals can drink from - The text also tells that the water can help keep plants alive. **Post- reading** Give learners another text "Rhinos and Tickbirds" **Task 05:**	Have students check and compare their responses with the sample response Have students create a better title

	What could be another title for it? Use information from the text to support your answer 1- A good title for this text is: 2- This is a good title because the main idea of the text is that: 3- The main idea is supported by information from the text 4- The text also explains that :	

Text: Alligators

With its strong jaws and slashing tail, the alligator is a killer. But it can be helpful animal too. Alligators dig large holes about five or six feet deep. When winter comes, the holes are worm homes. The holes also hold water. So when water is hard to find, the holes become the alligators' wells. Other animals can drink from the wells, too. Water from the alligators' well also keeps many kinds of plants alive. Everyone knows that alligators can be killers. But during very dry times, alligators can be lifesavers.

Rhinos and Tickbirds

Animals can be a big help to one another. The tickbird spends much of its time on the back of a rhino. It eats bugs off the rhino's back. In return for a free ride and a free meal, the tickbird acts as a lookout. The rhino has poor eyesight, so the tickbird watches for danger. Should a dangerous animal appear, the tickbird gives out a warning cry.

Appendix F: Imaging Session

Level: Middle School 3rd year

Lesson: Imaging

Theme: The wonderful world of animals

Text source: Gunning, T.G. (2010)

Teaching Materials: White board + pictures + Reading passage (handouts)

Text: The Fish That Fishes

Learning Objective(s): By the end of this reading lesson students will be able to visualize information from text, supply supporting details, and provide explanations for their

Timing	Teaching steps/ Procedures	Rational of the tasks
10 mn	**Warm up** Ask students whether they have ever read a story or a book then watched a movie or TV version of the story or book. Example: Snow White and the Seven Dwarfs Cinderella Little Red Riding Hood Show pictures and discuss how the movie or tv version	Introduce the idea of imaging Making difference between the story we read and the movie version

10 mn **15 mn**	might be different from the book and how sometimes people prefer the version that they create in their minds to the one they saw on the screen or tv. **Pre-reading** Ask students to use the title to guess what the main idea will be " The Fish That Fishes" Encourage them to make pictures in their mind to visualize what the fish that fishes look like and what it does. Encourage inclusion of details Ask for volunteers to show their drawings Display a picture of an "anglerfish", and have students compare their drawings with what the fish actually looks like. Ask questions such as : What are you picturing? What does it look like? How tall or big is it? What is its coulour? **While reading**	To focus on learners artistic ability of drawing Prompt students to include details on their images. Making pictures in

<table>
<tr>
<td>15 mn

10 mn</td>
<td>As you read the text about "The Fish That Fishes", try to make pictures in your mind that shows what the fish look like and what it does.

Task 01: In the column on the left draw a picture that you made in your mind as you read about that "anglerfish"

In the column on the right, tell what your picture shows

<table>
<tr><td>What I picture in my mind as i read</td><td>What my picture shows</td></tr>
<tr><td></td><td></td></tr>
</table>
Task 02: Answer on the following questions

1- How does the anglerfish catch its prey?
2- Why does the fake bait have to be lighted?
3- Why is the anglerfish able to catch fish that is bigger than it is?
4- The text is called "the fish that fishes" what might be another title for it?
5- Explain your answer with information from the article?
6-

Post reading</td>
<td>mind to help become a better reader

Draw pictures while reading

Visualize, supply supporting details and provide explanations</td>
</tr>
</table>

	Read aloud some high imagery passages and have students draw the images that they create.	Have students practise on making images while they read

Text: The Fish That Fishes

Anglerfish (ANG-glur-fish) get their food in a surprising way. They fish for it. Anglerfish have a spine that grows out of their back fin. The spine can be very long or very short, but it bends over the mouth of the anglerfish like a fishing rod. On the end of this living fishing rod is a part that looks like a big or a worm. The end part also lights up with blue-green light. Most anglerfish live deep in the ocean. It is very dark deep in the ocean, so if the bait didn't light up, other fish wouldn't be able to see it.

The anglerfish has a round body and a very large mouth that is full of sharp teeth. When other fish stop to look at the lighted bait or try to eat it, the anglerfish snaps them up. Anglerfish have large jaws, so they can eat fish that are as big as they are, or even bigger. The angelerfish's teeth point inward so its prey cannot escape. Anglerfish are usually dark. That way, other fish can't see them. All they see is the bait.

Appendix G: Summarizing Session

Level: Middle School 3rd year

Lesson: Summarizing

Theme: Animal Helpers

Text source: Gunning, T.G. (2010)

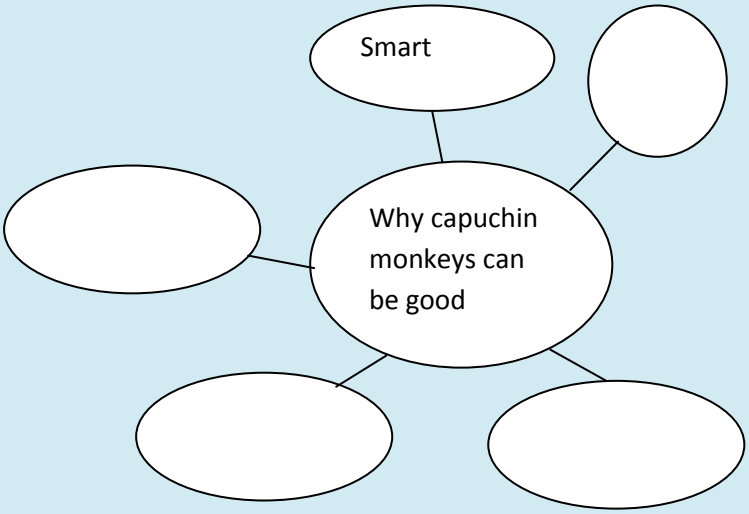
Teaching Materials: White board + pictures + Reading passage (handouts)

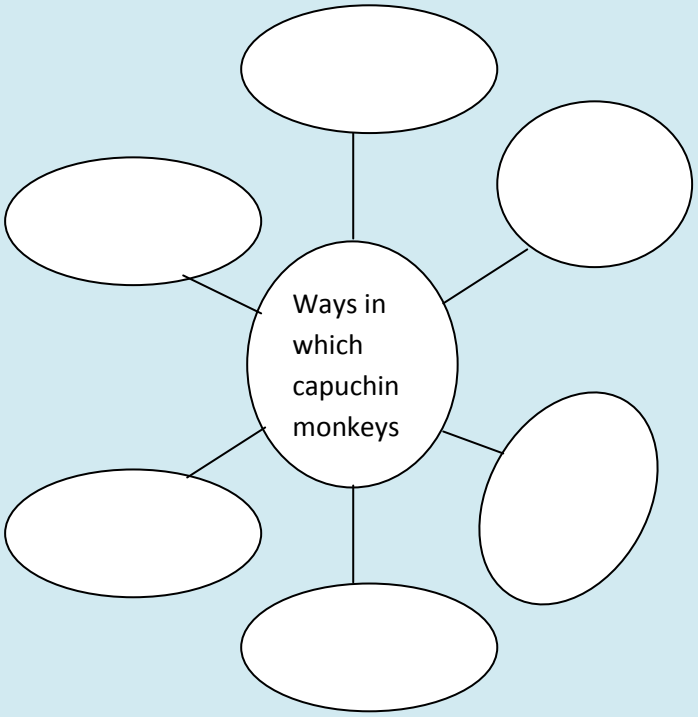
Text: Using Monkeys to Help Disabled People

Learning Objective(s): By the end of this reading lesson students will be able to use a graphic organizer to summarize, compose a summary, identify main ideas and details, and use context clues.

Timing	Teaching steps/ Procedures	Tasks' Rational
5 mn	**Warm up** Ask students to tell about their favourite book or the most interesting thing that they learnt in school so far this week. After students answer, tell them that they have just summarized Introduce the concept of summarizing Tell students that if they have done any of the following activities, they have just summarized 1- Tell someone at home what they did at school(you do	To introduce the skill of summarizing

	not give every detail; you tell him only the most important information) 2- Tell the main parts of a story that they read 3- Tell the main parts of a movie.	
5 mn	**Pre-reading** Have students read the title of the text Discuss how monkeys might help disabled people **Task 01:** Skim the text and read the headings to find out what information the text will be giving. Turn the headings into questions and then read to answer the questions	Skim the ttext and use their cognitive competence in questioning
15 mn	**While reading** Read the text "Using Monkeys to Help Disabled People" and answer the questions **Task 02:** paragraph 02 is mainly about: a- Why capuchin monkeys make good helpers for the disabled b- How capuchin monkeys help disabled Why capuchin monkeys are easy to train Fill in details from paragraph 02 that tells why Capuchin monkeys can be good helpers	Identify main ideas and details using graphic organizers

15 mn	 2- Now use the web to help you summarize the paragraph.Begin with a topic sentence **Task 03:** what question does paragraph 5 answer? a- Are monkeys hard to care for? b- What jobs can monkeys do? c- How strong are the monkeys? d- What do disabled people think about having helper monkeys? Now use the web to help you saummarize the paragraph.Begin with a topic sentence. **Task 04:** Fill in details from paragraph 05 that tells about ways in which capuchin monkeys can help disabled people	Identify main ideas and details using graphic organizers Enable students use their cognitive competence in asking the right

	 **Task 05:** according to paragraph 4? It is important to spend a lot of time with people because the monkeys: a- Need time to play b- Get lonely c- Need to learn to trust people d- Get into trouble if no one is watching them	questions.
10 mn	**Post reading** **Task 06:** in paragraph 1, the word "paralized" means: a- Not able to move b- Not feeling well c- Living far away	Review lexis related to the text Reinforce and elicit relevant lexis

10mn	d- Being in hospital **Task07:** In paragraph 5, the word "approximately" means: a- About, nearly, not exactly b- Difficult,hard,taking a lot of work c- Asking for help,asking for food or money d- Important, needing to be done. Write the summary of the text main ideas	using context clues Students recapitulate what they have learned and write the summary

Text: Using Monkeys to Help Disabled People

Helping a friend gave Dr. Mary Jane Willard an idea for using monkeys to help disabled people. Dr. Willard was helping a friend get out of a car. The friend was paralyzed. The friend had been injured in an accident and could not move from the shoulders down. Dr. Willard thought that what her friend needed was a pair of hands to help him out. "Why not trian monkeys to help disabled people?" she thought to herself. Later she decides to start training capuchin (Kap-YOU-shin) monkeys.

Why Capuchin Monkeys Can Be Good Helpers

Capuchin monkeys are a good choice for helping disabled people. Capuchin monkeys are smart and easy to train. Many circuses have trained capuchin monkeys to do tricks. Capuchin monkeys are small. They are only about 12 to 22 inches long. Because they are small, they don't eat much, and they aren't as likely to hurt a disabled person. Capuchin monkeys also live a long time. They live for thirty to forty years. Best of all, capuchin monkeys are good with their hands. They can pick up things.

Dr. Willard and a friend, Judi Zazula, started Helping Hands in 1979; Helping Hands trains monkeys to help disabled people. Training a monkey takes two years. Helping hands places about twelve monkeys a year in homes throughout the United States. One of their helper monkeys has been helping disabled for twenty-five years. The helper monkey has become part of his family.

Raising Helping Hands Monkeys

Before capuchin monkeys can be trained, they have to live with people. As soon as they are old enough to leave their mothers, the monkeys are placed in homes for about five years. The monkeys' keepers are specially chosen. They must enjoy animals and must not mind a little monkey business. Monkeys are cute animals, but they are very playful animals and can get into a lot of mischief. Monkey raisers need to be willing to spend a lot of time with the monkeys. The monkeys need to learn to trust and get along with humans.

Helping Disabled People

After the have been trained, capuchin monkeys are placed with disabled people. The monkeys can turn lights off. They can get their owners a drink or a snack. The monkeys take the lids off the containers and place the food in front of their owners. They learn to put a straw in a cup if that is how the person drinks. They can also microwave food, clean up spills, and put things in the trash. They can put a CD in a CD player or a DVD in a DVD player. They can bring their owner a book and turn the pages. They can pick up dropped objects and give them to the disabled person. The monkey can carry out approximately fifty commands.

Appendix H: Inferring Session

Level: Middle School 3rd year

Theme: People Helping People

Text source: Gunning, T.G. (2010)

Teaching Materials: White board + pictures + Reading passage (handouts)

Text: Dan West

Learning Objective(s): By the end of this reading lesson students will be able to; make inferences, support inferences using one or more details and one's own experience and knowledge, and use their reasoning ability to draw a conclusion.

Timing	Teaching steps /Procedures	Tasks' Rational
10 mn	**Warm up** Explain to students that we make inferences about people based on what they do and say and what people say about them Example: 1- Your friend has: three pets- two gold fishes- a dog- a parakeet. What inference might you make about your friend? 2- You have another friend who gave up her vacation to help	To introduce the skill of inferring

<table>
<tr>
<td>10 mn

15 mn</td>
<td>build houses for people who lost their homes in a storm.

What might you infer about that person?

Pre- reading

Explain to students that they will be reading about a person by the name "Dan West" who travelled from the United States to Spain.

Show Spain on a map

Tell them to skim the text to notice the kinds of things that Dan West does and then to make an inference about the kind of person he is.

While reading

Task 01: Read the paragraph about Dan West

What can you infer about him?

What kind of person does he seem to be?

Support your answer with information from the paragraph

<table>
<tr><td>Some words that tell about a person are; kind, caring, lovely, selfish, unselfish, hard working, brave,</td><td>Dan West seems to be a …… person</td></tr>
</table>
</td>
<td>To guide the students towards the while reading phase

To make students skim through the text to check their guesses

Make inferences, support inferences using details and use their reasoning to draw a conclusion</td>
</tr>
</table>

15 mn	cheerful, mean.		Support students by modelling the use of information about a person in making inferences
	Give one example that shows what kind of person Dan West was	…….	
	Tell what Dan West did when he went to spain	Dan West went to Spain and ……	
	Now finish your answer by writing a sentence that tells what an example shows.	…….shows that Dan West was a ……. Person	
	Did you infer that Dan West was a kind person? The paragraph did not tell you that, but it did say that he had travelled to Spain when he heard about the suffering of the children.And the paragraph said that he was giving out cups of milk to poor children. These are the things that a kind person would do. **Task 02:** Read the next paragraph and see what else you can infer about Dan West. How do you think Dan West was feeling? Be sure to support your answer with information from the paragraph.		Make inference and support inferences using details

	Tell how Dan West was feeling. Some feeling words are; sad, nervous, worried, happy, angry, joyful, disappointed, calm, upset, afraid, lovely….	Dan West was feeling ……..	Support students by modelling the use of information in making inferences
	Now support your answer by using informatio from the paragraph that shows how Dan West was feeling	He …… ……..	
	Did you infer that Dan West was worried , or sad, or upset? The paragraph did not tell you that, but it did say that "day and night, he tried to think of some plan to help children, but no plan come to mind. **Task 03:** in the paragraph, the word <u>provide</u> means: Cook or heat Give or supply Think about Plan for In the paragraph the word" slogan" means the word or phrase		Skim through the text to check

	that: Tells what a group plans to do Has been taken from a song Warns others to be careful **Post reading**	guesses Use the title to be able to predict and make inferences.
10 mn	Have students check their answers with the sample responses after the selection Discuss their responses especially the support they provide for theri inferences. Task 03: students read the title of the second text and predict what this one will tell them about Dan West. Task 04: students read the selection and see how their predictions were. Explain to students that they can change their predictions if they do not work out. Discuss students' responses Explain to students that they can pick different characteristics, but they should be able to support the characteristics that they choose.	

Text: Dan West

In the 1930's Dan West was giving out cups of milk to poor children in Spain. At the time, there was a war going on there. Dan West didn't live in Spain, but he had travelled there when he heard about the suffering of the children.

What Happens Next?

Dan could not stay in Spain much longer. Soon he would have to return to his home in the United States. Dan wondered what would happen when he left. Where would the children get milk when he wasn't around? What would happen to them? He thought about the children during the day. At night he would wake up and think of them some more. He tried to think of some plan to help the children when he wasn't there. But no plan come to mind.

Not a Cup But a Cow

Then one day Dan West got an idea. Instead of giving children a cup of milk, why not give their families a cow? Then the children would have milk everyday. And the mothers and fathers would feel better because they would be feeling their own families. Dan West had children of his own. He knew how important it is for parents to be able to provide food for their children. Dan West's slogan become "Not a cup, but a cow." A big smile broke across Dan West's face.

Appendix I: Predicting Session

Level: Middle School 3rd year

Theme: People Helping People

Text source: Gunning, T.G. (2010)

Teaching Materials: White board + pictures + Reading passage (handouts)

Text: Young Helper

Learning Objective(s): By the end of this reading lesson students will be able to evaluate predictions , support inferences, and use context clues.

Timing	Teaching steps/ Procedures	Tasks' Rational
10 mn	**Pre- reading** Introduce the title "youger Helper" Explain that the paragraph in this lesson will tell what "Craig" 12 years old did. Invite students to turn the title into a question Show the map of the world (U.S.A, Africa, Pakistan) Predict what the text will be about?	Brainstorm and introduce the idea of predicting
10 mn	**While reading**	

<table>
<tr>
<td>10 mn

10 mn</td>
<td>
Task 01: Read the paragraph, and then answer the questions that follow it

1- How did Craig feel after he read the article?
2- Support your answer. Write two details that show how Craig felt after he red the article:
Detail 1: Craig couldn't get Iqbal Masih out of his mind.
Detail 2 : Craig read the article about Iqbal Masih over and over.

Task 02: what do you think Craig will do next? Use information from the paragraph and your own ideas to support your answer.

<table>
<tr><td>predictions</td><td>support</td></tr>
<tr><td></td><td></td></tr>
</table>

Task 03: in the paragraph the word <u>labour</u> means:

a- Schooling
b- A work
c- Being poor

In the paragraph the word <u>permission</u> means:
</td>
<td>Support predictions using details

To make good predictions, using information from what you have read and also from what you know to predict what might happen

Use context clues to guess meaning of the words</td>
</tr>
</table>

<table>
<tr>
<td>15 mn

Text: Young Helper

You don't have to be old to help others. In April 1995, when he was just twelve years old, Craig Kielburger(KILE-burg-er) was looking for the comics section in the newspaper. A story about a boy by the name of Iqbal Masih (IK-bow(like cow) muh-SEE) caught his eyes. Iqbal Masih, who lived in Pakistan, had been forced to work long days in a factory that made rugs. He had worked twelve- hour days, six days a week from the time he was four years old until he escaped. His job was to tie tiny knots in the rugs. The article shocked Craig. Iqbal Masih was the same age as Craig. Craig couldn't imagine what it was like to work all day six days a week and never have a chance to attent school or play. Craig ripped the article out of the newspaper and put it in his backpack. But he couldn't get Iqbal Masih out of his mind. Riding the bus to school, he took the article out of his backpack and read it over and over again. After school, he went to the library and got as much information as he could find on child labour. The next day, with the teacher's permission, he told the class about Iqbal Masih and about the millions of children who were forced to work in factories and mines.

Starting Free the Children

Talking about the problem of child labour wasn't enough for Craig. He wanted to do something about it. He asked for volunteers to form a group that would find out more about child labour. Craig and eleven other students formed a group they called "Free the Children" one of the first things Free the Children did was to raise money to build a school for poor children. It cost approximately $ 7,000 to build a school. Craig and the other members of Free the Children held bake sales and garage sales to raise funds. They collected money from other kids and from adults. Free the children collected enough money to construct a school in Pakistan. Pakistan was were Iqbal Masih had lived.

Appendix J: Skimming and Scanning Session

Level: Middle School 3rd year

Teaching Materials: White board + pictures + Reading passage (handouts)

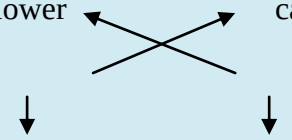
Text: Television Addiction

Learning Objective(s): By the end of this reading lesson students will be able to:

-Skim the text to get a general idea of what is reading.

-Scan the text and move their eyes quickly to find specific information.

Timing	Teaching steps/ Procedures	Tasks' Rational
10 mn	**Warm up** Speed reading is very important while reading. Make your eyes strong Task 01: Move your eyes between the pictures in this order(repeat this for ten cycles) Car- flower- coin- butterfly Flower ← car Butterfly ← coin	Reinforce the importance of speed reading

	- now move your eyes between the pictures but this time in this orde: car – coin – flower – butterfly. Flower car  Butterfly coin -If you feel pains or tired, stop and close your eyes for few seconds. Everyday repeat this exercise.	
10mn	**Pre- reading** **Task 01:** Skim the text and get an overview of the text -Read the title -Read the first paragraph very quickly -Read and underline the first two lines of each paragraph - Underline key words.	Make students skim through the text to get an overview and preview the text before to read
10mn	**While reading** **Task 02:** Read the questions, scan the text and search for the information. The list below gives some characteristics of addiction - Which two of the following are mentioned as	Make students scan the text to find specific information

characteristics of addiction to television:

a- Loss of control over time

b- Stopping social activities

c- Harmful physical effects

d- A large amount of time wtching

10mn

Task 03: say if the following statements are true/false or not mentioned:

1- People cannot concentrate after watching TV
2- Watching television reduces the amount of time people spend sleeping
3- After watching TV people report good mood
4- There is a reletion between time spent wtching TV and aconomic status

Scan the text to find specific information

10mn

Task 04: Classify the following feeling or mental states as generally occuring:

Before watching TV	While watching TV	After watching TV

1- Fatigue
2- Higher levels of concentration
3- Sense of relaxation
4- Difficulty in concentration

10mn	**Post- reading** **Task 05:** Complete the labels on the picture. Choose your answer from the following list: NB: There are more words/phrase than space so you will not use them all Relaxed –regulated – increased – interrupted – widened – slow ddown.	Students reread to check detailed understanding of the text through scanning to find specific information.

Text: Television Addiction

It is noted that the average person spends about three hours a day sitting in front of the TV set, which is half of their leisure time. And, it is known that heavy viewers report watching eight hours a day. The question is "Are these people addicted to the television?"

First , let's define an addiction. It is said that addiction is characterized by spending unusually large amount of time using something that is addictive; finding oneself using it more often than intended; thinking about reducing the use, making repeated unsuccessful attempts to reduce it, and stopping social activities to use this thing. Yet, the difficulty arises when one strongly needs to stop watching as much, and yet find they are unable to reduce watching.

What is more surprising is that the sense of relaxation ends when the TV set is turned off, but the feeling continue. Sometimes, people say that television has absorbed their energy,

leaving them fatigue. They say they have more difficulty concentrating after watching than before. In contrast, they rarely indicate such difficulty after reading. After playing sport, people report improvements in mood. After watching TV, people's mood are about the same or worse than before.

Research findings about what happens to the body while watching include the following: the arteries to the brain grow wider allowing more blood to increase, the heart slows down and arteries to the large muscles become narrower so as to reduce blood supply to them. Brain waves are also interrupted for a few seconds. These changes allow the brain to focus its attention on gathering more information and becoming more alert while the rest of the body becomes relaxed.

Appendix K: Fluency Posttest Sample

Reading A-Z

LEVEL G

Fluency Passage–Fiction

Spider and Fly

Name _____

Word Count: 104

Spider and Fly

One day, Wind took a rest at the top of a hill. 12
The animals did not know where he was. 20
They sent Spider to look for him. 27
Spider found Wind, but Wind sent 33
Spider away. 35
Spider started down the hill. 40
On the way, he met his friend Fly. 48
Spider told Fly what had happened. 54
Fly wanted to be the first to tell the others. 64
He did not want Spider to reach them first. 73
Fly flew down the hill and told the animals 82
that he had found Wind. 87
Spider came and told them that 93
he had reached Wind first. 98
The animals did not believe Spider. 104

Number of Errors 1 2 3 4 5 6 Accuracy (%):

Reading Rate (Words Per Minute):

TARGET

0 10 20 30 40 **50** 60 70 80 90 100

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Appendix L: Posttest Sample. **Full name:……**

The Causes of Floods

Floods are second only to fire as the most common of all natural disasters. They occur almost everywhere in the world, resulting in widespread damage and even death. When deep snow melts it creates a large amount of water. Although deep snow alone rarely causes floods, when it occurs together with heavy rain and sudden warmer weather it can lead to serious flooding. If there is a fast snow melt on top of frozen or very wet ground, flooding is more likely to occur than when the ground is not frozen. Frozen ground or ground that is very wet and already saturated with water cannot absorb the additional water created by the melting snow. Melting snow also contributes to high water levels in rivers and streams. Whenever rivers are already at their full capacity of water, heavy rains will result in the rivers overflowing and flooding the surrounding land.

Rivers that are covered in ice can also lead to flooding. When ice begins to melt, the surface of the ice cracks and breaks into large pieces. These pieces of ice move and float down the river. They can form a dam in the river, causing the water behind the dam to rise and flood the land upstream. If the dam breaks suddenly, then the large amount of water held behind the dam can flood the areas downstream too.

Hopefully, this knowledge of why floods happen can help us reduce the damage they cause.

Task 1: Read the text and circle the letter of the right answer:

1. **Which of the following words are natural disasters? (more than one answer may be correct)**
   A. Flood
   B. Earthquake
   C. Airplane crash
   D. Volcano
2. **Which of the following is included as causes for flood in the text:**
   A. Droughts
   B. Large lakes
   C. Poorly built roads
   D. Melting snow
3. **How does deep snow cause flooding?**
   A. Melting snow causes flooding
   B. Too much rain causes flooding
   C. Sudden warm temperature combined with heavy rains causes flood
   D. Freezing water causes flooding
4. **Which of the following best describes how frozen river can cause a flood :**
   A. The ice in the river melts too quickly and causes a flood
   B. The ice in the river cracks causing the water to overflow
   C. The ice in the river cracks into pieces that eventually create a dam causing the water to overflow.
   D. The water behind the ice dam collects and when the dam breaks, it causes flooding upstream.

Task 2: Read the text and say if the following statements are true or false:

1. Floods are not a common natural disaster (……)
2. Death and widespread damages are kind of problems floods can cause (……..)
3. The ground leads to flooding problems because it cannot absorb water.(……)
4. The melting snow makes the level of the river low (……)
5. The ice in rivers can also lead to flooding (……)

Task 3: Answer on the following questions according to the text:

1. Does the flood occur everywhere in the world?
2. Does deep snow alone cause flood?
3. Why the flood is more likely to happen when there is a fast snow melt on top of wet ground?
4. How do heavy rains result in the rivers overflowing?
5. What does the pieces of ice in the river form?

Appendix M: Fluency Tests' Results.

Control Group				Experimental Group A				Experimental Group B		
	Pretest	**Posttest**			**Pretest**	**Posttest**			**Pretest**	**Posttest**
	$WCPM_1$	**$WCPM_2$**			**$WCPM_1$**	**$WCPM_2$**			**$WCPM_1$**	**$WCPM_2$**
1	35	48		1	35	82		1	83	104
2	105	93		2	23	40		2	47	64
3	47	40		3	87	104		3	64	124
4	64	40		4	98	104		4	83	137
5	58	35		5	69	98		5	41	64
6	69	54		6	47	82		6	47	73
7	47	64		7	41	64		7	63	114
8	30	27		8	87	104		8	41	73
9	69	54		9	41	82		9	83	131
10	35	48		10	58	98		10	87	137
11	69	54		11	98	104		11	83	124
12	41	27		12	23	82		12	64	120
13	23	33		13	58	104		13	98	139
14	58	48		14	35	64		14	58	116
15	98	87		15	58	98		15	41	73
16	47	48		16	69	104		16	64	104
17	54	64		17	35	54		17	83	144
18	47	54		18	47	73		18	69	104
19	35	54		19	82	104		19	87	116
20	98	87		20	30	54		20	47	87
21	47	48		21	69	104		21	41	64
22	69	40		22	47	73		22	64	98
23	41	35		23	58	73		23	87	124
24	41	48		24	69	104		24	69	104
25	83	73		25	58	98		25	47	73
26	23	27		26	83	104		26	69	87
27	98	87		27	64	98		27	47	82
28	65	54		28	69	104		28	58	93
29	47	40		29	98	104		29	30	35
30	64	54		30	69	98		30	41	54
31	87	73		31	58	82		31	64	82
32	83	82		32	30	35		32	83	104
33	83	48						33	87	93

Résumé

Cette étude s'inscrit dans le domaine de la connaissance métacognitive de la compréhension des processus basés sur la connaissance et l'efficacité dans l'amélioration de la capacité de la troisième année moyenne de la compréhension et de la vitesse de lecture. Dans le cadre de cette étude, et dans le but de répondre à cette question, les participants de la troisième année moyenne ont eu besoin d'une formation intermédiaire pour l'augmentation de la connaissance métacognitive au processus de compréhension de la lecture.

Avant le début de la formation, les polythéistes on subi un examen diagnostic conçu pour perdre leur homogénéité dans leur niveau de vitesse de lecture et leur capacité à comprendre les textes. Peu de temps après, ils ont ensuite été intégrés dans une discussion dans le but d'évaluer leur connaissance métacognitive pour les stratégies de lecture qu'ils utilisent.

La composition des participants a été caractérisée par un accent sur la sensibilisation de la connaissance métacognitive de la compréhension des étudient sur le processus de compréhension de la lecture à travers la formation sur les stratégies métacognitive. Après avoir divisé les participants en un group contrôle et deux groups expérimentaux.

Le group expérimental a été soumis à une formation dans son édition liée à la formation, tandis que le group contrôles a été soumis à une formation dans son édition sans formation.

Immédiatement après, les participants des deux groups on été soumis â un examen de la réussite visant à mesurer les progresse des participants dans la capacité à comprendre les tests et la vitesse de lecture après avoir terminé la formation. A la fin de la formation, les participants on de nouveau reçu une enquête pilote sur la sensibilisation métacognitive aux stratégies de lecture, afin de mesure les progrès réalisés dans la connaissance métacognitive dans le processus de compréhension de la lecture et de l'utilisation des stratégies de lecture ciblées dans la composition. A la fin, il a pris les données obtenue qui répondent à la question de recherche.

ملخص

تصب هذه الدراسة في مجال الوعي المعرفي بعملية فهم القراءة وفاعليتها في تعزيز قدرة طلبة السنة الثالثة متوسط على-الفهم وسرعة القراءة.

في إطار هذه الدراسة خضع المشاركون، وهم طلبة السنة الثالثة متوسط إلى تكوين رفع الوعي ما وراء المعرفي حول-عملية فهم القراءة.

قبيل الشروع في التكوين خضع الطلبة المشاركون لفحص تشخيصي كان يهدف إلى فهم النصوص ،بعد ذلك أدمجوا في-نقاش وهذا يهدف إلى تقييم قدرتهم في الوعي الماوراء المعرفي حول استراتيجيات القراءة التي يستعملونها .

- تميز التكوين الذي خضع له المشاركون بتركيزه على رفع الوعي الماوراء المعرفي للطلبة حول عملية فهم القراءة بالتدريب على استراتيجيات ما وراء المعرفي ،وبعد أن قسم المشاركون عشوائيا الى مجموعة ضابطة ومجموعتين تجريبيتين .

- أخضعت المجموعة التجريبية إلى التكوين في طبعته المشملة على التدريب، في حين أخضعت المجموعة الضابطة إلى التكوين في طبعته التي تخلو من التدريب .

.مباشرة بعد ذلك أخضع مشاركو المجموعتين إلى فحص تحصيلي الهدف منه قياس تقدم المشاركين في القدرة على فهم-النصوص والسرعة في القراءة بعد إتمامهم التكوين .

- في نهاية التكوين استلم المشاركون استطلاع في الوعي الماوراء المعرفي بإستراتيجييات القراءة ثانية وذلك بغرض قياس التقدم المحقق في الوعي الماوراء المعرفي بعملية فهم القراءة واستعمال استراتيجيات القراءة التي استهدفت في التكوين .

- وفي النهاية خضعت المعطيات المحصلة إلى التحليل والدراسة وصولا إلى استنتاجات على أسئلة البحوث.