

Chapter 1: Introduction

With regards to learning a language, reading is one of the four basic skills of learning and a way of communication for every individual; therefore it has to be developed from early school years as it has a great importance in our everyday life. It can also be considered as the means of language acquisition. Grefenstette (1993) says that reading is a way to extract meaning from a text. Reading does not occur naturally; it needs to be taught through formal instruction (Denton and Fletcher, 2003, cited in Boulware-Gooden et al., 2007). Thomson (1993) and Darksyde (2012) believe that the more a person reads the more he will be exposed to variety of new words, grammar and sentences and gradually the better he can speak. But the question is how to nurture this crucial skill in early childhood and who is responsible in fostering this skill in our children. According to Chadwick (2012) reading which basically starts from childhood when parents read different story books for their children at home, then later when they go to school they will start learning systematic reading comprehension strategies from their teachers hence it is teacher's duty to introduce the reading strategies to the students properly, engage them in learning process, practice with them, reinforce and finally try to guide the students to be independent learners. Grabe (1991) believes that reading is an active process of comprehension and in order to have efficient readers, students should be introduced to relevant strategies. Hence teaching reading starts from parents and ends up with teachers with systematic training and strategies. Many researchers highlight on the importance of reading skill on children that leads to their success during school time and their everyday life.

Acquiring good reading skill is a complex and challenging process and is usually difficult for students as they are learning a new language with many new words, which they do not know how to deal with them in the passage and moreover are not aware of the available reading strategies which can help them to make reading passages easier (Bernhardt & Kamil 1995; Grabe & Stoller 2002). Unfortunately, many teachers are not aware of the importance of reading instruction, especially for primary students, to model reading instructions through the think aloud processes to help them understand and follow established processes (Blakey and Pence, 1990). According to Block (1986) think-aloud protocol is a way of verbalizing individual's

thought and behaviour in order to model the strategy to the learners. Nowadays this protocol has become popular for researchers who want to study learner's comprehension strategies and process. Although scientists proclaim that teaching metacognitive strategies to students has significant impact on their progress in reading ability, many teachers still do not know the importance and impact of teaching these strategies to their students, as it is the teacher's responsibility to teach the students metacognitive strategies and help them to understand ways of information processing. Research indicates that the more students are exposed to metacognitive strategies in their reading comprehension classes the better they will perform in reading classes.

Before answering the question of how metacognition affects students' reading comprehension, metacognition should be defined. Although metacognition is a buzz word in education (Livingston, 2003) there have been many different definitions used for this concept. Metacognition is an advanced way of thinking which leads to an active control of the learners on their own thinking ability while learning (Nigam, 2009). Metacognition has been defined as awareness, what you usually know about what you know, knowing about knowing or managing cognitive process and the ability to monitor and arrange mental processes systematically (Krause et al., 2007). Flavell (1976, p: 232) defines metacognition in these words:

Metacognition refers to one's knowledge concerning one's own cognitive processes or anything related to them, e.g., the learning-relevant properties of information or data. For example, I am engaging in metacognition if I notice that I am having more trouble learning A than B; if it strikes me that I should double check C before accepting it as fact.

Nigam (2009) suggests that there are three steps in metacognition. First, is how to plan to move towards a given task which is the base of successful learning. Next, is monitoring the said task and the last step is to evaluate the progress of the task and its adequacy. Educators believe that metacognition is a crucial element for cognitive learning tasks (Li and Munby, 1996). Livingston (2003) emphasises on the critical role of metacognition in successful learning. She believes that cognitive strategies help the learners to accomplish the desired goal (e.g. understanding a text) whereas metacognitive strategies are known as a sequential process which controls cognitive activities to encounter cognitive goals, and are used to make sure that the

learners have reached their goals (e.g. testing an individual to evaluate his level of understanding of that particular text).

According to Dirkes, (1985) there are three basic metacognitive strategies which have been applied in this research:

1. Connecting new information to prior knowledge.
2. Selecting thinking strategies consciously.
3. Planning, monitoring, and evaluating thinking processes. (cited in Blakey & Pence, 1990).

1.1. Statement of the Problem

Although English is not the medium of instruction in this particular school, reading skill which has outstanding importance in this system starts from early school years and is considered as one of the crucial skills for the students not only in school years but also in their future academic studies, career and personal development claims Alderson (1984) cited in Al-Tamimi (2006). Due to the student's need great emphasis is given to this essential skill through mandatory library time, extending the reading classes, and providing the students with most recent interesting reading books noted by the school supervisor. On the other hand the students of this school are usually better in speaking as they have exposure to English outside the school; therefore they have more opportunities to speak English rather than to read; hence they need to be taught reading more believes Al-Tamimi (2006).

Learning is the goal of both teachers and students in second language classes. Many students face problems while reading a text. This is not always because of the difficulties of learning a new language, but is mostly because of their lack of knowledge about the correct way of approaching a text. Even some language teachers are still not aware of the relevant strategies used in reading comprehension texts. Successful comprehension does not appear automatically (Cubukcu, 2008). The use of metacognitive strategies in second language classes has great importance for enhancing student's reading ability. Giving instruction to the students on their reading

ability by using metacognitive strategies can facilitate their learning outcomes. Flavell (1987) states that “Metacognition includes knowledge about the nature of people as cognisors, about the nature of different cognitive tasks, and about possible strategies that can be applied to the solution of different tasks. It also includes executive skills for monitoring and regulating one's cognitive activities.” (p:22)

1.2. Rationale

The idea of conducting research on the effect of metacognition on reading ability of primary students mainly came from the researcher's own experience as a teacher in one of the Iranian schools in Dubai. Since Iranian students start learning English as their second language in school, they may face many difficulties especially in reading comprehension. Many second language learners including Iranian students usually have problems with reading comprehension and understanding a text. Teaching in these schools for four years revealed that many of the students suffered from the lack of this crucial skill. This problem is primarily due to their lack of knowledge and awareness of the available strategies which can help them to maximise their learning and understanding outcomes. Training the students in how to use these strategies can help them to progress and perform better in this important skill. Furthermore these students are learning English as their second language, so they have to start learning these cognitive and metacognitive strategies in school from an early stage of their education in order to learn and understand this crucial concept to, improve their reading ability through metacognitive strategies and to be able to apply these strategies to academic texts. Hence the researcher desired to conduct this study in order to introduce metacognitive strategies to both teachers and students and guide them to better learning outcome and later investigate whether these strategies had any positive influence in their reading skill or not. The researcher's interest is the other major factor which encourages her through the study. The above reasons have motivated the researcher to plan to conduct the study and investigate whether application of metacognitive strategies would aid students in improving their reading comprehension. The researcher also seeks to find out the effectiveness of implementing these strategies in student's reading comprehension ability.

1.3. Research Questions

The purpose of this research is to investigate the impact of implementing metacognitive strategies on student's reading comprehension ability. The study aims to accomplish the following research questions in the area of teaching and learning of English as a second language:

1. What is the effect of metacognitive strategies on improving the reading ability of students?
2. What are the differences between boys and girls concerning teaching metacognitive strategies?
3. Are there any differences between male and female students in their perceived use of reading strategies while reading a text?

1.4. Hypotheses

The below null hypotheses are stated to provide answers to the research questions on the effect of metacognitive strategies on student's achievement in reading comprehension.

1. Metacognitive strategies have no impact on the student's reading improvement.
2. There is no difference between female and male students concerning teaching metacognitive strategies.
3. There are no differences between male and female students in their perceived use of metacognitive strategies.

1.5. The organization of the research

To investigate the impact of metacognitive strategies on reading comprehension of grade three students, quantitative and qualitative methods is

employed in this study. According to Burke and Larry (2004) the appropriate method of analysing the data depends on the type of research we are conducting, whether it is qualitative or quantitative method. In order to collect the required data for this study two tools were used: student's score in pre test and post test as means of collecting quantitative data and teacher's interview for qualitative data collections. The research was carried out in two phases: pre implementation and post implementation phase. During these phases a sample of 40 grade three students were pre and post tested and their scores are considered as quantitative data, hence both descriptive and inferential statistical analysis will be performed for the collected data. Then these analyses will be interpreted in detail in order to clarify the findings and understand the effectiveness of applying metacognitive strategies on student's achievement in reading classes. On the other hand teachers will be interviewed with ten questions to get general idea of their teaching methods and strategies used in reading classes. The collected data in this section will be considered as qualitative, therefore the results will be evaluated based on other researcher's latest findings and analysis in order to come up to reasonable conclusions, whether these teachers are teaching reading comprehension properly or their teaching methods should be over looked and modified.

Descriptive and inferential statistics were used to answer the research questions. The main purpose of descriptive statistics is to summarize and analyse a large amount of data in meaningful way believe Burke and Larry (2004). Since raw data usually do not describe the findings of the research to readers, there have to be extra description and analysis of data in order to make the results understandable to everybody. Whereas in inferential statistics the first concept that will be discussed is the concept of t-test for independent samples which aims to compare the mean score of two groups. T-test for independent samples is considered as one of the most common statistical tests which is used in quantitative data. The main purpose of conducting t-test is to establish the significant difference between the mean scores of two different conditions or groups on a given variable. On the other hand Blaikie (2003) claims that correlation tries to describe the degree of connections and the available relationship between two variables whether there is positive or negative relation.

1.6. Limitations

In today's world metacognition, which have been taking place in different schools, is a crucial factor in enhancing students learning outcomes. But unfortunately in today's classroom metacognitive strategy instruction is not being applied properly, this can be due to lack of teacher's professional development and inadequate classroom resources noted in Educational Performance Systems (2005). Iranian schools are among the schools that give less emphasis on metacognitive strategy instruction. The literature provided us with numerous articles that extensively studied the impact of metacognitive strategies on student progress in different parts of the world. In this particular area of the world there has been no research done on the effects of metacognitive strategies on reading comprehension of primary students. Although the researcher's aim in conducting this research was to introduce the importance of metacognitive strategies to the supervisor of English department and the teachers in order to include a special teacher professional development training program on effectiveness of teaching metacognitive strategies to students for the next academic year for teachers, the school did not give permission to the researcher to extend the scope of the study to include more classes in this study.

Moreover this study is designed to investigate the effect of teaching metacognitive strategies on reading comprehension of students after their 8-week training program. The researcher did not have permission to attend the training program to observe the teacher to find out whether she is teaching the metacognitive strategies properly to the students or not.

Chapter 2: Literature Review

Metacognition is a relatively new concept in educational psychology which was introduced by researchers like Brown and Flavell almost twenty years ago (Stuever 1997, Karadimos 2004, Livingston 2003), and it is becoming popular in reading and cognitive development theories according to Jacob and Paris (1987). Although metacognition is a key aspect for students many teachers might not be aware of the importance of this new concept in the field of teaching and learning, and also the effectiveness of knowledge and application of these strategies in teaching the students. The numerous articles written on the effect of metacognitive strategies shows the crucial role of metacognition as a key for independent learning (Babbs and Moe, 1983), hence students will be more engaged in their learning process when they understand their cognitive process.

2.1. Defining Metacognition

Researchers have given different definitions for the concept of metacognition. For example Flavell (1979) defines metacognition as “one’s knowledge concerning one’s own cognitive processes and products or anything related to them. It includes active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective”. (p.3). (cited in Shokrpour et al., 2011). Furthermore Mokhtari and Richard (2002) defined metacognition as “the knowledge of the readers' cognition about reading and self-control mechanisms they exercise when monitoring and regulating text comprehension”. (p. 249). Above all the definitions metacognition is rooted in Piaget (1976) and Vygotsky’s (1978) investigations. Although they both studied the same topic -metacognition- their views and findings are slightly different. Piaget believes that cognitive process and metacognition starts to form in individuals later, usually after the age of 11 when they are capable of thinking about abstract concepts, hence their thinking should be purposeful. Vygotsky believes that despite the improvement of metacognitive skills in individuals which starts from early school years (Fox and Riconscente, 2008), other issues are also involved in their developmental level i.e. cultural and social aspects. He further stated that

metacognition is a 'verbal action' and introduced the 'Zone of Proximal Development' which indicates what an individual can do with and without other's assistance. His main concern is on the importance of being independent which is a crucial stage in metacognition according to his view. Vygotsky believed that children can manage to do their work better on their own rather than being helped by adults. (Cited in Fouche and Lamport 2011). Comparing the above points with the latest studies done on metacognition and its effective results reveals that early school years is the best age to start teaching metacognition to children in order to make them move to independent learners which is considered as a key in today's educational aims.

Later Flavell (1979) suggested four model of metacognitive monitoring; metacognitive knowledge –“that segment of your (a child's, an adult's) stored world knowledge that has to do with people as cognitive creatures and with their diverse cognitive tasks, goals, actions, and experiences”- Metacognitive experiences –“are any conscious cognitive or affective experiences that accompany and pertain to any intellectual enterprises”- goals (tasks) –“refer to the cognitions or other behaviors employed to achieve them”- and actions (strategies) –“refer to the objectives of a cognitive enterprise”- (p: 906-907). Metacognitive knowledge is referred to what an individual thinks of herself and her capabilities when is engaged primarily in a task and may ask herself what strategies works best and should be applied to the task or whether they are able to complete the task or not. Metacognitive experience refers to an individual's feeling when does not understand what someone had just said on the other hand the more a person is engaged in a complicated task the deeper cognitive process she is involved in and the extent to which she shows motivation to the task depends on the task itself. The metacognitive strategies that individuals use depends on the task they are dealing with, whether they are engaged in an easy task or complicated one, what is the main goal of the task and which strategies work best for the tasks. If the learners are being introduced and exposed to the metacognitive knowledge accordingly they will be able to understand themselves and their capabilities, cope with the task they are engaged with and also they will be capable to use the most related strategies.

Flavell (1979) and Livingston (2003) further declare that metacognitive knowledge is a crucial factor in achieving cognitive goals. Metacognition mainly deals with the way students acquire knowledge and apply it in different situations.

Metacognition emphasizes on the process of learning rather than the product (Jacob and Paris, 1987). Metacognitive strategies appear to be mostly beneficial for challenging tasks, mainly for weak students. According to many researchers (Educational Performance Systems 2005, Iwai, 2011) metacognition is a key in cognitive instruction which helps the students to learn independently. Research shows that weak students generally benefit more from learning these strategies, because it is believed that good students usually learn and use these strategies unconsciously while reading a text or story (Grabe, 1991). Moreover Krause et al., (2007) states that metacognition “involves planning, monitoring, regulating, questioning, reflecting on and reviewing our cognitive process.” (p: 168). She believes that much research indicates the crucial role of educators in fostering student’s awareness of their own thinking process (Paris & Winograd, 1990) and also how to teach them some strategies to monitor their own performance (Borkowski & Muthukrishna, 1992). According to the pedagogic point of view of Dhieb-Henia (2003), training students with metacognitive strategies can be one of the important and effective tools for teachers. As was mentioned in Fouche and Lampion (2011), Flavell’s investigations on the effect of metacognition on children reveals that children are capable to manage, control and affect their own learning.

Many studies which have investigated the effective role of metacognitive awareness of students which leads to their improvement in reading comprehension ability, as Chadwick (2012) believes they will be aware of their thinking, have more control over their learning process and gradually can enhance their learning and achievement. Sheorey and Mokhtari (2001) proclaim that “metacognition can be thought of as the knowledge of reader’s cognition relative to the reading process and the self-control mechanisms they use to monitor and enhance comprehension.” (p:432). However, teachers should first start improving their own metacognitive skills and self awareness (Zohar, 1999), so that they will be ready to model these to the students and support them towards learning.

Metacognition is further considered as awareness of learning process for the students, the structures of the process, applying those structures in life, and monitoring the activities are some ways to improve the educational process (Ridley, Schulz, Glanz, and Weinstein, 1992). Research shows that children start experiencing metacognitive knowledge in their early childhood from their parents, peers and later

on from their teachers. The role of teachers in teaching and modelling the correct way of applying metacognition during school time is very important for the students, as students learn a lot from their teachers everyday. But unfortunately according to different observations and interviews done in this regards teachers mainly have less knowledge about metacognition and it's crucial effects on students' progress; this can be due to the school organisation, Veenman et al., (2006) believe that teachers should provide students with a powerful cognitive tool, while teaching reading concepts, which would empower them to organize and structure their thinking process. In this regard the students will be able to learn in a way that expert learners learn. Chadwick (2012) believes that it is somehow impossible to learn a way to understand something without learning the correct way of thinking. "The question of how we learn and the form that our learning takes is crucial to the development of thinking." (p:1).

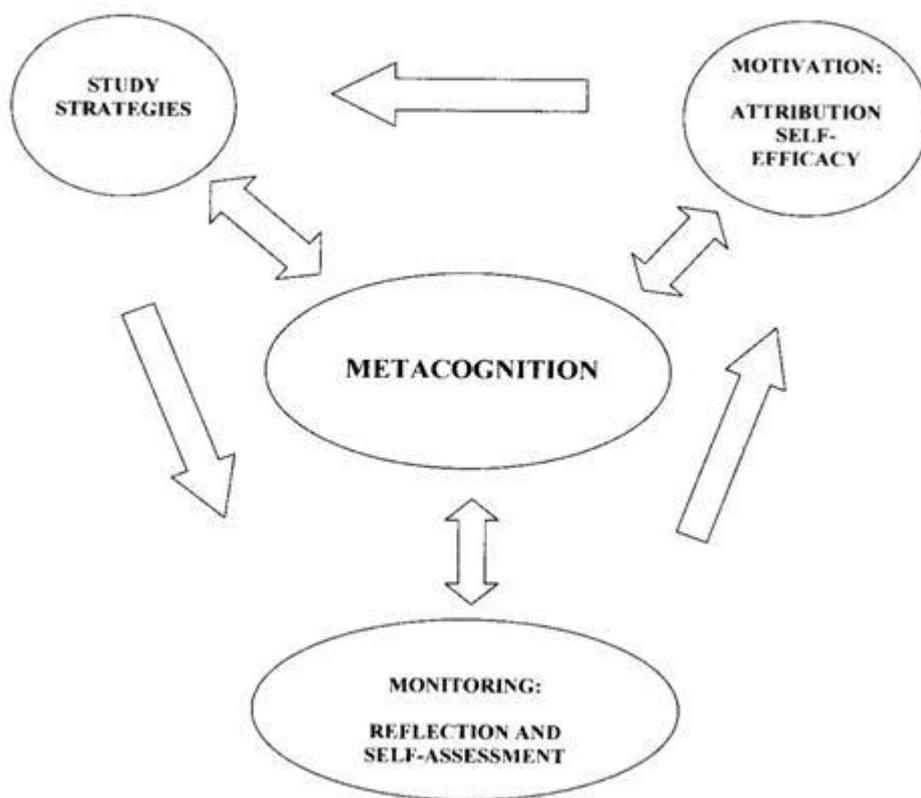


Figure 2.1. Factors Affecting Metacognition

Source: <http://academic.pg.cc.md.us/~wpeirce/MCCCTR/metacognition.htm>

As the above image indicates and is reinforced by Peirce (2003) who believes that metacognition deals with motivation, study strategies and also self-monitoring of learners. Metacognition, which is a very important concept in educational psychology, affects learner's motivation. When for example students check their results in an exam and come across an unexpected result or unexpected test score they immediately think and try to find the reasons behind their failure which can be considered as the first step towards metacognition. Even if they obtain a good result they will be thinking of their abilities and efforts they used to get such scores. Hence in both of these conditions motivation may affect students to think unconsciously about their obtained results which may lead them to progress in future as they are trying to know and understand their potential capabilities. Research shows that teaching study strategies to students explicitly lead to their improvement in learning process. There are various kinds of study strategies but unfortunately they are not applicable in all contexts. For example the strategies used in reading a passage to get information is totally different from the strategies applied in reading an article for analysing it. Therefore students who were taught only to answer a certain kind of questions are not able to go beyond that as it is believed that study strategies are not transferable which means that the students should learn different strategies to cope with different situations in order to be successful. When students are asked to monitor their own learning process they will be aware of their strength and weaknesses then they can help themselves to progress. In all these three categories that are related to metacognition students are thinking about their own thought and actions in order to find a reasonable way to improve themselves. But the question is what to do to enhance the student's metacognitive ability? Based on Peirce (2003) there are three types of knowledge which is related to metacognition. Declarative knowledge that is described as individual's factual information that can be both in spoken form or in written forms, for example knowing a formula in Mathematics or Physics in order to calculate a concept like Momentum. Procedural knowledge is individual's knowledge on how to do a process step by step. For example knowing every concept in physics or mathematics formula and to be able to do the steps in the process. Conditional knowledge is considered as individual's knowledge on when to apply and use a certain skill or strategy. For example knowing which formula works in calculating a certain word problem in an exam. Hence in order to increase student's metacognitive ability they have to be introduced to the above types of knowledge.

2.2. Measuring Metacognition

Most of the research done on student's reading comprehension, used interviews to measure metacognition. They mainly interviewed the students to find out whether they are using any strategy in their reading comprehension sessions. Based on this research novice readers did not have much idea about reading and were sometimes confused on how to go through the texts (Jacobs and Paris, 1987). Promoting metacognitive learners is very important in field of learning, as O'Malley and Chatom (1990), believe that metacognitive strategies have direct impact on learners and can enhance their learning. Within metacognitive strategies teachers encourage the students to monitor their own learning process by making them aware of their own strategies, which is beneficial in their learning. It is important for the students to know how to learn and which strategies are suitable to be used for each context. Knowing how to use different strategies to learn differentiates expert learners from beginners. According to Flavell (1999), a successful student is the one who can extract meaning from different texts. Different research on metacognition reveals the positive effect of applying these strategies to students in order to enhance their level of understanding on the texts they are reading by connecting their existing knowledge to the new knowledge.

Research shows that if metacognitive strategies are used effectively it may have positive results in student's achievement and progress. Based on Boulware-Gooden, Carreker, Thornhill & Joshi (2007) finding on the effectiveness of metacognitive strategies on grade three students, providing the learner's with metacognitive instruction enhances student's reading comprehension ability. The importance of metacognition is due to some reasons, involving the students in tasks and reading actively. Good readers usually know how to deal with different texts. They use their own methods; they sometimes guess and get help from other parts of the text. Being unaware of metacognitive strategies might confuse some of the students while reading a text. Metacognition is a new concept in education which can help both teachers and students through enhancing learning process (Stuever 1997, Karadimos 2004). Metacognitive strategies help the students to nurture their thinking ability while reading (Paris & Winograd, 1990). The term metacognition is important both for the students and teachers; it is a tool for thinking and also teaching (Dhieb-Henia, 2003), as they both will be aware of their thinking process and can enhance their learning

experience. Generally, there has been a little evidence that only a few researches has been done on the importance of applying metacognitive strategies on reading ability of the students. Based on Jacob and Paris (1987), “Metacognition focuses on self regulated thinking-what people know and how they apply that knowledge to particular task.” (p: 255). The term is often related to reading strategies and thinking processes. Metacognition focuses on how students plan, monitor and manage their own comprehension skills and thoughts. According to Piaget’s point of view metacognition is individual’s knowledge about her own thoughts and thinking process which is consist of individual’s conscious awareness and her ability to communicate with one’s rationale. (cited in Fox and Riconscente 2008).

Individual’s metacognitive knowledge is a complicated process that varies in different people in different situations and depends on many factors. According to Sheorey and Mokhtari (2001), “the readers’ metacognitive knowledge about reading may be influenced by a number of factors, including previous experiences, beliefs, culture-specific instructional practices, and, in the case of non-native readers, proficiency in L2, and it may be triggered, consciously or unconsciously, when the readers encounters a specific reading task.” (P: 433) Shokrpour et al. (2011) proclaim that metacognitive strategies are formed based on the following terms: Metacognitive Awareness: is one’s knowledge about her process of learning, what one’s know about her contents of awareness, individual’s learning strategies and what individuals needs to do. Metacognitive Assessment: is one’s judgment about her thinking abilities and also the available restrictions in her application in a particular condition. Metacognitive Organization: is when one changes her own thoughts. Based on the points mentioned this study attempts to find out whether training grade three students on the metacognitive strategies is more effective than the routine teaching methods.

As scholars are not yet agreed on the precise definition of metacognition there are many given definitions for this concept. Flavell, (1979); Veenman, (1993); O’Neil and Abedi, (1996); Kuhn, (2000) believe that Metacognition consists of two parts self-awareness of knowledge and how to get access to the strategies, which usually leads to direct and independent learning. When a child is aware of his own thinking process and the relevant strategies he can easily manage his own learning process. Hence when he becomes a professional reader he may use more strategies to comprehend the reading passages. On the other hand according to the Holistic Education Network (2004) metacognition is consist of three basic elements

developing a plan of action, maintaining/monitoring the plan and evaluating the plan. Pintrich, Wolters and Baxter (2000), also introduced another three components of metacognition which is more or less same with the previous categorization, metacognitive knowledge, metacognitive monitoring and self-regulation and control; for example linking the existing knowledge to prior knowledge or note taking, monitoring learning process and evaluating learning outcomes (cited in Cubukcu, 2008).

Rebecca Oxford's (1990a) indirect strategies divide metacognitive strategies to three groups:

1. Centring learning

- Connecting the prior knowledge to the existing one
- Paying attention
- Delay in responding to focus more

2. Planning learning

- Discovering about learning
- Organizing
- Setting goals
- Establishing the main objective of the task
- Planning for the task
- Practicing

3. Evaluating learning

- Self-monitoring
- Self-evaluating (cited in Brown 2000)

The literature reveals that teaching metacognitive strategies, though, welcomed in many educational systems around the world and used as a very

successful method in second language classes, has not found its place in Iranian schools yet. Nowadays that teaching metacognitive strategies have created opportunities for students to have better results and outcomes in reading comprehension classes. Although numerous studies done on the importance of teaching metacognitive strategies to students to improve their reading comprehension ability in different parts of the world, little has been reported in Iranian context. Therefore this study was aimed to show the lack of research in this regard and investigate the impact of metacognitive strategies on reading comprehension of grade three students.

In the next chapter the adopted methodology will be presented.

Chapter 3: Methodology

This study is mainly based on examining the effects of metacognitive strategies on enhancing reading ability of the elementary students. A range of data has been collected from both students and teachers. The data for this particular research were collected through both quantitative and qualitative methods of data collection. The scope of this research is to analyse to what extent metacognitive strategies may help the students to enhance their reading comprehension ability in school. This study will have two phases: pre implementation phase, and post implementation phase.

3.1. Research design

The researcher is aware of “collecting data being resource intensive, consuming time, energy, goodwill, and also material sources like money and technologies of various kind.”(Lankshear and Knobel, 2004, p.180). Based on the suggested literature a quantitative as well as qualitative approach is appropriate to investigate the impact of metacognitive strategies on reading comprehension ability of the students. According to the literature student’s scores and teacher’s interviews are the most common methods used in investigating the effect of teaching metacognitive strategies on student’s reading comprehension achievements.

3.2. Participants

The researcher selected two grade three classes in primary section in one of the Iranian schools in Dubai. The samples of 40 students in two different classes were selected. Participants are two groups of grade three students with two different teachers. The first class is randomly chosen as experimental group (N=18) to take metacognitive instruction for 8 weeks, and the second group as control group (N=22) with no instruction given.

3.3. Instrumentation

In this particular study there are two instruments used to collect data from the participants: student's score and teacher's interview. In this study both quantitative and qualitative methods of collecting data were used. Quantitative data which included 'fill in the blanks' and 'short answer' questions during pre and post test for students, and interview of both experimental and control group teachers as a qualitative method to analyse whether they are already familiar with metacognitive strategies used in reading comprehension and if they are teaching or applying these strategies to their students in order to help the students to enhance their reading skills and finally how they manage their reading classes.

3.3.1. Student's score

In order to collect data from student's scores two sets of reading comprehension test papers were designed, one of them has been given to the students as a pre test (see appendix 2) and the other one as a post test (see appendix 3). Both tests were selected from reading comprehension passages available in the Internet but the questions were designed in same formats -six fill in the blanks and six short answer questions- in order to keep the consistency, validity and reliability of the test. The researcher determined the number of readings done per week in the class and based on the number have chosen sample of reading passage to prepare comprehension test. According to Bloom's taxonomy (cited in Slavin, 2009) the test will evaluate basic memory (remembering of specific information) and simple comprehension.

3.3.2. Teacher's interview

The interview section of the data collection was designed to find out what strategies and methods teachers used when teaching reading comprehension to students, whether they were familiar with different metacognitive strategies used in reading comprehension classes and to what extent they were teaching these strategies to their students. The interviews took place before giving the pre test as the researcher's aim was to investigate the extent to which the teachers are applying these

strategies in their classes. The experimental group's teacher was interviewed with ten open-ended questions (appendix 1) about the methods and strategies she used in her reading classes and the way she managed these strategies to her students during reading comprehension sessions. The control group's teacher was also supposed to be interviewed in order to compare both teacher's methods of teaching but unfortunately she was not ready to be interviewed, as she didn't want her voice to be recorded (see appendix 4). Hence the researcher had to give the same question in form of open-ended questionnaire to the control group teacher.

3.4. Data collection methods

As mentioned above, data will be collected in two phases.

3.4.1. Pre implementation Phase

In pre implementation phase the researcher interviewed the teachers to get a general idea of their teaching methods and strategies in reading comprehension classes. Then the next step was to pre test the students by giving a reading comprehension task to check their prior knowledge, level of understanding, and also to determine the homogeneity of the class. A reading comprehension test paper was conducted based on student's level and interest under the teacher's supervision. As was cited in Brown (2000) this task should not be particularly complicated or simple. According to Krashen's (1981) input Hypothesis ($i + 1$), students should only be exposed to one step beyond their existing knowledge that they can easily relate the new information to their prior knowledge. The students should be given a challenging task to see to what extent they are able to use metacognitive strategies. Many studies done on the effect of student's reading ability reveals that the think aloud strategy enhances student's performance on reading comprehension. According to Chadwick (2012) children usually learn from listening to their parents at home or their teachers in classroom, which shows the importance and effectiveness of 'verbal elaboration' on enhancing learning process of children. Farr and Conner (2004) suggest that the teachers should try to teach and model different types of behaviors which good readers use while reading to the students in order to provide opportunities for them to become aware of the strategies which skilled learners use as they read a text. They

believe that when teachers use this strategy they are trying to verbalize their thinking process as they are reading to model this strategy for the students and also to show them how skilled readers implement these strategies while reading.

3.4.2. Post Implementation phase

After interviewing the teachers and pre testing the students the experimental teacher was trained with certain metacognitive strategies, which was aimed to help the students to enhance their reading comprehension ability. Then she was asked to teach the strategies in her class through think aloud model in order to make sure that her students had understood the correct way of applying these strategies in their reading classes. After 8 weeks students were post tested to investigate whether these strategies had any impact on their reading ability. The data was collected through test scores from the same students throughout the above two phases.

The above phases guide the researcher to arrive at results of how students were performing before they started using metacognitive strategies and the changes after implementing the strategies, which is due to the effects of teaching and applying metacognitive strategies to the students. Then the results were collected, statistically scored and tabulated in different tables for further analyses and interpretations (see chapter 4).

3.5. Training programs

In conducting this study the researcher had to train the teacher with metacognitive strategies to make her understand the importance of applying these strategies in enhancing student's reading comprehension ability.

3.5.1. Teacher's training program

The next step was to teach the experimental group teacher how to teach these strategies explicitly by means of the think aloud method in the class. When interviewing the experimental group teacher I understood the strengths and the weaknesses of her teaching method she used in her class, hence she was fully trained with the relevant metacognitive strategies and a summary of the taught strategies was

also given to her. When the teacher was introduced with the required metacognitive strategies to understand the importance and value of these strategies and also the effectiveness of applying them to the students to enhance their learning outcomes, then she was trained with think aloud strategy and how to verbalize her thought for the students in her class in order to model the strategy to her students. Hence the researcher provided the teacher with comprehensible information and the procedure which she has to follow in her class. Fountas and Pinnell (2000) believe that the best way of teaching comprehension is to model the think aloud method to the students and also to show them what strategies good learners use while reading a text. As was cited in Fountas and Pinnell (2000), Wilhelm (2001) suggested a few ways of administering think aloud to the class:

- Modelling think aloud strategy while reading a text
- Asking the students to help the teacher to think aloud
- Monitoring the students while think aloud

3.5.2. Student's training program

The experimental teacher exposed the students to the following metacognitive strategies during 8-week program. Every time they had reading session they were asked to apply the below strategies in their reading passages.

- Applying the existing knowledge
- Using prior knowledge and background information
- Guessing the meaning of the unknown words and the later topics
- Self-checking while reading the texts

3.6. Ethical considerations

According to Hart (2005) there are six general principals of ethics which has to be considered in every research.

1. Competence
2. Integrity
3. Professional and scientific responsibility
4. Respect people's rights and dignity
5. Other's welfare
6. Social responsibility

In carrying out this study the researcher received the verbal approval of the school principle and the supervisor of the English department. Based on the above principals and also BUiD's ethical approval form student's names were not used in the findings of this research. The researcher respected the control group teacher's right who did not take part in the interview and gave her the same questions in form of questionnaire. Furthermore both teacher's and student's collected data has been kept confidential.

The next chapter presents the findings of the investigation.

Chapter 4: Data Analysis

In this chapter the researcher analyses the collected data from two groups of students to determine the effect of metacognitive strategies on reading comprehension ability of grade three students in one of the Iranian school in Dubai. The findings of this research were collected firstly from student's score in pre test and post test and secondly from interviewing the teachers. The content of this chapter is presented in two sections, analysing student's scores section and analysing teacher's interviews section. Over the course of this chapter students' score will be statistically calculated and the results will be tabulated for further analysis and interpretations then in the other section each interview questions will be examined separately.

4.1 Analyses of student's score

This section present the descriptive statistics of student's score i.e. means and standard deviations of the pre test and the post test of the students in order to compare and analyse the relationship between the means of two groups. It further highlights the inferential statistics of the collected data i.e. paired t-test and independent sample test which will be discussed below.

4.1.1. Descriptive statistics

When analysing data both descriptive and inferential statistics should be considered in order to come to reasonable conclusions proclaims Laerd Statistics (2012). Based on Jaggi (2011) by means of descriptive statistics a very large amount of numbers will become meaningful through both numerical and graphical methods. Numerical approach enables the researcher to calculate concepts such as mean and standard deviation, whereas graphical approach that is a more descriptive way as compared to the other approach, as it provides the reader with more description. Moreover Jacobs (2012) defines three types of descriptive statistics; graphs which enables the reader to notice and distinguish the distribution of score, measures of central tendency that mainly indicates the average score of the group and measures of variability which shows to what extent the group score is spread out. Generally speaking statistics is a set of numbers, which is used, in quantitative data in order to

interpret and analyse the data then the distribution of the data enables the researcher to choose the best statistical methods based on the research design and data collection says Jacobs (2012). In order to prepare the data for a better and easier analysis the data should be scored and tabulated precisely then it should be presented systematically.

This section presents the descriptive statistics of student's scores in order to compare the students' score on pre test and post test, and analyse the relationship between the means of these two groups, a paired samples correlations and a t-test were run on the obtained results of both these tests to see whether there is a statistically significant difference between these groups. For calculating the paired samples test and correlation there should be two measurements for each participants.

4.1.1.1. Overall analysis

Two groups of grade three students have been selected to participate in the study. Then they were randomly divided to experimental group (group A) with 18 students and control group (group B) with 22 students. Hence 45% of participants are in experimental group and had special metacognitive strategy training for 8 weeks whereas 55% of participants are in control group and received no training at all. Among the 40 participants of our study there are 17 female and 23 male students in both groups that indicates the majority of our participants are male students (57.5%) whereas only 42.5% of our participants are female.

Table 4.1
Group Statistics

	Class	Number of Students	Mean	Std. Deviation	Std. Error Mean
Pre-test	A	18	7.89	2.111	.498
	B	21	6.81	2.542	.555
Post-test	A	18	8.44	2.812	.663
	B	21	5.71	2.348	.512

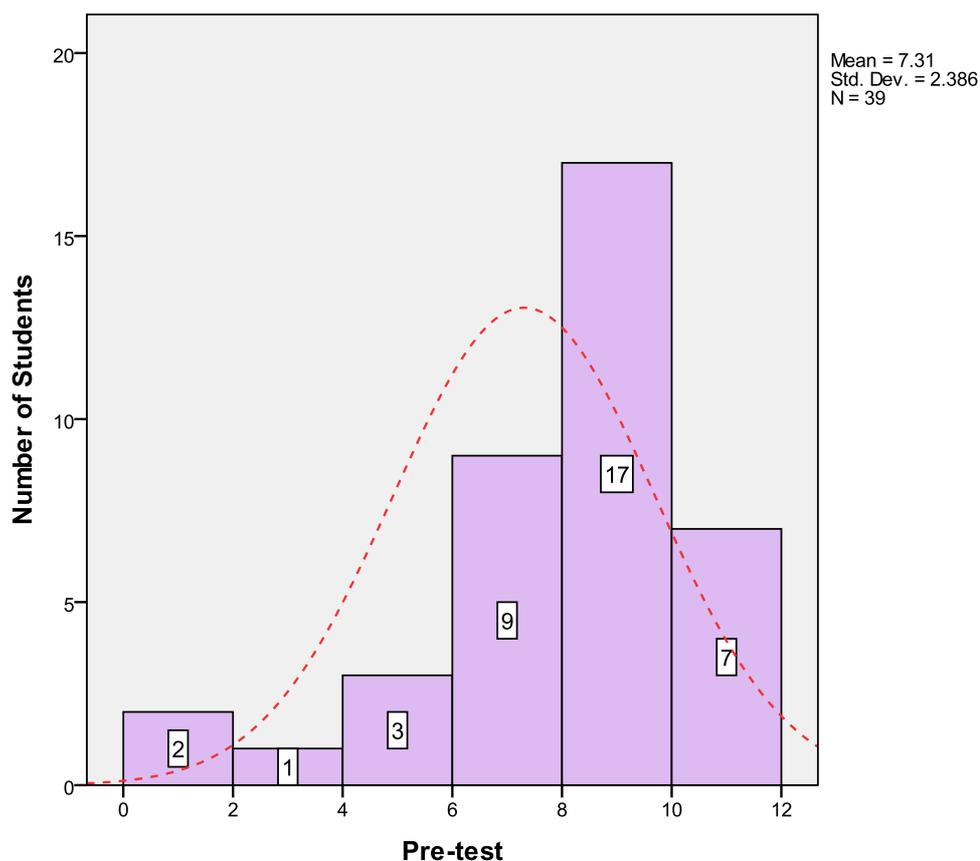
Table 4.1 illustrates the mean and standard deviation of each group in pre test and the post test which indicates the mean of the experimental group (group A) has

increased from 7.89 in the pre test to 8.44 in the post test showing that the students performed better in the post test. This can be due to the certain metacognitive strategy training they received during the 8-week program whereas in control group (group B) the mean score in post test is 5.71 which is lower than the pre test (6.81). The standard deviation (SD) of experimental group (group A) has increased from 2.111 in the pre test to 2.812 in the post test which indicates the variation of data from its mean score though the standard deviation of group B has decreased from 2.542 to 2.348 in the post test.

4.1.1.2. Graphs

Figure 4.1 which is a histogram gives a first overview of the data about the number of the students who participated in this study, it also summarizes the scores students achieved in the pre test in both experimental and control group. It further indicates that the students are heterogeneous. The normal curve tells how closely our data fit the normal curve and how the data is supposed to be. This graph which is not normally distributed shows that the distribution of students score is not fitted in the normal curve and is skewed toward the higher end of the bell curve- which identify the normal distribution- although according to the 'bell curve' the best results should fit into the bell curve. Therefore based on our bell curve more students should have scored between 2-8 and less number of students should have scored between 8-12. Moreover the majority of the students scored above 6 and most of them scored between 8-10. On the other hand only a few students obtained scores below 6. The graph is unimodal which shows only one peak, and the peak identifies the most common or frequent score among the students in the pre test. It can be understood from this graph that the mean is 7.31 and the standard deviation (SD) is 2.386. It can be concluded that the students are not homogeneous and the majority of them are above the average further more it indicates that there are less number of weak students.

Figure 4.1: Student's scores in the pre test



Graph 4.2, which is a unimodal graph, shows the frequency of the student's score in post test for experimental and control group. In conducting such graphs the researcher is intended to know how well the scores of the students are approximated as compared to normal distribution and also to what extent these scores are skewed. It further enables us to evaluate the normality of the score's distribution as it indicates the normal curve overlying on the histogram which shows that more students should have scored between 2-6 and less number of students should have scored between 6-8 in order the scores fits the normal curve. Furthermore most of the students scored between 6-8 that is almost very close to the mean which is 6.97 and the standard deviation (SD) is 2.888. Since the normal curve represent a symmetric distribution of scores the mean, mode and the median is same whereas in this skewed graph the mean, mode and median is different the graph will be asymmetrical.

Figure 4.2: Student's score in the post test

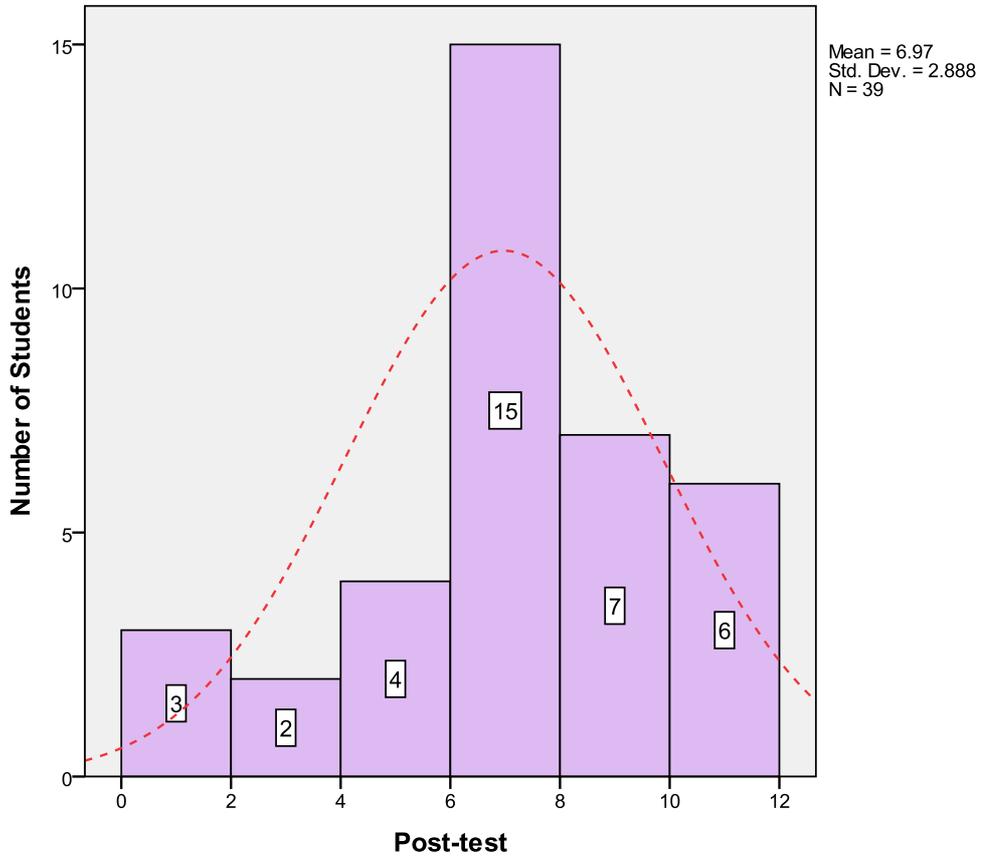


Figure 4.3: Overall mean score of students

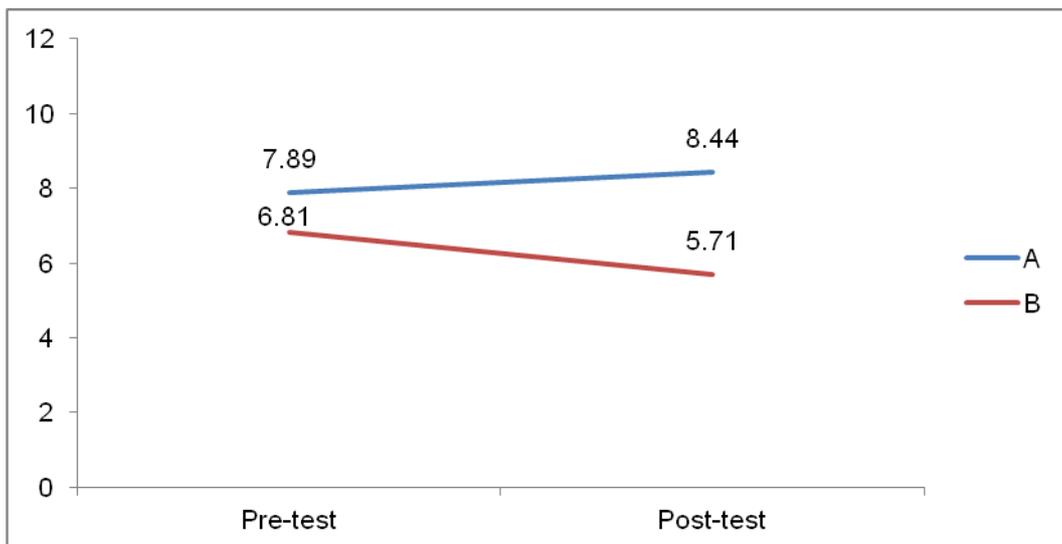


Figure 4.3 represents the overall average scores of the experimental and the control group in the pre test and post test. It is found that the experimental group average has slightly improved which due to the treatment they received during the 8-week program, whereas the controlled group overall average deteriorated considerably. The slight improvement and the considerable deterioration resulted on having significant difference between the two groups in the pre test as compared to the post test.

Figure 4.4: Histogram of pre test

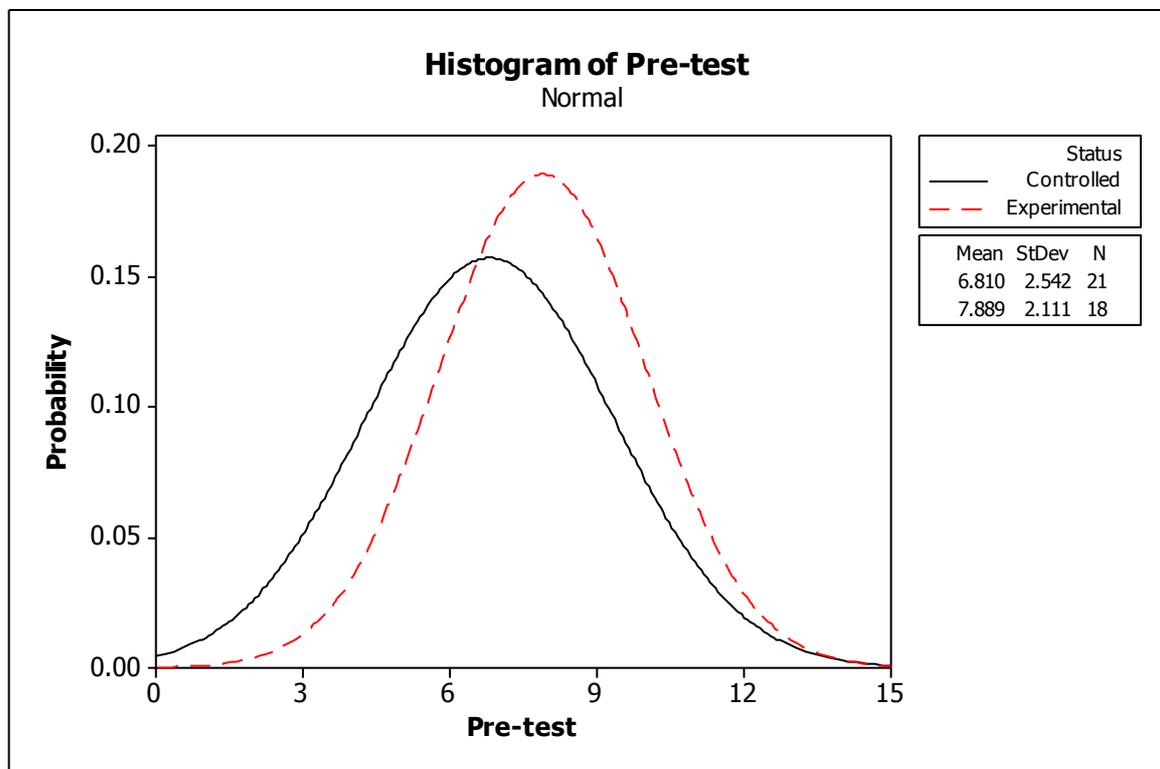


Figure 4.4 shows the student's score in experimental and the control group in the pre test separately. The graph indicates that the experimental group performed better in the pre test as their mean score (7.889) is higher than the mean score (6.810) of the control group.

Figure 4.5: Histogram of post test

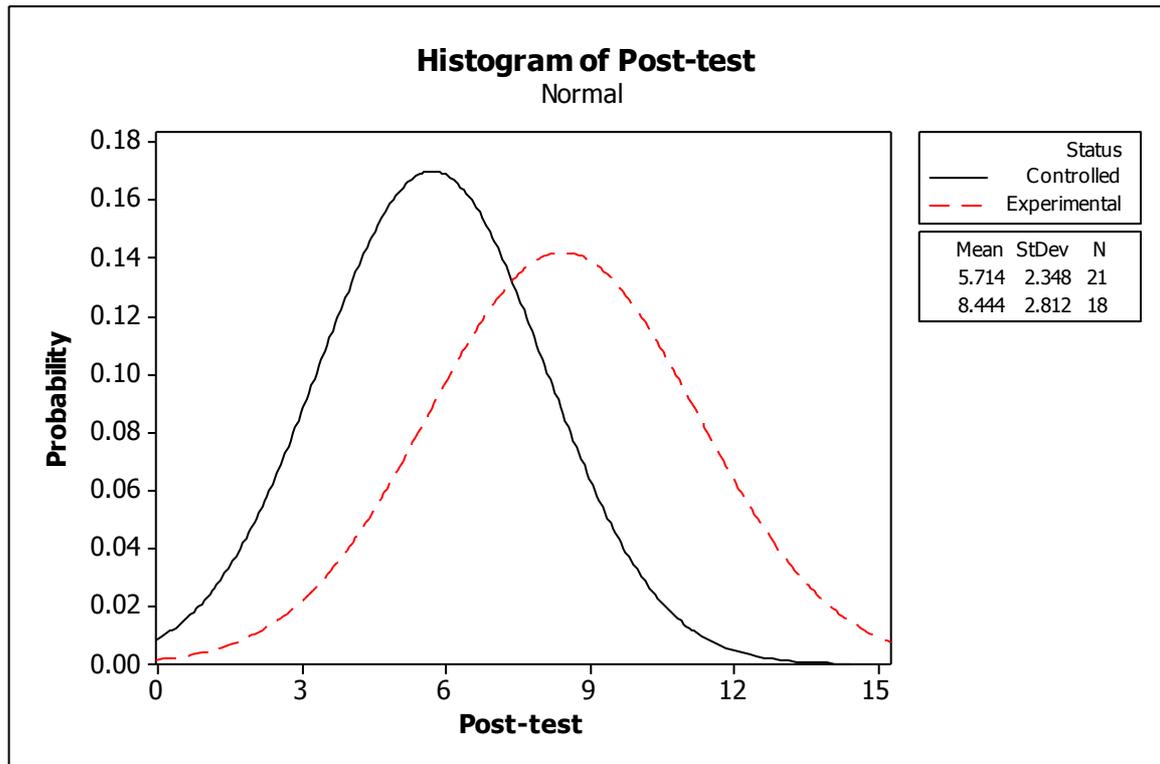


Figure 4.5 also summarizes the experimental and the control group's score in the post test. In this figure like figure 4.4 the experimental group's mean score is higher than the control group's mean score. This indicates that experimental group scored higher than the control group in the post test.

Comparing the mean score of experimental group in pre test and the post test reveals that this group has improved, this can be due to the certain treatment they received during the 8-week program. It further indicates that teaching metacognitive strategies to this group of students resulted in their progress and improvement in their reading comprehension ability. However control group's mean score in post test is lower than the pre test's mean score.

4.1.2. Inferential statistics

The other section deals with the inferential statistics, despite the concept of descriptive statistics which was just dealing with giving simple information and describing the collected data, inferential statistics attempts to come up to a conclusion and predict based on our data. According to Boudah (2010) the collected data from an experimental research that is considered as a quantitative method should be analysed through inferential statistics rather than descriptive statistics in order to make comparisons between the two available conditions of the experimental research and also to be able to infer the obtained results of our sample to the population and whether the results were significant or were due to chance. Furthermore Crossman (2012) states ‘... t-test, for example, can tell us the probability that the results of our analysis on the sample are representative of the population that the sample represents. In other words, these tests of significance tell us the probability that the results of the analysis could have occurred by chance when there is no relationship at all between the variables we studied in the population we studied’ (p: 1).

4.1.2.1. Paired T-Test

Paired t-test is to investigate any significant improvement between the student’s score in the pre and the post test. Table 4.2 shows that there exist differences in means between the pre test and the post test as the mean is 7.31 in the pre test and 6.97 for the post test which indicates that students performed better in the pre test as compared to the post test. The standard deviation (SD) has increased in the post test (2.888), which shows that there is more variation of the data from the mean score.

Table 4.2
Paired Samples Statistics

		Mean	Number of Students	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	7.31	39	2.386	.382
	Post-test	6.97	39	2.888	.462

According to table 4.3 there is positive correlation between the pre test and the post test of the students but there is no significant interaction between these two tests as the p value is .058. This indicates that students who did well on the pre test did not do well in the post test.

Table 4.3
Paired Samples Correlations

	Number of Students	Correlation	Sig.
Pair 1 Pre-test & Post-test	39	.307	.058

On the other hand as is shown in table 4.4 the Sig (2-tailed) value in this study is .51 which means that there is no significant differences between the two conditions. Hence it can be concluded that the differences between the means of the groups are likely due to chance. There exists no statistical significant difference in mean when comparing the pre-test to post test results using the paired t-test ($t=0.665$, $df=38$, $p=0.51$).

Table 4.4
Paired Samples Test

	Paired Differences						t	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1 Pre-test - Post-test	.333	3.132	.501	-.682	1.348	.665	38	.510	

4.1.2.2. Independent Sample Test

The following table (table 4.5) illustrates the mean and standard deviation of each group in pre test and the post test which indicates the mean of the experimental group (group A) has increased from 7.89 in the pre test to 8.44 in the post test showing that the students performed better in the post test. This can be due to the certain metacognitive strategy training they received during the 8-week program whereas in control group (group B) the mean score in post test is 5.71 which is lower than the pre test (6.81).

Table 4.5
Group Statistics

	Class	Number of Students	Mean	Std. Deviation	Std. Error Mean
Pre-test	A	18	7.89	2.111	.498
	B	21	6.81	2.542	.555
Post-test	A	18	8.44	2.812	.663
	B	21	5.71	2.348	.512

The table below (table 4.6) tests the significance between two distinct groups. Levene's test for equality of variance is a test of homogeneity of variance assumption which shows that in the pre test condition the F value is not significant as the Sig value is greater than .05, this indicates that there is equality of variance which shows that the scores in one group does not vary much with the scores on the other group, therefore the equal variance assumed row is considered for the t-test. In other word the variability of these two conditions are not significantly different. On the other hand in the post test condition the F value is 1.241 and Sig value is less than .05 which shows a significant difference between the means, it also indicates that there is not equality of variance hence the bottom row –equal variance not assumed- is used for t-test.

Table 4.6
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-test	Equal variances assumed	.144	.707	1.428	37	.162	1.079	.756	-.453	2.611
	Equal variances not assumed			1.448	36.973	.156	1.079	.745	-.431	2.589
Post-test	Equal variances assumed	1.241	.272	3.305	37	.002	2.730	.826	1.056	4.404
	Equal variances not assumed			3.259	33.286	.003	2.730	.838	1.026	4.434

Table 4.7 highlights the mean and standard deviation of female and male students both in pre and the post test. It indicates that the mean score of male students (7.59) were higher in pre test as compared to the mean score of female students (6.94), which shows that male students scored higher in the pre test. Whereas the result is totally different in the post test as the female student's mean score (7.88) is higher than the male mean score (6.27). Hence as the table shows female students had improved although male student's score had decrease.

Table 4.7
Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Pre-test	F	17	6.94	2.989	.725
	M	22	7.59	1.817	.387
Post-test	F	17	7.88	2.547	.618
	M	22	6.27	2.995	.639

Table 4.8 shows the independent samples test table that tries to compare the means of two variables or groups. As the results on this table reveals if the sig value is less than .05 Levene's test for equality of variance is significant which indicates that the two variables are significantly different, but as can be understood from the following table the sig value in both pre and the post test is higher than .05 meaning that our two variances are not significantly different, therefore they tend to be approximately equal. In this regard the top line of the table will be indicated and followed. Hence it can be concluded that there is no significant difference between the student's score in pre test and the post test.

Table 4.8
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-test	Equal variances assumed	2.734	.107	-.840	37	.406	-.650	.773	-2.217	.917
	Equal variances not assumed			-.791	24.894	.437	-.650	.822	-2.343	1.043

Post-test	Equal variances assumed	.374	.545	1.774	37	.084	1.610	.907	-.229	3.448
	Equal variances not assumed			1.812	36.613	.078	1.610	.888	-.191	3.410

4.1.3. Summary of section

The above graphs and tables summarised the data from 40 grade three students (one was absent in both tests) who had participated in this study. The above analysis on the collected data from the student's test score has answered our research questions which reveals that metacognitive strategies have great impact on student's improvement and progress in reading comprehension classes. According to the above results female students had better results as compared to the male students as their scores had improved in post test which indicates that they benefited more from metacognitive strategies and could have applied the strategies better in their reading comprehension classes. This indicates that the treatment they received during the 8-week training program on metacognitive strategies did have positive effect on their reading comprehension ability. Therefore according to many researchers teaching reading comprehension through metacognitive strategies enhances student's reading ability.

4.2. Analysis of teacher's interview

4.2.1. Analysing Experimental group teacher based on her interview.

The experimental group teacher was interviewed with ten different questions (appendix 1) about her reading comprehension classes, the methods, approaches, materials and strategies she uses in her classes, the supports she get from her supervisor, the way she evaluate and challenges her students and finally what she does to improve her student's reading comprehension skills. Later her answers were analysed to find out her strength and weaknesses as an English teacher towards teaching reading comprehension to grade three students.

- 1) My approach in teaching reading comprehension to my students is through phonic methods and also understanding the text, the setting, the plan, and the theme of the reading passage.

Research studies indicate that the best way to teach reading is through phonic method. Based on Gbenedio's (1986) study the students who were taught the combination of phonic, word and sentence method in reading comprehension classes performed better as compared to those students who were taught other approaches i.e. reading while listening which is considered as the most common approach in teaching reading to the students. Other studies done on the effect of blending phonic on the improvement of reading reveals that teaching reading through phonic has better results for the elementary students i.e. grade one students (Loring 1980). This shows that for beginners it is necessary to start reading from early school years whereas for grade three students other approaches proved to be more beneficial as they are already familiar with phonic method hence teachers have to move to other methods appropriate to the student's level. The other crucial point, which the teacher has to bear in mind, is to make sure that the students have understood the text they are reading so that they will be able to answer the related questions. The other crucial aspect of reading comprehension classes is to make the students understand the text. There are certain strategies that can help the students in understanding the text: monitoring comprehension –to have control over the reading passage and be aware of the understanding process-, metacognition –means 'thinking about thinking' to have

control on the reading-, answering question –encourages the students to understand the text in order to answer the questions-, graphing and semantic organizer –shows the relationship between the concepts in the reading-, generating questions –guides the students to have a better understanding of the text-, recognizing story structure – helps the students to understand the text and also the structure of the story-, summarizing –helps the students to determine the important parts of the reading- (Adler, 2001). Hence it is the teacher’s role to teach the above strategy to the students and guide them in using these strategies in reading classes in order to enhance their learning outcomes.

- 2) I do follow my own methods in teaching reading comprehension to my students but sometimes I following the given instructions and methods in teacher’s guide book but will apply them based on my experience and my student’s level.

Teacher’s guidebook is among the essential requirements for every teacher as it is designed to help the teacher to have a general idea of the lesson, how to manage the tasks, what to teach, how to teach and also the relevant activities which has to be covered after the taught lesson (Ball and Feiman-Nemsen, 1988). Although many researchers believe that a good teacher is one who can create his own lesson and prepare the required materials it is commonly believed that a good teacher should follow step-by-step instructions given in the books. The way that an experienced teacher uses these guidebooks is different from an inexperienced teacher as the former just reads the guidelines to get the general idea but finally will manage the lesson based on her experience, the student’s need, time and also the level of the class whereas inexperienced teacher tries to be book based and follow the given instructions without considering the student’s needs and other important aspects. Furthermore the experienced teacher usually tries to engage the students more in activities by asking questions to make the students think, be creative and not to be book based. Hence Brown (2003) and Cory-Wright (2012), believe that the main difference between experienced and in inexperienced teacher ranges from student centred or teacher centred approach, whether the focus of the class is on learner or not.

- 3) The methods I use all come from the series of the books I teach my students - Harcourt (2005)-.

Harcourt series (2005) -moving into English- is the book which the students of experimental group are studying. It is based on an American curriculum and requires both teachers and students to be more active with the varieties of activities used in these series. The lessons are aimed to focus on students' language skills development– language structure (grammar), listening, speaking, reading and writing. There were also relevant resources available for teachers in order to develop the student's language skills. The objectives of the lessons are mainly on motivating the students to participate in tasks and to brainstorm the students and involve them to use their prior knowledge and experience with peers and other students in the class. The teaching materials and instructions are all available for the teacher for further guide and practice of the students, hence the Harcourt English books are very complete and useful package for the students who are aiming to learn English as their second language.

- 4) The books for grade three students do not need specific materials as the books are designed with enough pictures.

According to International Reading Association (1994), students should freely have access to the learning materials in order to have a better understanding of the taught lessons, to think more and be creative, and also to nurture independent learners. It is true that younger children like more colourful pictures and cartoon images in their books and tasks but this does not mean that for elder students primary materials can be neglected. As a teacher I believe that using materials or at least some pictures that can guide the students to create an image of the reading passage can make the text more interesting to the students and may also motivate them get themselves more involved with the text they are reading; of course these materials should be suitable for their age.

5) My supervisor supports me towards all the necessary aspects.

Among the various responsibilities of the school supervisor supporting, training and giving effective feedback to the teachers has great importance on teacher's skill development. If the teachers are satisfied with the supervisor's manner and behaviour they will be willing to cooperate more with her and consequently the teachers' teaching quality will improve. Taylor and Beasley (2005) believe that a good supervisor should be a good advisor so that teachers can feel free to discuss the issues with her in order to get the best advice. Supervisors should also monitor the teachers and observe their classes frequently to find out the strength and weaknesses of teacher's teaching strategy or teaching style and provide her with effective feedback for their professional development (Carter & Francis 2000). According to the experimental group teacher their supervisor is open minded and friendly so that the teachers feel free to discuss their problems within the classroom or school, moreover she is very cooperative and supportive to the teachers.

6) I usually individualize the instructions for weaker students and sometimes create extra tasks for them.

Individualizing instruction in a classroom is among the duties of the teacher as different students learn differently. But this can be possible in a classes with less number of students (Zahorik, 1999) so that teacher have enough time and energy to spend in giving instructions to the students especially to the weak students as they may need extra explanations to understand the points. Based on Wenglinsky (2000) fostering 'higher order thinking skills' in students has great influence on their independent learning and may reduce their need to have individualized instruction as different students have different knowledge and skills in the classroom. Hence teachers may sometimes need to change their teaching style from lecture mode and focus more on student's need, level and abilities as may sometimes assign a task for all but do not expect to have same results from all the students. According to the experimental group teacher she usually has to give individualized instruction to a few students who are not good as others and need more explanations and verifications. Furthermore she added that in the beginning she used to give these students extra task

in order to engage them in classroom activities and give them the feeling of being involved in the class and not to be neglected.

- 7) It is easy to evaluate the students in reading comprehension classes and is based on their answers.

Based on the experiment group teacher assessing students in reading comprehension classes are very easy; if they had understood the passage they will be able to answer the questions and may participate in the task with their partner and finally shout out the answers, as they are willing to show that they have completed the task given to them. But is this the only way to evaluate the students in reading comprehension classes? According to The National Capital Language Resource Centre (2004) evaluating the reading ability of students accurately is very difficult and depends on the purpose the reading. For example a student might be able to answer all the 'fill in the blanks' part correctly but if the teacher asks a comprehension question, true or false or even an open ended question he cannot answer correctly as he did not understand the passage he was just smart enough to find some hints to fill the blanks with appropriate word. Hence the purpose of giving reading comprehension passage to students should be clarified, whether the teacher is trying to assess the student's understanding of the text or she just wants them to find some information in the passage which does not need a deep understanding and can be figured out by scanning or skimming techniques, in order to come to a reasonable evaluation of the students.

- 8) I try to challenge my students by engaging them in group work activity and creating competition among them.

In many schools all around the world group work is among the necessary activities for the students but unfortunately there is less emphasis in Iranian schools specially in Persian classes as the teachers are not ready to spend the class time on group activities instead she focuses on the individual tasks in order to create competition among individuals. The Centre for Teaching Excellence proclaims that applying group work can motivate the students, encourage them in active learning and can also enhance their critical thinking skills. According to the researches done on the importance and effectiveness of group work activities students learn better when they are engaged in

the learning process and are working in small or collaborative group as compared to other instructional formats (cited in Davis, 1993). Grouping the students is a crucial issue as they may learn best if the groups have been selected systematically; which means the level of the members of the groups should not be the same or in another word it has to be heterogeneous. Besides designing and organizing the group, setting up competition between the groups is among the duties of the teacher in order to motivate the students and increase their learning outcome, believes Davis, (1993). Hence the experimental group teacher's emphasis on student's group activities and creating competition among the groups is due to the books she is teaching with the focus on collaborative learning.

9) I try to motivate my students by giving them rewards and positive points.

Experience has shown that giving rewards and positive points to the students has positive effect on their motivation towards learning and gradually will influence their learning outcomes. According to Lewis (2012), giving regular rewards to students might make them conditional and dependent on getting something in return. But it is unfortunately true that most of the students study for the rewards, grades or positive points and less number of them is learning for the sake of knowledge itself. Many teachers believe that rewards and punishments that are among the extrinsic motivation are not effective as they depend on external factors like teacher, lesson and class situation; others believe that the main duty of teacher is to motivate the students intrinsically in order to create an innate desire to learn which can push the students to work on their own (Lewis, 2012).

10) I try to improve my student's reading comprehension ability by giving them more practice.

There are many ways to improve the student's reading comprehension; these ways are the different available reading strategies for example providing the students with the necessary information about the topic, using skimming and scanning where appropriate, making connections with the text... suggested Ivey and Fisher (2006). Based on the experimental group teacher the best way to improve the student's reading comprehension ability is by means of practice. If the students are being taught

with the appropriate reading strategies properly -which shows that they have understood the concept- they have to do a lot of practice on different passages in order to understand when to use which strategies, accordingly 'practice makes perfect'.

4.2.2. Analysing control group teacher based on her questionnaire results.

The control group teacher was also asked to have an interview for this study but unfortunately she did not accept her voice to be recorded in the interview. Hence the researcher have given her the same questions with the experimental group teacher but in the form of questionnaire on the same issues mentioned for the experimental group teacher. Then her answers were analysed to find out her strength and weaknesses as an English teacher towards teaching reading comprehension to grade three students.

- 1) My approach is to make the students understand the text in order to be able to write down the answers.

Comprehension basically means understanding something (a text) therefore reading comprehension can be described as the ability to understand a reading passage. According to the Learning RX Centre (2012) the purpose of reading is to understand the text and to get the meaning of the written passage in order to be able to answer the given questions, but this requires proper training of the students with the relevant reading comprehension strategies to make them understand the passage. It indicates that the students should get involved in the text in a meaningful way in order to be able to answer the related questions. Hence this is the first step to consider when teaching reading comprehension to the students. According to the control group teacher new reading comprehension will be read, explained, summarized and the new vocabularies are also given to the students for their ease but this is not the correct way of teaching comprehension to the students as the teacher should try to open the possible ways to the students and teach them the required instruction in order to introduce them the required strategies used in reading comprehension passages. When teacher engages the students with a written passage they try to use their knowledge and the strategies they learned to understand the text. Hence teacher should try her

best to teach the necessary instruction to the students -for example skimming, scanning, using prior knowledge or guessing the meaning of unknown word from the text. Reading comprehension's strategies should be taught to students properly then it has to be practiced by giving more passages so that they will be able to use the strategies both in school and in their everyday life as reading is not limited to school time only.

- 2) I usually make sure that my students are able to read the text then summarise the story.

Summarizing is one of strategies used in reading classes which helps the students to recognize the important part of the reading passage, it is also considered as a key aspect to become a skilled reader believes Guzzetti (2002). When a student is able to summarize a text it means that he understood the passage and is ready to answer the related questions. It is important for the students to learn the correct way of summarization from their teacher in order to stick to the main points and ignore the least important aspects of the reading comprehensions. Hence summarization is very much related to the complete understanding of the reading comprehension passages.

Himes, (2007) believes that there are some strategies which teachers may use to enhance the student's reading comprehension ability. The first strategy is 'generating questions' with 'wh' question words i.e. what, where, who, why, and how; which can both be done by the teacher and latter the students themselves in order to make them think also to be prepared to get engaged with the text. Next is 'monitoring comprehension' which he calls it 'metacognition' as it deals with student's act of paying attentions and comprehending with the passage meaningfully.

- 3) I usually prepare my own reading comprehension passages based on my student's level from Internet, supervisor or my colleagues.

As mentioned before since there is no proper and clear reading comprehension book for teachers and the students in this section the teachers has to either prepare her own reading comprehension passage according to her student's level or find an appropriate one from internet, available books in the school library or even from her colleagues in order to work with her students. This is good for teachers as it helps them to be more

active and creative but the problem is that the teachers need a lot of time and effort to find different reading passages during an academic year for the students. The other problem is that since the reading comprehensions and questions are not being taken from a proper book they might have some mistakes in the passage itself or the questions, as the reading books have more appropriate reading passages and questions with a correct teaching methods which can guide the teacher through teaching. On the other hand it is good to be a creative teacher if the school is opened to creativity and encourages the teachers to be creative but basically being creative is a hard work. According to Cremin et al., (2009) teachers should have desire to learn new things and have a 'secure knowledge base' and understand the student's need and interest in order to make the best suitable task for students.

- 4) The need for using material for the reading comprehensions given to the students depends on the topic of the passage but I sometimes try to use relevant materials in my reading classes.

As the reading passages are taken from different sources other than a guided book, there are not enough specific materials to help the students to facilitate their understanding. Hence based on the teacher's word only sometimes she is able to take any specific material to her class, as her main concern is finding routine reading passages for her class. Whereas researches done on the effect of using expository materials on reading comprehension classes highlights the importance of using these materials on student's improvement in reading classes claimed Diane (1981). According to Seven and Engin (2007) it is very important for teachers to use different teaching materials in their foreign language classes as it may help the students to concentrate better on the topic. Furthermore based on constructivist learning approach learners should be exposed to the authentic real life materials in foreign language classes noted Oguz and Bahar (2008), which indicates that the more students are interacting with materials the better they perform in the class. Hence these findings and other researches prove the importance of using materials within classroom context, which means the more students are exposed to expository materials the better they perform in reading comprehension class.

5) My supervisor is very supportive

Being a good supervisor is important and difficult job. It is further believed that supervisor's support and guidance is among the crucial factors which teachers can get everyday in school, but this does not reduce the teacher's workloads, as the main role of the school supervisor is to enhance the quality of education in the school and teacher training (Govinda and Tapan, 1999). Among the roles of supervisor being open and friendly to teachers has great importance, as the teachers feel free to talk about different issues within the school or the classroom context. Furthermore Bailey (2006) believes that a successful modern supervisor should have certain characteristics; technical process which deals with the teacher's improvement through teaching; collaborative process as it emphasises on the best relationship between teachers and the supervisor; leadership process which deals with supervisor's ability to have control over teachers and help them achieve their teaching goals; humanitarian process as the supervisor considers individual's value as a human being in order to build mutual trust between themselves; consultation process which deals with the supervisor's openness to let teachers ask for guidance and advice any time they face problem; and academic process which deals with the supervisor's educational objectives. Therefore based on the control group teacher the supervisor of their department is very active, cooperative and helpful for the teachers.

6) I try to divide the students into groups according to their level.

Nowadays teachers are implementing more group activities in their classrooms in order to guide the students to help themselves to become independent learners. Many studies done on the effect of group work among the students indicates the students benefit more from grouping as they can work independently and communicate better (Smith, 2006). However grouping of the students is very important, as the members of the groups should be heterogeneous, which means that in each groups teacher should include both more able and less able students in order to have homogeneous groups with including all the students of the class. Research shows that grouping the students into homogeneous or heterogeneous groups depends on the purpose of grouping, for example if the purpose of grouping is to challenge the students, heterogeneous

grouping is more effective says Johnson (2011). Therefore it is the teacher's responsibility to set the classroom goal before grouping the students in order to get the best results in her class.

- 7) I try to evaluate my students through asking questions about student's level of understanding from the given passage.

Assessing student's understanding in reading comprehension classes can be done in form of questioning their basic understanding believes Akins (2011). This is considered as the most common way to evaluate students in reading comprehension classes to check their verbal answers to the passage. According to Texas Education Agency (2012) there are three frameworks in comprehension strategy instructions, which teachers should consider, i.e. before, during and after reading activities. Before and during reading activities may help the students to be motivated and to concentrate more on the passage whereas in the post reading activity teachers may guide the students through critical thinking (Slavin, 2009), recall and discussion on the important parts of the comprehension passage by asking questions. Although questioning is among the best skills in assessing student's learning outcome, it does not guarantee that students will be performing almost the same if they are asked to write down the answers, as the techniques used in verbal answering is different from writing the answers. For example some students may perform better in writing down the answers as compared to the verbal questions asked in the class. To sum up, questioning technique in reading classes is effective to make sure that students have understood the passage generally and are ready to move to the next step i.e. answering the comprehension questions which is given usually after the passage.

- 8) I usually challenge my students by creating competitions among them.

It is very important for the teachers to have the power to engage the students in class activities and create a competitive learning environment by asking higher levels question (Wilkerson 2011), in this positive environment they will be thinking more to respond the teacher first, before their classmates. When teachers create competitions in reading classes, students will be excited to read and respond the teacher. This technique can help the less active students to become more active, participate in

classroom discussions and to take part in every challenging activity. In creating a challenge based learning environment teachers should be conscious and be able to manage the class and have control on the students, as some students may take advantage of such situations and disturb the class. Nichols and Sullivan (2006) believe that competitive nature of individuals vary based on their gender and age, they further state that male students are tend to be more competitive in class as compared to female students. Therefore creating a competitive classroom environment has positive impact on student's learning outcomes.

9) I try to motivate the students by giving them examples.

Woolfolk (2010) defines motivation as “ an internal state that arouses, directs, and maintains behaviour.” (p:376). The role of teacher in motivating the students is very critical and depends on the teacher's behaviour, teaching style, the way the teacher gives feedback to the students (Kirk, 2012). But teachers should keep in mind not to compare the students with each other or model a student as the best. Although research shows that it is more effective to motivate the students intrinsically, unfortunately the school's subjects are not much interesting to students specially when they go to higher grades, therefore school usually tries to apply different extrinsic rewards to motivate the students. Hence teachers can motivate the students externally by giving rewards, positive points, praising or giving positive feedback noted Slavin (2009). Therefore motivating the students help in their classroom participation, improvement and learning outcome in general.

10) I try to improve the student's reading skills by asking questions, encouragement, giving feedback and reward.

There are many available ways to improve student's reading comprehension ability. Asking questions, encouraging students, providing them with positive feedback and giving rewards can also be considered as useful strategies to help students to improve their reading comprehension ability, but teachers should be aware and precise to apply the right strategies appropriately in the class in order to get the best results in class.

According to Benjamin (2010) there are many strategies which may help students to improve their reading comprehension in class, such as skimming, scanning, read aloud, summarizing, paraphrasing,... therefore teachers should introduce the relevant strategies to students in order to make them use different strategies in different conditions and passages properly.

4.3. Summary of section

The above analyses explain and discuss the data collected from two teachers who had participated in this research. The above analysis on the collected data from teacher's interview indicates that none of these teachers were familiar with the available metacognitive strategies related to reading comprehension which have positive impact on improving student's reading ability. As can be understood from the above analysis both teachers are following the methods and strategies that they gained based on their experiences as teachers rather than following guided and proper principles in order to teach reading comprehension to students in a way that they can learn better. It further reveals that due to unknown reasons they are not having proper reading comprehension books with guidelines and instructions for teachers or routine workshops which can teach them the latest and effective strategies which can help the students to enhance their reading ability. Therefore they mostly rely on own their experiences as teachers or other teachers. Although these teachers are being guided and supported by their supervisor in all the aspects, it does not necessarily mean that they teach reading comprehension effectively based on the latest available strategies.

Chapter 5: Discussion and Conclusion

The main objective of this study was to determine the impact of teaching metacognitive strategies on student's reading comprehension ability. This chapter presents and discusses the findings based on the findings of this study, other related research done in this field, findings and empirical experiences of other researchers, and the researcher's own experience, then draws conclusions from the collected data which has been analysed and interpreted in chapter 4 and presents some recommendations for improvement.

5.1. Summary of the research

This study investigates the impact of teaching metacognitive strategies on student's reading comprehension ability. Since this study was based on two methods of data collection –quantitative and qualitative approaches- and collected required data from both student's test score and teacher interview, each will be discussed in order to answer the research questions.

5.2. Findings and discussions

The findings of this research that has been collected from two different sources –student test score and teacher's interview- will be discussed below based on other related studies.

5.3. Students test scores

The Student's scores that have been considered as a means of quantitative method of data collection have been analysed in the previous chapter. The results indicate that teaching metacognitive strategies to grade three students had positive impact on their reading comprehension and resulted in their progress in reading classes where as those students who received no training program in control group did

not have any positive improvement. This emphasis on the importance and effectiveness of using metacognitive strategies in enhancing student's reading comprehension outcome. Many other researches done on this field of study indicate the impact of teaching metacognitive strategies on student's improvement in reading comprehension classes.

Based on this study and according to the results and findings of Muniz-Swicegood (1994), Al-Tamimi (2006) and Cubukcu (2008) on enhancing reading comprehension of learners through metacognitive strategies, positive impact of metacognitive strategies on student's reading comprehension were documented which reveals that metacognitive strategy training have significant impact on learner's reading comprehension improvements in classroom. Moreover other studies included different variables in their researches in order to come up to various results. Some researchers like Sheorey and Mokhtari (2001) did not include gender variable in their studied where as in this study the researcher tried to include both female and male students in order to find out which group is performing better in reading classes when exposed to metacognitive strategies. The results of the current study indicates that the female students were able to learn and apply the taught strategies in their reading passage as their results were better and higher as compared to male students.

5.4. Teacher's interview

The data collected from teachers interview have been considered as qualitative method of data collection. Research shows that many teachers are not aware of the strategies that can help students in reading classes; therefore it is very important to introduce and train teachers with these important strategies properly in order to make sure that they can teach these crucial strategies to students. The findings of Jacobs and Paris (1987) on 'children's metacognition on reading', reveals that the impact of metacognition on children depends on the effectiveness of teacher's instruction which promotes metacognition. Indicating that the extent to which students learn metacognitive instruction depends on the teacher's ability and power in teaching and training the students with these strategies.

Although these teachers were not aware of the available metacognitive strategies affecting student's reading comprehension ability, they used more or less

applicable reading strategies that were due to their persistence and experience as teachers.

The experimental group teacher was satisfied with the student's progress during the 8-week training programme. As the researcher visited the school every 2 weeks to make sure that the teacher is following the given instruction on training the students with metacognitive strategies, the teacher was asked to explain the procedures she does in her class. According to her observations and findings her students had improved not only in reading classes but also in other subjects, as they were using the same methods in any passages for any subjects. Based on the results of this study the experimental group's mean score had increased from 7.89 to 8.84 that show the positive effect of teaching metacognitive strategies in enhancing their reading ability.

According to the results obtained from interviewing the teachers the most important point that has been noted in this study was the lack of appropriate reading comprehension book for both teachers and students; which shows that the teacher also does not have a proper book to teach reading comprehension to the students instead she will get the reading comprehension worksheets either from the internet or the books available in teachers' library. Gathering routine worksheets needs a lot of efforts for teachers but it can be more useful for teachers if it comes with an appropriate book both for the teachers in order to facilitate teaching process, guide the teacher, introduce related strategies, save teachers time and energy. In this regard teachers are obliged to gather different reading comprehension passages from the Internet or other available sources that might not be accurate for students and time consuming for teachers. Richards (2012) believes that textbooks have benefits for teachers as well as students. Textbooks are helpful for novice teachers as they may give them step-by-step instructions and content of the lessons in details including the related tasks and activities. It further can be considered as teacher training guide. According to Teacher Vision (2012) well-organized and good textbooks can be an effective teaching aid as they are like useful resources for both teachers and students.

5.5. Conclusions

Metacognitive strategies is believed to be a key factor for students to be cognitively engaged in their learning outcomes (Livingston 2003). This study was

aimed to explore the impact of teaching metacognitive strategies on reading comprehension of grade three students in one of the Iranian schools in Dubai. The findings, analysis and discussions indicated that the impact of teaching metacognitive strategies on grade three students was positive on enhancing their reading comprehension ability. The statistical analysis that has been done on the collected data reveals that there were positive changes in student's scores and achievements. It is evident that training students with metacognitive strategies affected their improvement, as the mean score of the experimental group students had increased from 7.89 to 8.44 which indicates that the metacognitive strategy training program had positive impact on their reading comprehension ability.

Referring back to the research questions, the study shows that although metacognitive strategy training was effective for students, female students were better in their perceived use of these strategies in reading comprehension classes as compared to male students. Moreover the results indicate that female students scored higher in the post test which means that they could apply the taught strategies better and more effective in their reading comprehension passage comparing to male students. The findings of this research reveal that female students were being affected by metacognitive strategy instruction as compared to the male students, but these results cannot be generalized, due to the specific conditions, which implies that other observers may conduct class observations in different situations with different results that could be generalized. Perhaps further research should be conducted in other Iranian schools, as it seems that still the concept of metacognition and the effects of metacognitive strategies are unknown to many language teachers.

5.6. Recommendations

Based on the result of the study and the related literature, the researcher suggests the following recommendations in order to improve the impact of teaching metacognitive strategies on student's achievements in future.

- Teachers should have regular training sessions in order to improve their teaching skills based on the latest educational methods.

- Useful textbooks should be available for both teacher's and student's guidance.
- School's principal and supervisors should understand the importance and effectiveness of latest strategies like metacognitive strategies on student's learning outcomes.
- Students should be taught with the relevant strategies in every subject in order to maximize their learning process and enhance their achievements.
- Teachers should use metacognitive strategies in their reading comprehension classes from early years in order to model these strategies to students and improve their reading ability.
- Teachers should investigate these strategies and their impact on students in order to facilitate their learning process.

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Appendix 1 (Interview Questions)

1. What's your approach in teaching reading comprehension to your students?

2. Do you have specific methods for teaching reading comprehension to your students? Or you only follow the given instructions and methods?

3. Where the methods are come from?

4. Does it need special materials?

5. What support you get from your supervisor?

6. How do you individualize the instructions for your students?

7. How do you evaluate your students' progress in reading comprehensions?

8. How do you challenge your students?

9. How do you motivate your students?

10. How do you improve your students' reading comprehension skills?

Appendix 2 (Pre Test)



Blueberries

by Wanda Hann

Do you know how blueberries grow? They grow on bushes. Each blueberry is small and round. Many blueberries can grow on one bush. At first, the blueberries are green. The green berries are not ready to eat yet. They need a lot of sun and rain to help them become fat and sweet. When the berries turn blue, they are ripe and ready to be picked.

Some farmers grow blueberries in big fields. The people who live nearby can earn money by helping to pick the blueberries. Each one takes a pail out to the field and fills it with blueberries. They work fast so that they can fill many pails. They want to earn as much money as they can. When they are done picking, their fingers are blue from the juice of the berries!

After the blueberries are picked, they are put into boxes and sent to stores. People buy the blueberries and take them home to eat. Some people like to wash the berries and eat them one by one. Other people like to cook with blueberries. They make blueberry muffins and pancakes.

No matter how you eat them, blueberries taste great!

Source: <http://www.pearsonlongman.com/ae/marketing/sfesl/florida/fcat/pdfs/grade2.pdf>



Fill in the blanks.

1. Blueberries grow on -----.
2. The ----- blueberries are not ready to eat.
3. Blueberries used a lot of ----- and ----- to become ripe.
4. People make ----- and ----- with blueberries.

Answer the following questions.

1. What colour are the blueberries before they are ready to be picked?

2. Where do the blueberry pickers work?

3. What does 'earn' mean?

4. How do blueberries taste?

5. Why do you think blueberries are called blueberries?

6. Why do neighbours work fast to fill the pails?

Appendix 3 (Post Test)

PAPER ART

Leisa Pichard

If you look around your classroom, you probably see paper everywhere. In fact, it would be hard to have school without paper. How would you do your homework? How would you take a test? Well, paper has not always been so easy to find. A long time ago, paper had just been invented in China. Only the richest people had enough money to buy paper. Even for these very rich people, the smallest piece of paper had great value. These people began to make folded paper shapes to show how rich they were. Soon this new paper art spread to Japan. The people in Japan loved paper folding and soon began folding shapes of animals and people. They called this art origami.

Ori was the Japanese word for "to fold." Gami was the Japanese word for "paper." The paper shapes became more life-like and beautiful. Soon everyone wanted to make origami. Luckily, paper became easier to get. For hundreds of years, Japanese parents taught their children how to make origami. But the steps were never written down. Children learned the steps and practiced them. Later they taught these same steps to their own children. Over time, though, people forgot many of the shapes. Origami might have been lost if people had not started writing down the steps. At one time, there may have been thousands of shapes. When the first books on origami were printed, only 150 simple shapes remained. Today, children all over the world use paper—and not just to take tests.

They make origami shapes. Have you ever made a paper airplane? How about a paper ball or a jumping frog? If so, then you've made a work of art. Origami Frog The crane and the frog are the most well-known origami figures. Japanese legends say if you build 1,000 paper cranes, you will have a wish granted. The crane is a symbol of peace and good luck. The frog plays an important role in Japan as well. The Japanese word for frog is kaeru (ka-ee-ru). Kaeru is also the word for return. So, the frog became a symbol for a safe return home. Here's an easy origami

frog you can make. You need a square piece of paper, a pencil or marker, and a flat surface to make your folds on. Be sure to crease each fold carefully.

Source:

https://docs.google.com/viewer?a=v&q=cache:MTfYcGNBMmgJ:sherlocks.okaloosaschools.wikispaces.net/file/view/PAPER%2BART.doc+PAPER+ART+Leisa+Pichard&hl=en&gl=ae&pid=bl&srcid=ADGEESHbx-RS07zwfe116vZvngG3VQQRAnSJ4NXqEMcTwkaijwx1YQdqR2aZqRPdiUTy7nncTwnOX0MfqhwyPO_4Uy64B-VpPGTb4DOgzH2p62YqjWfXTKBuG4KhIMoE57dn6iAmRFk6&sig=AHIEtbQ1hi9F1OqwfNkO8Sd8wmXV1Bm9nQ

Fill in the blanks.

1. The people of Japan loved paper folding and folded shapes of ----- and -----.
2. “Ori” was the ----- word for “to fold”.
3. Japanese ----- taught their children how to make origami.
4. In Japanese “frog” is a symbol for a -----.
5. In the first books on origami only ----- simple shapes remained.

Answer the following questions.

1. Where was paper invented?

2. What origami shapes did people make?

3. Why was paper important to people?

4. Why did people forget making origami over years?

5. What does “taught” mean?

6. Why people began to make folded papers shapes?

Appendix 4 (BUIID Ethic Form)

Guidelines for Ethics in Educational Research

Basic Principles

Three *basic ethical principles* underlie the Faculty of Education Guidelines for Ethics in Educational Research:

- **respect for persons**, that is, that persons should be treated as autonomous individuals, and that persons with diminished autonomy are entitled to protection;
- **beneficence**, that is, that there is an over-riding obligation to maximise possible benefits and minimise possible harms. Harm, in this context, includes psychological or emotional distress, discomfort and economic or social disadvantages. Researchers exercise beneficence in assessing the risks of harm and potential benefits to participants, in being sensitive to the rights and interests of people involved in their research, and in reflecting on the social and cultural implications of their work; and
- **justice**, that is, that the question of who ought to receive the benefits of research and bear its burdens should be explicitly addressed.

These principles apply to all forms of educational research, including research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behaviour.

Considerations in Data Collection

Researchers should take special care to avoid research activity in which the information collected is recorded in such a manner that:

- participants can be identified, directly or through identifiers linked to the subjects;
- any disclosure of the participants' responses outside the research could reasonably place the participants at risk of professional liability or be damaging to the participants' financial standing, employability or reputation; and
- the research deals with sensitive aspects of the participants' own behaviour, such as sexual preference, illegal conduct, use of alcohol, drug use, or includes information about health status.

Educational researchers should:

- ensure confidentiality;
- not use data of a confidential nature for their own personal advantage or that of a third party;
- obtain the free and informed consent of human subjects.

Informed Consent

The principle of obtaining informed consent from the participants in research is considered to be one of the most important ethical issues in research involving human participants. In almost all cases participants should be provided with a written summary of the research procedure, its benefits, harms and risks, and that they be able to retain this information. What is provided to potential participants should be brief and clearly written, and written from their point of view. When consent is obtained from research participants, it should be voluntary, competent; informed; and understood.

The decision of a person to consent to participating in a research project should always be based upon their knowledge of the research proposal and the requirements for their participation (as participants) in the project. Aspects of informed consent are:

- consent to participate in the research is given freely and without coercion;
- subjects have the capacity to understand the research project;
- the information sheets given to research subjects are understandable and have taken consideration of the anticipated level of competence of potential research subjects;
- inclusion of a clear explanation of the likely risks to the research subject arising from participation in the research project;
- the information sheet includes a clear explanation of the likely benefits of the research project itself;
- proper communication by the investigator of the risks and benefits of the research project to potential subjects;
- confirmation that the consent of the research subject is not influenced by financial inducement, improper pressure or any form of misrepresentation and that the research subject is competent to consent. It is the responsibility of the researcher to place the issue of payment within the context of the particular research project and determine as best she or he can at what point the incentive becomes an inducement that puts undue pressure on participants to take part;
- assurance that a research subject may withdraw at any time from the research without loss of benefit or penalty; and
- the need to exercise special care in cases where the subjects are unable to consent for themselves (for example, in the case of intellectually impaired students).

Responsibilities to Participants

Research involving treatment and control groups should be evaluated in terms of the benefit of the research and the individuals' overriding right to know and to have access to the best educational practice available in all circumstances. The methods should not result in harm to the participant. In assessing covert or deceptive research, the following two guidelines should be observed:

- participants should not be subject to any procedure which is reasonably likely to cause physical harm, psychological harm (which is distinguished from temporary embarrassment, mild alarm, etc), or enduring educational disadvantage ;
- participants should be fully informed at the conclusion of the study as to its nature and the disposition of results;
- the full benefits of the intervention should be made available to all participants as part of the outcome of the comparison of programs.

Ethics Form

To be completed by the student and submitted to the Ethics Research Committee

NAME OF RESEARCHER:

CONTACT TELEPHONE NUMBER:

EMAIL ADDRESS:

DATE:

PROJECT TITLE:

BRIEF OUTLINE OF PROJECT (100-250 words; this may be attached separately. You may prefer to use the abstract from the original bid):

MAIN ETHICAL CONSIDERATION(S) OF THE PROJECT (e.g. working with vulnerable adults; children with disabilities; photographs of participants; material that could give offence etc):

DURATION OF PROPOSED PROJECT (please provide dates as month/year):

DATE YOU WISH TO START DATA COLLECTION:

Please provide details on the following aspects of the research:

1. What are your intended methods of recruitment, data collection and analysis?

Please outline (100-250 words) the methods of data collection with each group of research participants.

2. How will you make sure that all participants understand the process in which they are to be engaged and that they provide their voluntary and informed consent? If the study involves working with children or other vulnerable groups, how have you considered their rights and protection?

3. How will you make sure that participants clearly understand their right to withdraw from the study?

9. How do you intend to disseminate your research findings to participants?

Declaration by the researcher

I have read the University's Code of Conduct for Research and the information contained herein is, to the best of my knowledge and belief, accurate.

I am satisfied that I have attempted to identify all risks related to the research that may arise in conducting this research and acknowledge my obligations as researcher and the rights of participants. I am satisfied that members of staff (including myself) working on the project have the appropriate qualifications, experience and facilities to conduct the research set out in the attached document and that I, as researcher take full responsibility for the ethical conduct of the research in accordance with the Faculty of Education Ethical Guidelines, and any other condition laid down by the BUiD Ethics Committee.

Print name:

Signature:

Date:

Declaration by the Chair of the School of Education Ethics Committee (only to be completed if making a formal submission for approval)

The Committee confirms that this project fits within the University's Code of Conduct for Research and I approve the proposal on behalf of BUiD's Ethics Committee.

Print name:
(Chair of the Ethics Committee)

Signature:

Date:

