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EFFECTS OF METACOGNITIVE STRATEGY INSTRUCTION ON THE READING COMPREHENSION OF ENGLISH LANGUAGE LEARNERS THROUGH COGNITIVE ACADEMIC LANGUAGE LEARNING APPROACH (CALLA)

Batul Shamsi Nejad [1] **& Masoud Mahmoodi-Shahrebabaki** [2]

ABSTRACT

In order to meet the reading needs of English as-a-Foreign-Language (EFL) learners, educators are urged to develop effective instructional means for teaching reading comprehension and reading strategy use. Although studies on foreign language reading strategies are burgeoning in the realm of language acquisition research, recent interest has spotlighted learners' metacognitive awareness of strategies. This study investigated the effect of metacognitive strategy training on the reading comprehension of 111 intermediate EFL learners. The participants received five sessions of instruction on metacognitive strategies guided by the blueprints of Cognitive Academic Language Learning Approach (CALLA). The results of t-test, and two-ways analysis of variance (ANOVA) revealed that there was a significant positive relationship between the students' metacognitive reading strategy use and their reading comprehension performance. There was also a significant positive relationship between the use of CALLA and the students' reading comprehension performance.

Key Words: Metacognitive Strategies; English Language Reading; Cognitive Academic Language Learning; Reading Comprehension Strategies.

[1] Islamic Azad University, e-mail: batul_sh@yahoo.com
[2] MA in TEFL, English Department, faculty of Foreign Languages and Literatures, University of Tehran, e-mail: masoud.mahmoodi@outlook.com

1. Introduction

1.1. Background

Reading comprehension is a complicated mental process requiring both bottom-up and top-down cognitive involvement (Anderson & Cheng, 1999). Fluent reading requires the simultaneous utilization and coordination of several cognitive processes and sources of knowledge (Tighe & Schatschneider, 2014). A sizable body of literature has examined various cognitive constructs that are believed to contribute to reading comprehension across a wide range of grade levels, such as fluency (Fuchs, Fuchs, Hosp, & Jenkins,2001), verbal and nonverbal reasoning (Schatschneider, Harrell, & Buck,2007) and working memory (Cain, Oakhill, & Bryant, 2004).

Research on English as a foreign language (EFL) has been growing fast in recent years because, under the influence of globalization, more people are learning English as a foreign language (Pasquella, Gottardo, & Grant, 2012). Comprehending a text correctly is a challenge for readers in a second or foreign language for good reason. In first language (L1) reading, readers deal with solely one language, while in a foreign language (L2) reading, learners should process at least two languages simultaneously; one which is the native language the other being the foreign language (Birch, 2014).

Reading instruction is an indispensable part of every foreign language teaching syllabus (Alsheikh, 2011; Anderson & Cheng, 1999). In order to understand a written text fluently, L2 learners must utilize proper strategies when needed (Pasquella, Gottardo, & Grant, 2012). Reading skills are the cognitive processes that a readers embark on to make sense of a text (Soleimani & Hajghani, 2013). For advanced readers, the reading skills are dealt with unconsciously and automatically. Nonetheless, when confronted with a difficult text, fluent readers resort to cognitive skills consciously and strategically in order to understand the text (Hudson, 2007). Perhaps, without efficient use of reading comprehension strategies, the ultimate goal of learning to read may not be attained (Yalcin & Sengul, 2004). More recent studies have begun to focus on metacognition, i.e., cognition of cognition (e.g., Alsheikh & Mokhtari, 2011; Fung, Wilkinson & Moore, 2003; Pressley, 2002; Sheorey & Mokhtari, 2001) in quest for exploring potential associations among metacognitive awareness, strategy use, and reading comprehension. Discovering the best methods or techniques that the learners choose to implement while reading, is the major goal of research in the areas related to the reading strategies (Baker, 2008; Demmrich, 2005; Eilers & Pinkley, 2006; Ikeda, & Takeuchi; 2003; Mokhtari & Reichard, 2002; Philip & Hua, 2006; Pressley, 2002; Soleimani & Hajghani, 2013)

English as a foreign language is formally taught to the Iranian students from the first year of junior high school for three years, during high school for another three years, and for another year during the pre-university level. Considering the content of the current EFL textbooks taught in the Iranian schools and the Iranian Ministry of Education guidelines, it seems that

EFL teaching in Iran is based on the students' future need to read and sometimes translate English books, journals, and magazines. Likewise, reading and translation are the most emphasized skills at the university entrance exam and at the university level. The orientation is therefore towards a combination of grammar-translation and audio-lingual methods in most schools (Eslami-Rasekh & Valizadeh, 2004). Although many Iranian EFL learners have a good knowledge of English grammar and vocabulary, they still seem to have serious problems with acquiring the ability to read metacognitively. This inefficiency seems to be, to some extent, owing to the lack of effectual reading strategies among Iranian EFL students, and to a large extent, the type of instructions they receive. Furthermore, in Iran, English is taught as a foreign language and is practiced within a context-restricted environment- in which the textbook and classroom teacher play the main roles. Wallace (2005) has observed that in EFL reading classes, students usually have slim chances to be involved in higher order thinking tasks. Consequently, they do not learn to read critically, nor do they reach evaluative understanding of the text and develop their critical thinking ability. As a result, learners get frustrated and lose motivation for independent reading because their classroom tasks do not go beyond sitting and listening to their teacher`s long-winded explanations and speeches (Wallace, 2005).

1.2. Cognitive Academic Language Learning Approach (CALLA)

CALLA, originally introduced by Chamot and O'Malley (1987), denotes cognitive learning in which bilingual learners apply prior knowledge and maybe some strategies, such as making inferences and monitoring comprehension to content area subjects. CALLA is built upon the notion that active learners are creative learners; strategies can be learned and taught; academic content learning is more effective with strategy use, and learning strategies can transfer to new learning situations. According to CALLA, strategies are divided into *cognitive, metacognitive* and *social/affective strategies* (Chamot & O'Malley, 1994). It is urged that a small number of strategies be introduced and taught so that learners can feel successful with them. Some strategies such as activating prior knowledge and making inferences are so interwoven that they can be offered together (Thomas, 1992).

CALLA was formulated in response to three areas of bilingual research: academic language, content area vocabulary and strategy use (Galland, 1995). Because academic language is often reduced in terms of its context and is often cognitively demanding, learners need more time to master it (Cummins, 1981, 1994). The second area of research has focused on the notion that further instruction is necessary in order for students to acquire the useful vocabulary and language structures within content area subjects (Chamot & O'Malley, 1994). The third track of research with regard to the development of CALLA is concerned with strategy use and the notion that more effective language learners are able to use functional strategies more properly (Abraham & Vann, 1987; Chamot & Kupper, 1989). CALLA, originally implemented with secondary language learners in content areas such as math and

science in the public schools of Arlington Virginia, has been found to be very successful (Galland, 1995). Although students who were instructed in CALLA used metacognitive strategies more often, Chamot and O'Malley (1994) reaffirmed the need for further research.

Despite the consensus on the relevance of cognitive strategies, metacognitive awareness and reading comprehension (see Abraham & Vann, 1987; Chamot & Kupper, 1989; Pressley, 2002), there are limited studies investigating direct effects of instruction of reading comprehension metacognitive strategies on the quality of language learners` reading comprehension. To bridge this gap in the literature, this study, taking a CALLA approach, aimed to explore whether metacognitive strategy instruction has any immediate effect on reading comprehension ability of Iranian intermediate EFL learners. Correspondingly, the following research questions will lead the study:

1. What is the role of metacognitive strategy instruction on the development of reading performance among Iranian intermediate EFL learners?

2. What is the effect of the Cognitive Academic Language Learning Approach (CALLA) on the development of reading performance among EFL learners?

2. Literature Review

2.1. Reading Comprehension in L2

Reading and listening are processes in which one needs to not only understand the literal meaning, but also to comprehend the implied notions (Baker, 2008). Tierney (2005) holds that learning to read is not only learning to recognize words; it is also learning to make sense of texts. Anderson (2003) considers reading is the interaction of four things including the reader, the text, the fluent reading, and strategic reading. Wallace (2005) argues that teachers need to assist language learners to critically question the information content and the tacit ideological assumptions that the writer suggests. In other words, proficient readers think about what they are reading, analyze it and take the necessary steps to comprehend the text, and this process is very imperative in L2 reading instruction (Huang & Nisbet, 2012).

According to Nunan (1991), reading in the traditional view is basically a matter of decoding a series of written symbols into their aural equivalents in the quest for making sense of the text. He referred to this process as the *bottom-up* view of reading. McCarthy (1999) has called this view *outside-in* processing; underscoring the notion that meaning exists in the printed page and is interpreted by the reader. This model of reading has been criticized as being insufficient and amiss owing to the fact that it heavily relies upon the formal features of the language, namely, words and structure.

The schema theory of reading takes a cognitive view of reading. Rumelhart (1994) describes schemata as *building blocks of cognition* that are used in the process of interpreting sensory data, in retrieving information from memory, in organizing goals, in designating resources and strategies, and in monitoring the flow of the mental processing system. Rumelhart (1994)

further adds that if our schemata are incomplete and do not provide an understanding and meticulous analysis of the incoming data from the text, we will have problems processing the words and understanding the text. However, according to Block (1992), currently, the debate is heated over "whether reading is a bottom-up, language-based process or a top-down, knowledge-based process" (p. 322). Block (1992) further adds that, the steam of research has now advanced towards more detailed investigation of the direct control that readers exert while trying to comprehend a text. This control is referred to as *metacognition* by Block (1992) . Metacognition involves thinking about what one is doing while reading (Pressley, 2002). Fluent readers think about what they are reading and take all the necessary steps to comprehend the text, and this process is very important to EFL students (Huang & Nisbet, 2012).

Successful language learners must possess the ability to monitor, evaluate, and control their thinking (Koda, 2007). Various definitions of *reading strategies* have been cited in the literature. For instance, Pearson, Roehler, Dole, and Duffy (1992), defined reading strategies as conscious and flexible plans that readers apply and adapt to particular texts and situations. Wellman (1988) argued that a strategy has to be "employed deliberately, with some awareness" (p. 5). Paris et al. (1991) defined reading strategies as "a wide range of tactics that readers use to engage and comprehend text" (p. 610).

2.2. Metacognitive Strategies and L2 Comprehension

The interest in the area of metacognitive awareness of reading strategies has been looming lately (Iwai, 2007). One recent example is from Alsheikh and Mokhtari (2011) who examined how native Arabic-speaking college students used reading strategies while reading English. They concluded that raising the awareness of reading strategies through explicit teaching proves enormously useful in EFL classrooms. Zhang and Goh (2006) hold that, while students are generally aware of the usefulness of the strategies, they are not conscious and confident strategy users; indicating a need to enhance the strategies repertoire at their disposal. Mayer (1998) reminded the importance of metacognition by stating that metacognitive awareness is a predictor of effective problem solving, together with skill and motivation.

Devine (1993) and Flavell (1981) described metacognitive strategies in reading as strategies that are applied to monitor or regulate the cognitive strategies. Devine (1993) commented that skimming a text for key information involves "the usage of cognitive strategy, whereas assessing the effectiveness of skimming for gathering textual information would be a metacognitive strategy" (p.108). Metacognitive reading strategies are generally classified into three groups: planning (pre-reading), monitoring (during reading), and evaluating (post-reading) strategies (Alsheikh & Mokhtari, 2011; Anderson, 2003; Baker, 2008; Devine, 1993; Iwai, 2007), and each group has a variety of strategies that require metacognitive processing on the part of readers (Pressley, 2002; Sheorey & Mokhtari, 2001).

Research on metacognition has revealed that less proficient learners do not learn the purpose of reading and tend to focus on word-by-word reading in lieu of reading for meaning (Soleimani & Hajghani, 2013; Takallou, 2011). Harris et al. (1988) added that poor readers usually finish reading passages without even knowing that they have not comprehended them. Moreover, poor readers are less competent at adjusting their reading rate to fulfil the purpose of reading (Block, 1992). When they fail to understand a text, poor readers are not as flexible as fluent readers in utilizing and coordinating different strategies to solve the problem (Garner & Kraus, 1982; Takallou, 2011). Langer (1984) maintains that poor readers are less successful in monitoring their understanding of the material read or are deficient in effective use of metacognitive skills. Pressley, Borkowski, and Schneider (1989) stressed that good readers automatically undertake metacognitive strategies to focus their attention, to derive meaning, and to make adjustments when something goes amiss. Harris et al. (1988) assert that readers who have higher metacognitive skills are able to check for confusion or inconsistency, employ a corrective strategy, such as rereading, relating different parts of the passage to one another, look for topic sentences or summary paragraphs, and relating the current information to their past knowledge. Harris et al. (1988) further add that metacognitively competent readers do not classify these skills while performing them but if asked, they can give an account of their metacognitive processes properly. They have a conscious awareness of their own knowledge and the conscious ability to understand, monitor, and handle their own cognitive processes (Harris et al., 1988). Pressley, Borkowski, and Schneider (1989) concluded that since metacognitive strategies are inherently conscious and potentially malleable; learners with good metacognitive skills are able to monitor and direct their own learning processes efficiently.

3. Methodology

3.1. Participants

The participants of this study were 111 Iranian Intermediate EFL students of grade one studying in high school who were chosen out of a larger pool of 192 (explained in section 3.2.1). They were all female and native speakers of Persian whose levels of education were approximately the same because they passed the entrance exam to enter this school. Participants filled out consent forms prior to the commencement of the study. To ensure the homogeneity of the participants, a norm- referenced placement test (Nelson English language proficiency Test) was administered to all the students and the mean scores were calculated. In the next step, the experimental and control groups were administered a reading comprehension section of The *TOEFL® Junior™* Standard test as their pre-test.

3.2. Instruments

3.2.1. Nelson English Language Proficiency Test.

For the purpose of this study, 111 students were selected from among 192 intermediate EFL students of grade one through a 50-item Nelson English Language Proficiency Test (NELT) adopted from Fowler and Coe (1978) with reasonable measures of validity and reliability.

The section 150A of Nelson English Language Test was administered to determine the subjects' language proficiency level. The test included 50 multiple-choice items testing grammatical points and knowledge of vocabulary. Students had to choose the correct answer which best completed the sentence (see Appendix A).

3.2.2. The *TOEFL® Junior™* Standard Test.

The *TOEFL® Junior™* Standard test was developed by Educational Testing Service (ETS) for the English language learning needs of students in middle-school grades, usually aged 11 to 15. The *TOEFL® Junior™* Standard test measures the degree to which middle school students have attained proficiency in the academic and social English language skills representative of English-medium instructional environments. It is not based on or limited to any specific curriculum. Designed to measure listening comprehension, language form and meaning, and reading comprehension, the test gives schools, teachers, parents, and students an objective measure of the test taker's English language learning progress. Scores can be used to support decisions to place students into programs designed to increase English proficiency levels. The test can also be used to measure student progress in developing English language proficiency over time were used to assess the reading skills of each participant (Gallagher, 1999).

Pre- and post-test scores were gathered for each student in order to measure changes in their reading comprehension levels before and after Metacognitive Reading Strategies (MRS) instruction. Although the *TOEFL® Junior™* Standard test has three sections: Reading Comprehension, Listening Comprehension and Language Form and Meaning, the researchers used only the reading exam preparation materials for the purposes of this study. This section consisted of 20 multiple- choice reading comprehension questions related to three passages (see Appendix B). The pre-test was also used as the post-test for preventing inconsistencies. Every item was graded dichotomously: one point for a correct answer, zero for an incorrect one. The allotted time for each test was 20 minutes.

3.3. Procedure

The present study was undertaken during the class time in the first semester of the 2013-2014 academic year. The experimental group (EG henceforth) received explicit instruction on metacognitive strategies beginning from the third session of the course while the control group (CG henceforth) did not receive any instruction. The participants in the experimental group participated in a 5-session strategy training. Each session held once a week and took 45 minutes. The textbook consulted for this course was Select Reading (Bernard & Lee, 2004). The training was based on CALLA model of teaching learning strategy which includes five steps:

A) Preparation: The purpose of this phase was to help students identify the strategies they are already using and to develop their metacognitive awareness of the relationship between their own mental processes and effective learning. In this step the teacher explained the importance of metacognitive learning strategies and a handout including different metacognitive strategies was distributed to the students. In relation to reading comprehension, which was the subject of this study, students with the help and guidance of the teacher set specific goals for mastering the reading passages from certain chapters in the textbook within a certain time frame, and they planned their time in order to accomplish the task (time-management).

B) Presentation: This phase focused on modeling the learning strategy. Learners were explicitly taught about the variety of strategies to use when they do not know a vocabulary word they encounter in a text and they judge the word to be important to the overall meaning of the text. But more importantly, they received explicit instruction on how to use these strategies. For example, using contextual cues for guessing the meaning of unknown words may be effective in some rich-context cases but not in context-reduced texts. The preparation and planning, the selection of reading comprehension strategies, monitoring of strategy selection and use, orchestrated use of several strategies, and evaluation of effectiveness of metacognitive strategies were illustrated through several examples.

C) Practice: In this phase, students had the opportunity of practicing the learning strategies with an authentic learning task. They were asked to make conscious effort using the metacognitive strategies in combination with reading strategies. The students became aware of multiple strategies available to them. Students were shown how to recognize when one strategy is not working and how to move on to another.

D) Self-evaluation: The main purpose of this phase was to provide students with opportunities to evaluate their own success in using learning strategies, thus developing their metacognitive awareness of their own learning processes. Activities used to develop students self-evaluation insights included self-questioning, debriefing discussions after strategies practice, learning logs in which students recorded the results of their learning strategies applications, checklists of strategies used, and open-ended questionnaires in which students expressed their opinions about the usefulness of particular strategies.

E) Expansion: In this final phase students were encouraged to: a) use the strategies that they found most effective, b) apply these strategies to new contexts, and c) devise their own individual combinations and interpretations of metacognitive learning strategies.

The whole CALLA procedure is depicted in figure 1. At the end of the course both the control group and the experimental group were given the reading comprehension TOEFL Junior Test as their post- test and the results of the tests were compared to find the effects of the training.

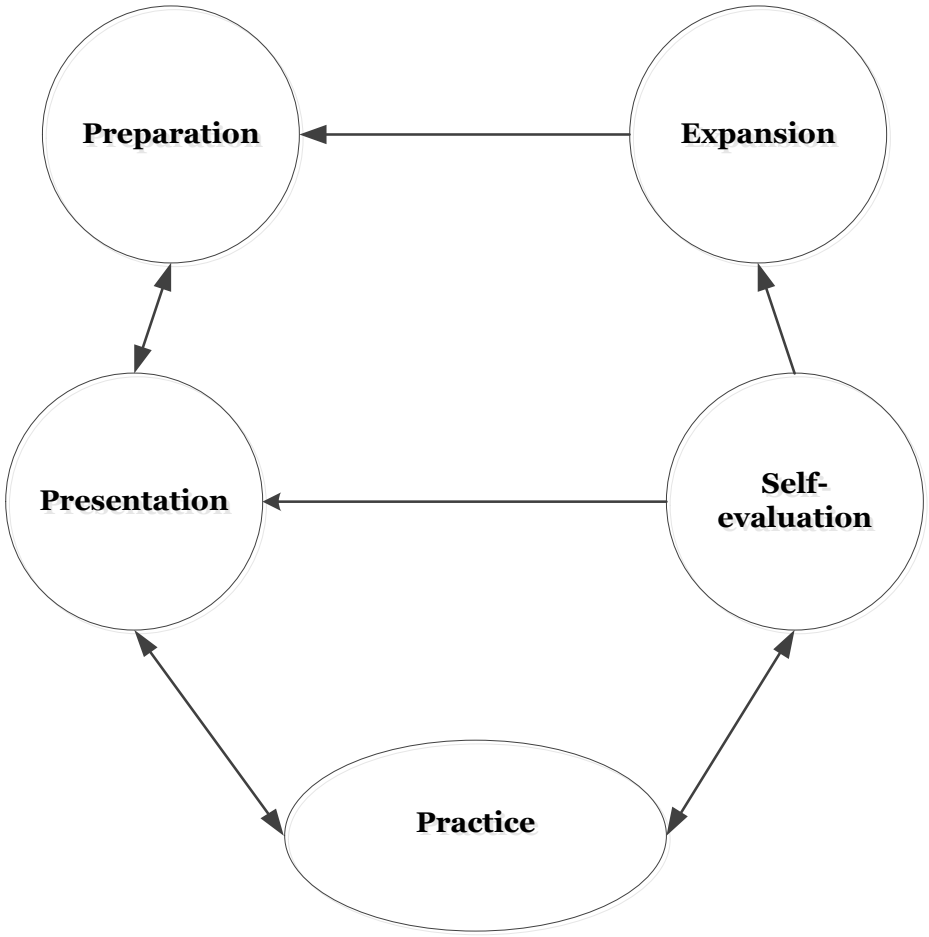

Figure 1. CALLA Model of Cognitive Strategy Instruction

The placement test (Nelson English language proficiency Test) had already been administered to the pupils. The students whose scores were *1* SD above and below the mean score were selected as participants. It is worthy of notice that the scores of the test in its original form (in form of multiple-choice sections; maximum of 50), assumes that a learner with 25 $\pm$10 score could be considered to be at the intermediate level. The insignificant value in placement test showed that the experimental and control groups were at the same level of language proficiency before the commencement of the study. To see if the control and experimental groups were equal in condition before the treatment began, it was necessary to compare the mean scores of both groups. A pre-requisite to any comparison of two independent means is equality of variances. Equality of variances was investigated using Levene's test. After it was confirmed that the two groups were at the same level of language proficiency before the treatment, it was time to see whether any changes had occurred in the performance of the experimental group after the treatment. To this end, the mean scores of the post-test compared. After the required data were collected, the outcome scores were analyzed by means of Statistic Package for Social Sciences (SPSS) version 21. The pre/post-test (a reading comprehension section of The *TOEFL® Junior™* Standard test) consisted of 20

multiple- choice reading comprehension questions related to three passages. After collecting the data, the early step used in analyzing data was organizing the numerical values in terms of mean scores.

3.4. Results

3.4.1. Preliminary Findings.

To present clear picture of scores, bar graphs are provided. These graphs displayed the performance of 111 learners in performing on the tasks based on the mean values of each variable. Bars are indicative of the change in the learners' performance. As it is evident, there are fluctuations in the performance of participants on learning reading comprehension. The descriptive statistics for both groups in pre and post-tests are shown in table 1.

Table 1. Descriptive statistics for both groups in pre and post-tests.

Groups	pre-test		post-test	
	mean	std. deviation	mean	std. deviation
Control	9.47	1.48	10.83	1.64
Experimental	9.57	1.04	14.13	1.50

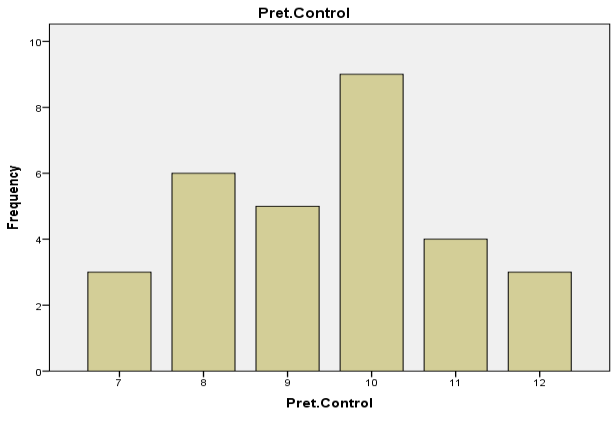

Figure 2. The performance of control group in pre-test

Figure 3. The performance of experimental group in pre-test

Figures 2 and 3 indicate that all learners in control and experimental groups performed consistently on the pre-test.

Figure 4. The performance of control group in post-test

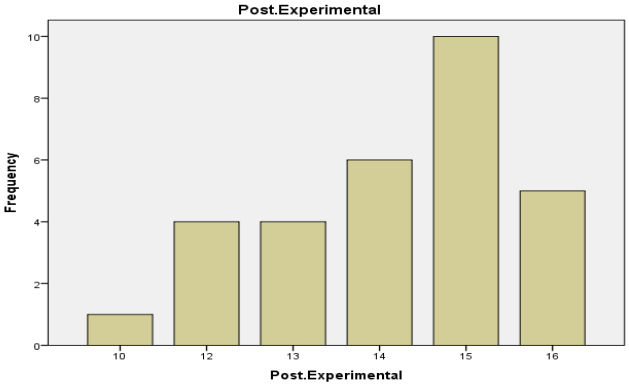

Figure 5. The performance of experimental group in post-test

As it is illustrated in the figure 4 and figure 5, the experimental group outperformed control group in the post-test.

3.4.2. The Two-way Analysis of Variance (ANOVA) Test.

The result of the two-way analysis of variance (ANOVA) test is shown in table 2.

Table.2. The result of the two-way analysis of variance (ANOVA) test

categorical independent variables	sum of squares	df	mean square	F	Significance
Groups' tests	76.8	1	76.8	37.36	0.00

The result of the two-way analysis of variance (ANOVA) test shows the influence of the treatment on the students' scores is significant, because the value of variable F is 37.91 and the value of variable sig (significant) is 0.00. The analysis of the collected data revealed statistically significant positive relationship between metacognitive strategy instruction through CALLA approach and improving reading comprehension performance of the students.

3.4.3. The t-test Value of the Reading Pre-post-tests for CG and EG.

The paired sample t-test was used to show the efficiency of training on experimental group. The scores of student in experimental group are checked in both pre and post-tests. The detailed results of paired sample t-test are shown in table 3.

Table 3. The result of paired sample t-test

Group	tests	mean	Std. deviation	T	DF	Significance
Experimental	Pre-test	9.57	1.04	15.73	29	0.00
	Post-test	14.13	1.50			

Table 3 shows that there is a significant difference between student's scores in pre- and post-tests (sig=0.00) and it can be concluded that the experiment (teaching metacognitive strategy instruction) was effective on the students in experimental group.

In order to probe the relationship between metacognitive strategy instruction and reading performance through CALLA approach, a sample t-test and an independent t-test were run. The results are provided in table 4. According to table 4, there is not a significant difference between student scores mean obtained from pre-test in control and experimental groups (sig=0.85). Therefore, it can be claimed that students' reading performance (level) is the same in both groups before the strategy training.

Furthermore, table 4 shows that there is a significant difference between the mean scores of the students obtained from post-test in control and experimental groups (sig=0.00). Therefore, it can be concluded that students' reading performance is unlike in both groups after the treatment and metacognitive strategy instruction is efficient.

Table 4. The result of independent samples t-test

	Group	mean	Std. deviation	T	df	significance
Pre-test	control	9.47	1.78	0.3	58	0.76
	experimental	9.57	1.04			
Post-test	control	10.83	1.64	8.12	58	0.00
	experimental	14.13	1.50			

4. Discussion

The major aim of the present study was to explore the effectiveness of metacognitive strategies instruction on the reading comprehension performance of the EFL students. As it was shown, the experimental groups outperformed the control group on the reading comprehension performance after the intervention. Thus, the metacognitive strategy instruction seems to have contributed to the improvement of students' reading comprehension performance. In other words, the explicit instruction and practice the experimental group received about how to plan and how to monitor their reading, contributed to this improvement. In addition, the findings of this study indicate that the Cognitive Academic Language Learning Approach (CALLA) strategy has contributed to the improvement of students' reading comprehension performance.

The findings of this study support the results of other empirical studies on the effect of strategy instruction on reading comprehension performance (e.g. Baker, 2008; Cross & Paris, 1988; Mokhtari & Reichard, 2002; O'Malley, 1987; Philip & Hua, 2006; Pressley, 2002; Soleimani & Hajghani, 2013; Takallou, 2011; Zhang, 2010). The findings also corroborate the results of other similar studies that investigated the effectiveness of the instruction of metacognitive strategies in language teaching (e.g., Anderson, 2002; Demmrich, 2005; Eilers & Pinkley, 2006; Ikeda, & Takeuchi; 2003; Salataci, & Akyel, 2002; Wang, Spencer & Xing, 2009). In his study, Andreson (2002) concluded that the use of metacognitive strategies shapes one's creative thinking and can lead to higher and better performance. Students who make use of a wide range of metacognitive skills perform better on reading comprehension tasks (Anderson, 2002). The outcomes of our study are also dovetailed by the results of the study which was undertaken by Khonamri and Ahmadi (2014). They investigated the effect of metacognitive and reading comprehension strategy training on reading ability of Iranian Elementary EFL learners. Their results unfolded that the participants' reading competency in the two experimental groups increased significantly.

Furthermore, our findings are in line with those of Zare and Sarmadi (2004) that examined the difference between weak and strong university students with regard to their metacognitive knowledge and metacognitive strategy awareness. They discovered that metacognitive knowledge and metacognitive strategy awareness affect students' academic achievement. The use of strategies in reading comprehension is not merely confined to its use. Rather, it involves the skills of establishing the appropriate strategies and of organizing such strategies in order that the particular learning process becomes more functional and serves its purpose well in a justified systematic manner (Rasaya & Elangkeeran, 2007). In this respect, it has been asserted that metacognitive strategy training through CALLA results in improved performance in reading comprehension for the students (Devine, 1993; Grabe, 1991; Zhang, 2010). Although the support reading strategies did not show a significant improvement through CALLA training, it is sufficient to note that such training does make a difference in students' reading comprehension. Students can be trained to use learning strategies for reading comprehension such as metacognitive strategies using a variety of different approaches, techniques and methods. Some of these approaches are Styles and Strategy-Based Instruction (SSBI) Model (Cohen, 1998) and the model proposed by Grenfell and Harris (1999). A learner's knowledge and awareness of these strategies will decide the quality of his or her comprehension, performance and achievement (Guterman, 2003). Griffiths (2004) holds that language learning strategies are teachable and the fact that learners can benefit from coaching in learning strategies provides much of the research in the field. Lam's (2008) argues, "Learners well versed in metacognitive strategy use are learners with direction, thereby becoming autonomous in the learning process (p. 211)".

The findings of the present study have implications for learners, teachers, and teacher educators in the realm of TEFL in particular and education in general. It helps teachers in

accomplishing their challenging task of teaching English in EFL contexts where learners have less exposure to language compared to ESL contexts. Teachers can help learners use different metacognitive strategies to facilitate their language learning. This study provides further evidence for the benefits of metacognitive strategy training. Our findings have confirmed that reading comprehension could be developed through systematic instruction in metacognitive language learning strategies. Methodical explicit instruction about the concept of metacognition and learning strategies helped students of the experimental group to better comprehend this new approach and how to apply it to different learning tasks on reading.

5. Limitations and Call for Further Research

Despite the fact that our results have positively shown that training students in the use of metacognitive strategies through CALLA can lead to better performances in their reading comprehension, the overall effectiveness of such an approach needs to be validated according to more context-specific settings. The effectiveness of a strategy should not only be established based on the students' test performance. There are other variables such as motivation, attitude and anxiety factors, suitability of materials used (Lam, 2008; Philip & Hua, 2006) and other factors that this study did not address and need to be explored further. Besides, this approach can also be compared back-to-back with other similar types of language learning strategy instruction to affirm its cogency. This will certainly lend more credibility to the overall validity of this study. Moreover, it can be asserted that the model (CALLA) used to teach metacognitive strategies were a practical and fruitful one.

Despite the conclusions drawn from this study, it is necessary to emphasize that this study needs to be repeated with larger samples for the purpose of reliability confirmation. In the light of the present study, it would be interesting to add other factors that may possibly contribute to reading comprehension (e.g. reading motivation). Other studies should be conducted with participants from primary or junior-high schools, gifted students, and students at risk of school failure. It would be interesting to see whether there are any relationships between metacognitive strategy instruction and reading performance of these other groups. A replication of the current study using think-aloud and other protocols in examining the reading strategies of EFL learners and recall tasks to measure students' comprehension may open new horizons on the different aspects of EFL reading.

In further studies, the use of metacognitive strategies in other skills, such as listening, writing and speaking, should be scrutinized to see whether these skills can be positively correlated with language achievement. Since teachers themselves are one of the main factors in the outcome of the teaching, further studies could focus on teacher training on metacognitive reading strategies.

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APPENDIX A

(Nelson English Language Test)

Choose the correct answer. Only one answer is correct.

John: Mr Jackson ....1..... the children to the zoo yesterday. When they got there they .....2..... a bell, and when they were inside they saw a man in the lion house.

Mary: Why .....3..... ?

John: He .....4..... the lions their food.

Mary: How much .....5.....?

John: The children didn't .....6..... .Did you know that .....7..... two restaurants in the zoo? So people .....8..... go out if ....9..... eat something.

Mary: What time .....10..... the restaurants?

John: Oh, the children .....11..... remember times. They .....12..... times aren't important.

1.A.was taking B.did take C.took D.has taken

2.A.heared B. were hearing C.listened D.were listening

3. A.was he here B.has he been there C.has he been here D.was he there

4. A.was just giving B.has just given C.gave just D.had given just

5. A.he gave to them B.did he give them

C.gave he to them D.did he to them give

6. A. tell it me B.say me C.tell me D. say it to me

7. A. are there B.are they C.they are D. there are

8. A.mustn't to B. mustn't C.don't need to D.don't need

9. A.they want to B. they want C.he wants to D.he wants

10. A. do open B. do they open C. are open D. are opening

11. A. can't B. may not C. aren't able D. couldn't to

12. A. say to me what B. say me which C. tell me what D. tell me that

Choose the correct answer. Only one answer is correct.

13. A. How is your age? B. How old are you?

C.What age have you got? D. How many years you are?

14. Mary had..... money.

A.enough B. many C. fewer D. any

15. A. What shoes are they made? B. What shoes are made of?

C.What are shoes are made of? D. What are made of shoes?

16. ..... are very clever.

A. Both them B. Both of them C.The both boys D. Both of boys

17. What ..... on Sundays?

A. does John usually do B. do John usually does

C. John usually does D.does John usually

18. There wasn't ..... in the park.

A.some people B. anybody C. any people D.no people

19. This is ..... that.

A.the same as B. the same that C. different that D. the different from

20. Michael always wants ..... money.

A.a few B. too many C. so much D. another

21. When ..... , give her this book.

A. Alison will arrive B. is Alison arriving C. Alison arrive

D. Alison arrives

22. I think there are ..... in the garden.

A. nobody B. someone C. some people D. anybody

23. Michael stayed with us ..... three weeks.

A. since B. in C. for D. through

24. Carrie is ..... Hilary.

A. pretty than B. prettier than C. so pretty as D. more pretty that

25. Did you buy ..... cheese?

A.so many B. too C. these D. a lot of

26. ..... the men's a doctor ?

A. What B. Both C. Which of D. Who of

27. John was ..... the bus for ten minutes.

A. waiting for B. expecting C. attending D. hoping for

28. Have you been to the USA? .....

A. Ever. B. Never. C. Already. D. Yet.

29. Shall I buy some apples? Yes, ...

A. get a kilo of big B. bring a kilo C.take few big ones D. buy a lot of

30. Ken doesn't come from London.

A. Neither Tom does B. Tom isn't coming , too C. Tom also

D. Nor does Tom

31. Do you need any water? No, ...

A. I needn't any B. I've got some C. I don't need D. I haven't got any

32. ..... lovely food!

A. Which B. Which a C. What D. What a

33. I'm going to give .....

A. to him a record B. him a record

C. a record him D. some record to him

34. I don't know who ..... chocolate.

A. is liking B. like C.are liking D. likes

35. ..... we don't get home before midnight.

A. Sometimes B. Always C. Never D. Every time

36. ..... to become a film star.

A. No every child wants B.No every children want C. Not every child wants

D. Not every children want

37. Whose is this?

A. His B. He's C. Its D. It's

38. Were you singing when I came in ? Yes, I .....

A.sang B. sung C.was D. were

39. Where's the record?

A.There's it B. He's under the chair C. There's on a chair D. It's here

40. Are you making cakes?

A. Yes, I do B. Yes , I am C. Yes, I'm doing D. Yes , I'm making

41. Next month ..... seventeen.

A. I'll be B. shall I be C. I'm being D. I have

42. How's the baby?

A. He's Alison's. B. She's very well.

C. That's the baby. D. She's a girl.

43. When did you last ..... Mr Brown?

A. meat B. met C. meeting D.meet

44. Have you ever ..... the Atlantic?

A. flown along B. flowed along C. flown across D. flowed across

45. Yesterday Mary ..... to me with a problem.

A. came B. goes C. went D. come

46. ..... lots of trees around the house?

A. Were always there B. Have there always been C. Had there always

D. Were they always

47. What date is it?

A. The third of March. B. The third March C. Of March the third

D. March the third

48. His daughter is .....

A. as old as yours B. as old as your one C. so old as yours

D. so old as your one

49. He .....his hat and went out.

A. takes on B. took on C. puts on D. put on

50. Which sentence is correct?

A. Was the English women old?

B. Was the English women an old?

C. Were the English women some old?

D. Were the English women old?

APPENDIX B

Reading Comprehension Questions (The *TOEFL® Junior™* Standard test)

Questions 1–4 are about the following announcement

On Saturday, December 12th, from 10 A.M. until 4 P.M., Carverton Middle School will be holding a music festival in the school gymnasium. The special event will feature a variety of professional musicians and singers.

Students Volunteers Needed

Task	Time	Date
Make posters	1 P.M.–4 P.M.	December 5th
Set up gym	11 A.M.–4 P.M.	December 11th
Help performers	9 A.M.–4 P.M.	December 12th
Welcome guests	10 A.M.–2 P.M.	December 12th
Clean up gym	4 P.M.–7 P.M.	December 12th

Interested students should speak with Ms. Braxton, the music teacher. Students who would like to help at the festival must have written permission from a parent or guardian.

1. What time will the festival begin? A. 10 A.M B. 11 A.M. C.1 P.M D. 2 P.M

2. In line 2, the word feature is closest in meaning to _____.

A. look B. keep C. include D. entertain

3. What job will be done the day before the festival begins?

A. Making posters B. setting up the gym C. cleaning the gym D. Helping the performers

4. Who is told to talk to Ms. Braxton? A. Parents B. Students C. Teachers D. Performers

uestions 5–11 refer to the following story.

"Did you see that?" Joe said to his friend Bill. "You're a great shooter!"

Bill caught the basketball and bounced it before throwing it again. The ball flew into the net.

"Bill, you never miss!" Joe said admiringly.

"Unless I'm in a real game," Bill complained. "Then I miss all the time."

Joe knew that Bill was right. Bill performed much better when he was having fun with Joe in the school yard than he did when he was playing for the school team in front of a large crowd.

"Maybe you just need to practice more," Joe suggested.

"But I practice all the time with you!" Bill objected. He shook his head. "I just can't play well when people are watching me."

"You play well when I'm watching," Joe pointed out.

"That's because I've known you since we were five years old," Bill said with a smile. "I'm just not comfortable playing when other people are around."

Joe nodded and understood, but he also had an idea.

The next day Joe and Bill met in the school yard again to practice. After a few minutes, Joe excused himself.

"Practice without me," Joe said to his friend. "I'll be back in a minute."

Joe hurried through the school building, gathering together whomever he could find—two students, a math teacher, two secretaries, and janitor.

When Joe explained why he needed them, everyone was happy to help.

Joe reminded the group to stay quiet as they all went toward the school's basketball court.

As Joe had hoped, Bill was still practicing basketball. He made five baskets in a row without noticing the silent people standing behind him.

"Hey, Bill!" Joe called out finally.

Bill turned. A look of surprise came over his face. I just wanted to show you that you could play well with people watching you," Joe said. "Now you'll have nothing to worry about for the next game!"

5. What would be the best title for the story?

A. Joe Joins the Team B. Practice Makes Perfect C. Bill Wins the Big Game D. Bill's Basketball Problem

6. In line 6, the word performed is closest in meaning to _____.

A. acted B. played C. moved D. changed

7. Why is Bill upset?

A. He plays better in practice than he does during games.

B. The school yard is not a good place to practice.

C. Joe watches him too closely when he plays.

D. His team loses too many games.

8. Why does Bill play well when Joe is watching him?

A. He is comfortable with Joe.

B. Joe tells him how to play better.

C. He does not know that Joe is there.

D. He wants to prove to Joe that he is a good player.

9. Why does Joe decide to gather a group of people?

A. Because he wants more players for his team

B. Because he wants to help Bill feel less nervous

C. Because he wants to show them his talent

D. Because he wants more people to see the next game

10. At the end of the story, all of the following people watch Bill practice EXCEPT _____.

A. Joe B. a janitor C. a math teacher D. the basketball coach

11. Why does the group have to be quiet when they go to the basketball court?

A. Because Joe is telling Bill what to do

B. Because they do not want Bill to know they were there

C. Because Bill likes to practice alone

D. Because the group needs to listen to Joe's instructions

Questions 12–20 are about the following passage.

When another old cave is discovered in the south of France, it is not usually news. Rather, it is an ordinary event. Such discoveries are so frequent these days that hardly anybody pays heed to them. However, when the Lascaux cave complex was discovered in 1940, the world was amazed. Painted directly on its walls were hundreds of scenes showing how people lived thousands of years ago. The scenes show people hunting animals, such as bison or wild cats. Other images depict birds and, most noticeably, horses, which appear in more than 300 wall images, by far outnumbering all other animals.

a monumental and difficult task. They did not limit themselves to the easily accessible walls but carried their painting materials to spaces that required climbing steep walls or crawling into narrow passages in the Lascaux complex.

Unfortunately, the paintings have been exposed to the destructive action of water and temperature changes, which easily wear the images away. Because the Lascaux caves have many entrances, air movement has also damaged the images inside. Although they are not out in the open air, where natural light would have destroyed them long ago, many of the images have deteriorated and are barely recognizable.

To prevent further damage, the site was closed to tourists in 1963, 23 years after

it was discovered.

12. Which title best summarizes the main idea of the passage?

A. Wild Animals in Art
B. Hidden Prehistoric Paintings
C. Exploring Caves Respectfully
D. Determining the Age of French Caves

13. In line 3, the words pays heed to are closest in meaning to _____.

A. discovers B. watches C. notices D. buys

14. Based on the passage, what is probably true about the south of France?

A. It is home to rare animals.
B. It has a large number of caves.
C..It is known for horse-racing events.
D. It has attracted many famous artists..

15. According to the passage, which animals appear most often on the cave walls?

A. Birds B. Bison C. Horses D. Wild cats

16. In line 8, the word depict is closest in meaning to _____.

A. show B. hunt C. count D. draw

17. Why was painting inside the Lascaux complex a difficult task?

A. It was completely dark inside. B. The caves were full of wild animals. C.Painting materials were hard to find. D.Many painting spaces were difficult to reach

18. In line 12, the word <u>They</u> refers to ____. A.walls B. artists C. animals D. materials

19. According to the passage, all of the following have caused damage to the paintings EXCEPT _____ .

A. temperature changes B. air movement C. water D. light

20. What does the passage say happened at the Lascaux caves in 1963?

A. Visitors were prohibited from entering. B. A new lighting system was installed.

C. Another part was discovered. D. A new entrance was created.