

The Effect of Metacognitive Strategy Instruction on EFL Learners' Reading Comprehension Performance and Metacognitive Awareness

Fatemeh Takallou
Payame Noor University, Iran

Bio Data:

Fatemeh Takallou has an M.A. in TEFL (Teaching English as a Foreign Language) from the Teacher Training University of Tehran in Iran. She is currently lecturing and researching in Payame Noor University, Kermanshah, Iran where she has taught courses in EFL, ESP, and translation to graduate and undergraduate students.

Abstract

As learners have an important role in new teaching methodologies, raising their awareness of learning strategies and helping them utilize these strategies is a crucial aim of teachers. One type of these learning strategies is metacognitive strategies including planning, self-monitoring and self-evaluation. The present study aimed at examining the effect of metacognitive (planning & self-monitoring) strategy instruction on EFL learners' reading comprehension performance (on authentic and inauthentic texts) and their metacognitive awareness. To this end, two tests (TOEFL and a reading comprehension test) and Strategy Inventory for Language Learning (SILL) were administered to 93 male and female EFL learners in four phases of this study. At the first phase, TOEFL was administered to all the students both to homogenize students regarding language proficiency and to validate the reading comprehension test. At the second phase, SILL was administered to two experimental and one control groups before strategy instruction. SILL assesses the frequency with which the subjects use a variety of techniques for foreign language learning. At the third phase, two experimental groups received five sessions of instruction on metacognitive strategies, one on planning and the other on self-monitoring strategy based on the Cognitive Academic Language Learning Approach (CALLA). Both experimental and control groups worked on authentic and inauthentic texts (some articles from

Readers' Digest and *Reading Skillfully III*). At the fourth phase, after completion of instruction, the reading comprehension test and SILL questionnaire were administered to all groups. Data analysis revealed that two experimental groups which received instruction on 'planning' and 'self-monitoring' outperformed the control group on the reading comprehension test. Moreover, text type played an important role in the subjects' reading comprehension. The subjects performed better on authentic texts. In addition, the results showed that experimental groups' awareness to metacognitive strategies significantly increased after instruction. The findings of the present study have implications for learners, teachers, and textbook writers in the realm of TEFL in particular and education in general.

Introduction

As learners have an important role in new teaching methodologies, raising their awareness of learning strategies and helping them utilize these strategies is a crucial aim of teachers. One type of these learning strategies is metacognitive strategies including planning, self-monitoring and self-evaluation. The present study aimed at examining the effect of metacognitive (planning & self-monitoring) strategy instruction on EFL learners' reading comprehension performance (on authentic and inauthentic texts) and their metacognitive awareness. To this end, two tests (TOEFL and a reading comprehension test) and Strategy Inventory for Language Learning (SILL) were administered to 93 male and female EFL learners in four phases of this study. At the first phase, TOEFL was administered to all the students both to homogenize students regarding language proficiency and to validate the reading comprehension test. At the second phase, SILL was administered to two experimental and one control groups before strategy instruction. SILL assesses the frequency with which the subjects use a variety of techniques for foreign language learning. At the third phase, two experimental groups received five sessions of instruction on metacognitive strategies, one on planning and the other on self-monitoring strategy based on the Cognitive Academic Language Learning Approach (CALLA). Both experimental and

control groups worked on authentic and inauthentic texts (some articles from *Readers' Digest* and *Reading Skillfully III*). At the fourth phase, after completion of instruction, the reading comprehension test and SILL questionnaire were administered to all groups. Data analysis revealed that two experimental groups which received instruction on 'planning' and 'self-monitoring' outperformed the control group on the reading comprehension test. Moreover, text type played an important role in the subjects' reading comprehension. The subjects performed better on authentic texts. In addition, the results showed that experimental groups' awareness to metacognitive strategies significantly increased after instruction. The findings of the present study have implications for learners, teachers, and textbook writers in the realm of TEFL in particular and education in general.

The current research in second language reading has focused on readers' strategies. Grabe (2002) reinforced the importance of efficient reading strategies. Reading strategies are of interest for what they reveal about the way readers manage their interactions with written text, and how these strategies are related to reading comprehension. Several empirical investigations have been conducted into reading strategies and their relationships to second language reading comprehension. More recent research has begun to focus on metacognition, i.e., cognition of cognition. These studies investigate the relationships among metacognitive awareness, strategy use, and reading comprehension. There seems to be enough evidence to be confident that strategy instruction can, indeed, be effective at helping students learn more successfully (Muñiz-Swicegood, 1994; Chamot, Barnhardt, El-Dinary, & Robbins, 1996; Oxford & Leaver, 1996; Cohen, Weaver, & Li, 1998).

Interactive reading processes involve the presence of both reader and text (Celce-Murcia & Olshtain, 2000). "Psychological and psycholinguistic

research strongly indicate that the quality of reading as psychological processing of the target language input depends on whether the reader finds the text personally significant" (Nilsson, 2003, p. 4), that is, if the text relates to the reader's background knowledge and experiences, interests and information need.

According to Little, Devitt & Singleton (1989, p. 6) "this can be accomplished by using carefully chosen authentic texts". Lazaraton and Skuder (1997) found that even the most recent texts fell short on authenticity criteria used. For this reason, teachers need to become critical consumers of published materials. "Bring authentic data into the classroom can assist learners ... to make communicative meanings ... nonauthentic language, in some respects, actually makes the task for the language learner more difficult" (Nunan, 1999, pp. 80-81). On the other hand, it is said that authentic materials might be too culturally biased or they might be difficult for lower level learners to decode (Nunan, 1999).

As Grabe (1991) mentions reading is probably the most important skill for second language learners in academic context but according to Van Wyk (2001), many students enter higher education underprepared for reading demands which this is often due to their low level of reading strategy knowledge and lack of metacognitive control. Research on learning strategies focus on diverse issues of the reading comprehension process (Li & Munby, 1996; Mason & Krashen, 1997; Schoonen et al., 1998; Sheorey & Mokhtari, 2001).

Furthermore, Lazaraton and Skuder (1997) found that even the most recent texts fell short on authenticity criteria used. For this reason, teachers need to become critical consumers of published materials. "Bring authentic data into the classroom can assist learners ... to make communicative meanings ... nonauthentic language, in some respects, actually makes the task for the

language learner more difficult” (Nunan, 1999, pp.80-81).

Some Studies are conducted on the relation between language learning strategies specifically metacognitive strategies, reading comprehension and text authenticity for example Li and Munby (1996), Schoonen and co-researchers (1998), Sheorey and Mokhtari (2001), and Smith (2003).

Although similar studies related to this research have been conducted in EAP context, the effect of metacognitive strategies instruction on learner’s reading comprehension performance regarding authentic and inauthentic texts has not been previously reported in EFL context. The present study focuses on the effect of instruction on planning and self-monitoring strategies on the EFL learners' reading comprehension performance. Moreover, it intends to explore the effect of text (authentic or inauthentic) on their reading comprehension performance.

This article reports a metacognitive strategy instruction study of reading in English as a foreign language. It is designed to address the following research questions:

1. Does instruction on planning strategy have any significant effect on EFL learners’ reading comprehension performance on authentic vs. inauthentic texts?
2. Does instruction on self-monitoring strategy have any significant effect on EFL learners’ reading comprehension performance on authentic vs. inauthentic texts?
3. Does instruction on metacognitive strategies have any significant effect on EFL learners’ metacognitive awareness?

Language Learning Strategy Instruction

Conscious development of reading skills is important because we are trying

to equip students for the future (Nuttall, 2000). "It is impossible to familiarize them [students] with every text they will ever want to read; but what we can do is give them techniques for approaching texts of various kinds, to be used for various purposes, that is the essence of teaching reading" (Nuttall, 2000, p. 38). Strategy instruction is effective in promoting learner autonomy, or helping learners take control of their own learning (Stewner-Manzanares, Chamot, O'Malley, Küpper & Russo, 1985; Wenden & Rubin, 1987; Oxford, Talbott & Halleck, 1990). In addition, strategy training can help teachers become more aware of their students' needs and improve the relationship of their instruction to students' styles and strategies (Oxford, et al., 1990; Nyikos, 1996).

How is good strategy instruction carried out? This section explores what experts say in answer to this question, including general characteristics of optimal strategy instruction and a few instructional frameworks for strategy training.

Characteristics of Optimal Strategy Instruction

Researchers have come up with a number of characteristics of optimal strategy instruction (Iverson, 2005). As the following sections show, strategy instruction should be explicit, integrated, task-based, and individualized. It should also deal with affective factors and promote learner autonomy.

Explicit strategy instruction raises learners' consciousness both of their own strategy use and of the existence of other strategies (Oxford, 1994; Nyikos, 1996; Oxford & Leaver, 1996; Cohen, 1998).

Strategy instruction is much more effective when it is integrated into regular classroom activities, rather than treated separately, and when numerous strategies are taught over a longer period of time (Oxford, et al., 1990; O'Malley & Chamot, 1990; Oxford, 1994; Oxford & Burry-Stock,

1995; Nyikos, 1996; Oxford & Leaver, 1996; Cohen, 1998).

Instructional Frameworks for Strategy Instruction

In addition to general guidelines about how strategy instruction should be carried out, several frameworks for strategy instruction exist. The following section focuses primarily on three different instructional frameworks.

The first model of strategy instruction, utilized in this study, is the Cognitive Academic Language Learning Approach, or CALLA (O'Malley & Chamot, 1990; Chamot & O'Malley, 1994; Chamot, Barnhardt, El-Dinary & Robbins, 1999). This approach focuses on the integration of three aspects of learning: content area instruction, academic language development, and explicit instruction in learning strategies. It is particularly targeted toward students who have at least an advanced-beginning or intermediate level of English proficiency. This model is presented very simply through five basic steps: preparation, presentation, practice, evaluation, and expansion:

In the Preparation phase, teachers provide advance organizers about the lesson, and students identify what they already know about a topic, using elaboration as a strategy. In the Presentation phase, teachers provide new information to students, using techniques which make their input comprehensible. Teachers can use advance organizers and encourage the use of selective attention, self-monitoring, inferencing, summarizing, and transfer. In the Practice phase, students engage in activities in which they apply learning strategies, often in cooperative small-group sessions. During this phase, the teacher should encourage the use of strategies such as grouping, imagery, organizational planning, deduction, inferencing, and questioning for clarification. In the Evaluation phase, students reflect on their individual learning and plan to remedy any deficiencies they may have identified. Finally, in the Follow-Up Expansion phase, students are provided

with opportunities to relate and apply the new information to their own lives, call on the expertise of their parents and other family members, and compare what they have learned in school with their own cultural experiences. (Chamot & O'Malley, 1987, p. 245)

Another model for strategy instruction is termed “Completely Informed Training,” or sometimes “Strategy-Plus-Control Training.” It was introduced by Oxford, et al. in 1990. It is actually presented as one part of an overall strategy training model, which focuses on steps that teachers should take when implementing strategy training, including “preparation on behalf of both students and teachers, issues that teachers should consider for instruction, the 'Completely Informed Training' method for instruction, and how teachers should follow up instruction with evaluation and revision” (Iverson, 2005, pp. 44-45).

The third instructional framework was presented by Oxford and Leaver in 1996. “It is a little different in that it is not so much a list of steps for the instructor to go through, but a division of types of instruction that can be carried out, according to the level of consciousness that each type of instruction promotes” (Iverson, 2005, p. 46).

Text Authenticity

The debate between Chomsky (1965) and Hymes (1972) led to a realization that communicative competence involved much more than knowledge of language structures and contextualized communication began to take precedence over form. This culminated in Communicative Language Teaching and paved the way for the reintroduction of authentic texts which were valued for the ideas they were communicating rather than the linguistic forms they illustrated (Gilmore, in press). However, despite appeals for greater authenticity in language learning going back at least 30 years

(O'Neill & Scott, 1974; Crystal & Davy, 1975; Schmidt & Richards, 1980; Morrow, 1981), movements in this direction have been slow. According to Gilmore (in press):

The debate over the role of authenticity, as well as what it means to be authentic, has become increasingly sophisticated and complex over the years and now embraces research from a wide variety of fields including discourse and conversational analysis, pragmatics, cross-cultural studies, sociolinguistics, ethnology, second language acquisition, cognitive and social psychology, learner autonomy, information and communication technology (ICT), motivation research and materials development ... it is important to attempt to bridge these divides and consolidate what we now know so that sensible decisions can be made in terms of the role that authenticity should have in foreign language learning in the future.

Advantages and Disadvantages of Authentic Materials

Guariento and Morely (2001) claim that we can take a lot of advantage of the use of authentic materials, but we are also aware of the reverse effects of it on learners.

The importance of using authentic material in language learning has been demonstrated conclusively (Schow, 1998). Wilkins (1976) points out authentic materials usually include incidental or improper English, which are a part of every day conversation, but can not be found in textbooks. This claim itself provides teachers with an excellent reason to integrate such materials in EFL classes.

Nunan (1999, p. 26) argues “that learners should be fed as rich a diet of authentic data as possible because, ultimately, if they only encounter contrived ... texts, their task will be made more difficult”. Authentic materials “will assist learners because they will experience the language item

in interaction with other closely related grammatical and discourse elements” (Nunan, 1999, p. 27).

One of the other advantages of authentic materials is motivating the students. These materials usually promote a sense of achievement in the students. Moreover, changes are usually included in these kinds of materials, making it easy for the teachers and the learners to keep abreast of such changes (Guariento & Morley, 2001).

Authentic materials provide students with variety of materials which are not usually available in conventional teaching texts. These types of reading materials usually encourage reading for pleasure. Students are usually reluctant to read from their text books.

One of the main problems for learners may occur when students learn languages for the purpose of attaining success on an examination. In these situations, teachers have the responsibility to ensure that learners maximize their chances of success. If students are presented with authentic text they may not be given the necessary exposure to rules, patterns, or structures which they will need to achieve success on the examination. Moreover, authentic text may be a distraction to learners because it may be so apparent or introduce or focus on more language learning possibilities than a learner is able to comprehend or consolidate into examination related features (Murdoch, 1999).

It should be mentioned that the ability level of the student is an important factor in the choice of materials to be used. When teaching lower level learners, the instructor has to spend more time preparing authentic materials. Thus, without sufficient support materials, using authentic materials can add time constraints for the instructor.

It is said that authentic materials might be too culturally biased or they might be difficult for lower level learners to decode (Nunan, 1999). Often a

good knowledge of cultural background is required when reading, as well as too many structures being mixed; causing lower levels problems when decoding the texts (Martinez, 2002).

Richards (2001) notes that authentic materials often contain difficult language, unneeded vocabulary items and complex language structures, which can often create problems for the teacher too. They can also become very dated, very quickly but unlike textbooks can be updated or replaced much easier and more cost effectively. The biggest problem with authentic materials is that if the wrong type of text is chosen, the vocabulary may not be relevant to the learner's needs and too many structures can create difficulty.

Also, it is mentioned that texts drawn from recognizably authentic sources may be seen as not pedagogically serious enough (Wallace, 1992). However, a number of scholars such as Widdowson (1990), Harmer (1991), and Nunan (2001) believe that the disadvantages of these materials are in minority, and that they should be included in EFL classes.

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Some Studies are conducted on the relation between language learning strategies specifically metacognitive strategies, reading comprehension and text authenticity in EAP context for example Li and Munby (1996), Schoonen and co-researchers (1998), Sheorey and Mokhtari (2001), and Smith (2003).

As I know, similar studies related to this research have been conducted in EAP context, but it has not been previously reported in EFL context. The present study focuses on the effect of instruction on planning and self-monitoring strategies on the EFL learners' reading comprehension

performance. Moreover, it intends to explore the effect of text (authentic or inauthentic) on their reading comprehension performance.

Methodology

Participants

The participants in this study were 93 university students, 55 females and 38 males, majoring in Teaching English as a Foreign Language at Kermanshah Azad University. The subjects were assigned to groups by the university. Three intact classes were selected for the purpose of this study. Two classes were randomly assigned as experimental groups and the last one as the control group. Their age ranged from 20 to 25. They were Persian native speakers. Their homogeneity in terms of language proficiency was established through TOEFL (1995 version). In order to establish the homogeneity of the three groups in terms of general language proficiency, a one-way ANOVA was conducted to examine the probable difference among the performance of the three groups (EG1, EG2, and CG) before the experiment. The results indicated that there was not any significant difference between the mean scores of the subjects in the two experimental groups and the control group. Furthermore, they were homogeneous regarding eight years of English education in school and L1 background.

Instrumentation

To probe the research questions posed by the researcher, three instruments were used:

1. The Test of English as a Foreign Language (TOEFL, 1995 version)

This test was administered as a standardized measure to check the homogeneity of subjects in terms of language and also it was used as a criterion to validate teacher-made reading comprehension test. This TOEFL

test consists of 100 items of three sections of structure and written expressions (40 items), vocabulary (30 items) and reading comprehension (30 items). Due to administrative limitations listening comprehension section was not included. The reliability of the test, as estimated against KR - 21 measure of internal consistency, turned out as .081 in the pilot study.

2. SILL Questionnaire, version 7.0 (Oxford, 1990)

In the present study, Oxford's (1990) Strategy Inventory for Language Learning (SILL) was chosen for this study because it is "perhaps the most comprehensive classification of learning strategies to date" (Ellis, 1994, p. 539) and has been widely used. Its Cronbach alpha reliability coefficients range from 0.89 to 0.98 in various studies (Oxford, 1986; Oxford & Nyikos, 1989; Ehrman & Oxford, 1989, 1990; Wildner-Bassett, 1992; Nyikos & Oxford, 1993; Bedell, 1993; Oxford & Burry, 1993; Oxford & Ehrman, 1995, cited in Oxford, 1996).

Reliability of the SILL is high across many cultural groups. Its validity rests on its predictive and correlative link with language performance as well as its confirmed relationship to sensory preferences (Oxford, 1996). This questionnaire was given before and after strategy instruction to ask the students about the frequency with which they used these two metacognitive strategies (planning and self-monitoring) SILL is composed of 50 items in six categories, in which part D is related to metacognitive strategies. SILL consists of series of statements such as "I try to find out how to be a better learner of English" to which students are asked to respond to a five-point Likert scale ranging from 1 (never or almost never) to 5 (always or almost always).

3. A reading comprehension test

This teacher-made reading comprehension test includes two sections of

authentic and inauthentic texts. Four authentic reading texts were selected from *Reader's Digest* (September and February issues, 2005) which has interesting, popular, universal, and reader-friendly topics (Hwang, 2005). The magazine was chosen because according to Porter Ladousse (1999), magazines are example of authentic materials. Furthermore, they include different types of text with various illustrations which help students in implementing language learning strategies. Inauthentic reading comprehension texts were selected from chapters two, seven and nine of their course book, *Reading Skillfully III* (Mirhassani, 2003). It was taught during the course of Reading Comprehension III. On the whole, this reading comprehension test included 40 multiple choice questions (see Appendix).

Pilot Study

In order to assess the reliability of the reading comprehension test, the reading comprehension test was pretested with a sample group of 35 students having characteristics similar to the target group. Then after interpreting the collected data, five weak, malfunctioning and non-functioning items were removed from the whole test, and some were modified. After modification, estimated internal consistency measures (KR-21) revealed that the adequate reliability of 0.81 was attained. To establish the empirical validity of the reading comprehension test, the Pearson product-moment correlation between the reading comprehension tests (authentic and inauthentic) and TOEFL were calculated respectively as 0.67 and 0.60 which are significant at 0.05 level of significance.

Procedure

At the first phase, the TOEFL (1995 version) was administered to all the students. As it was mentioned above, it was used both to homogenize students regarding language proficiency and as a criterion to validate the

reading comprehension test.

Table 1: Levene Test of Homogeneity of Variances for the Three Groups

Levene Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
1.306	2	90	.276

At the second phase (next session), version 7.0 of the SILL that is a self-report instrument was administered to all groups. It assesses the frequency with which the subjects use a variety of techniques for foreign language learning. It was given before strategy instruction to ask the students about the frequency with which they use these two metacognitive strategies. On average, students completed the SILL within 25 minutes.

At the third phase, experimental groups received instruction on planning and self-monitoring based on CALLA model. They received instruction on metacognitive strategies for five sessions of ninety minutes during the semester. Both experimental and control groups worked on authentic and inauthentic texts (some articles from both *Readers' Digest* and *Reading Skillfully III*).

The five steps of the CALLA model (Preparation, Presentation, Practice, Evaluation, and Expansion) which are used in this study for instruction of planning and self-monitoring strategies.

1. Preparation. Effective strategy training requires a certain amount of preparation which involves both input and output from the students. First of all, the teacher needs to elicit a certain amount of information from the students, in order to be better informed about the students' needs and make appropriate decisions about which strategies to teach and how to teach them

(O'Malley & Chamot, 1990; Oxford, 1990; Oxford, et al., 1990; Chamot & O'Malley, 1994; Oxford & Leaver, 1996; Cohen, 1998; Chamot, et al., 1999).

2. Presentation. In the second stage of strategy instruction, learners are presented with a specific strategy or set of strategies to be taught. It is helpful for getting students to think about the strategy explicitly, discuss it, and remember it. The teacher describes how the strategy is used, why it is important and how it applies to the specific task at hand, and models it for the students with several examples (Oxford, et al., 1990).

3. Practice. In the third stage of strategy instruction, learners are given the opportunity to practice the strategy or set of strategies that are being targeted. One of the important elements of this phase is that it is integrated into the regular class work, so the students can make a solid connection between the new strategy and authentic tasks that they must accomplish. It is also important that the tasks are challenging enough to require the use of the new strategy, but not so difficult that they are overwhelming (Chamot, et al., 1999).

4. Evaluation. In the fourth stage of strategy instruction, learners reflect on their use of a specific strategy or strategies and evaluate its usefulness. This helps promote learner autonomy, and enable the instruction to be more individualized – both ingredients of good strategy instruction (O'Malley & Chamot, 1990; Oxford, 1990; Oxford, et al., 1990; Chamot & O'Malley, 1994; Cohen, 1998; Chamot, et al., 1999).

5. Expansion. In the final stage of strategy instruction (according to the CALLA model), learners are shown how to transfer the new strategy to different situations or tasks, and given opportunities to practice it. (O'Malley & Chamot, 1990; Oxford, 1990; Oxford, et al., 1990; Chamot & O'Malley, 1994; Cohen, 1998; Chamot, et al., 1999).

At the fourth phase, SILL questionnaire and reading comprehension test were administered to all groups.

Data Analysis

In order to establish the homogeneity of the three groups in terms of general language proficiency, a one-way ANOVA was conducted to examine the probable difference among the performance of the three groups (EG1, EG2, and CG) before the experiment.

In order to probe the first and the second null hypotheses, and examine the effectiveness of explicit instruction of metacognitive strategies and compare their improvement with their counterparts in the control group, all the three groups took part in the same reading comprehension tests after completing the instruction. In order to test these two null hypotheses, the statistical technique of multivariate ANOVA was run. In this study planning and self-monitoring were independent variables and authentic and inauthentic texts in reading comprehension test were dependent variables.

In order to probe the last null hypothesis and examine the effect of metacognitive instruction on EFL learners' metacognitive awareness three paired samples t-tests were conducted.

Results

In order to establish the homogeneity of the three groups in terms of general language proficiency, a one-way ANOVA was conducted to examine the probable difference among the performance of the three groups (EG1, EG2, and CG) before the experiment. The results indicated that there was not any significant difference between the mean scores of the subjects in the two experimental groups and the control group.

Table 2: Descriptive Statistics for the Three Groups Performance on TOEFL

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error</i>	<i>95% Confidence Interval for Mean</i>		<i>Minimum</i>	<i>Maximum</i>
					<i>Lower Bound</i>	<i>Upper Bound</i>		
<i>CONTROL</i>	<i>31</i>	<i>57.29</i>	<i>15.674</i>	<i>2.815</i>	<i>51.54</i>	<i>63.04</i>	<i>29</i>	<i>99</i>
<i>PLANNING</i>	<i>31</i>	<i>65.16</i>	<i>16.988</i>	<i>3.051</i>	<i>58.93</i>	<i>71.39</i>	<i>30</i>	<i>99</i>
<i>MONITORING</i>	<i>31</i>	<i>57.45</i>	<i>13.825</i>	<i>2.483</i>	<i>52.38</i>	<i>62.52</i>	<i>38</i>	<i>99</i>
<i>Total</i>	<i>93</i>	<i>59.97</i>	<i>15.817</i>	<i>1.640</i>	<i>56.71</i>	<i>63.23</i>	<i>29</i>	<i>99</i>

In order to probe the first and the second null hypotheses, and examine the effectiveness of explicit instruction of metacognitive strategies and compare their improvement with their counterparts in the control group, all the three groups took part in the same reading comprehension tests after completing the instruction. In order to test these two null hypotheses, the statistical technique of multivariate ANOVA was run.

As Table 4-3 shows the three groups have significant difference in their performance on reading comprehension tests but the difference in the two experimental groups is not significant.

Table 3: Pairwise Comparisons of the Three Groups on the Reading Comprehension Test

Measure: MEASURE_1

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
CG	EG1	-1.871 *	.479	.000	-2.823	-.919
	EG2	-1.468 *	.479	.003	-2.419	-.516
EG1	CG	1.871 *	.479	.000	.919	2.823
	EG2	.403	.479	.402	-.548	1.355
EG2	CG	1.468 *	.479	.003	.516	2.419
	EG1	-.403	.479	.402	-1.355	.548

Based on estimated marginal means

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

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The results of the Tests of Between-Subjects Effects (Table 4) compare the mean scores of the three groups on the authentic and inauthentic sections of reading comprehension test. The F-values for the authentic and inauthentic sections are 5458.1 and 8.4. At 2 and 90 degrees of freedom, these F-values are greater than the critical value of 3.09 indicating that the three groups performed differently on the two tests.

Table 4: Test of Between-subjects Effect

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	39019.548	1	39019.548	5485.189	.000
GROUP	120.226	2	60.113	8.450	.000
Error	640.226	90	7.114		

Table 5 shows that mean difference in two authentic and inauthentic tests is significant.

Table 5: Pairwise Comparisons of the Authentic and Inauthentic Tests

Measure: MEASURE_1

(I) TEST	(J) TEST	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
1	2	.946 *	.217	.000	.516	1.376
2	1	-.946 *	.217	.000	-1.376	-.516

Based on estimated marginal means

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

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

In order to probe the last null hypothesis and examine the effect of metacognitive instruction on EFL learners' metacognitive awareness three paired samples t-tests were conducted (Table 6). As the level of significance shows, it is smaller than .05 in experimental groups. Therefore, metacognitive strategy instructions have positive effect on experimental groups' metacognitive awareness. As the last row of Table 4 shows, level of significance is bigger than .05, in other words, there is no significant

difference in the control group awareness. It can be concluded that the third null hypothesis is rejected.

Table 6: Results of the Paired-samples T- tests in SILL Questionnaire in EG1, EG2, & CG

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	SD	Std. Error of Mean	95% confidence Interval of the Difference				
				Lower	Upper			
Pair 1 SILL1- SILL2 (EG1)	-.258	3.225	.579	-7.441	-5.075	-10.806	30	.000
Pair 1 SILL1 - SILL2 (EG2)	-.097	1.758	.316	-5.742	-4.452	-16.143	30	.000
Pair 1 SILL1 - SILL2 (CG)	.0967	.30054	.05398	-.01346	.20701	1.793	30	.83

Discussion and Conclusion

The present study examined the effect of metacognitive strategies (planning & self-monitoring) instruction on reading comprehension performance. It was also intended to investigate probable effect of text type (authentic and inauthentic texts) on the EFL learners' performance in reading comprehension tests. Moreover, this research explored the effect of metacognitive strategy instruction on EFL learners' metacognitive awareness.

The first null hypothesis predicting that planning strategy instruction has no significant effect on the learners reading comprehension performance was rejected. As the results showed the first experimental group (EG1) outperformed the control group (CG). Furthermore, it showed that the subjects performed better in the authentic reading comprehension test than the inauthentic one.

The second null hypothesis predicting that self-monitoring strategy instruction has no significant effect on the learners reading comprehension performance was also rejected. As the results showed the second experimental group (EG2) outperformed the control group (CG). Furthermore, it showed that the subjects' performance in the authentic reading comprehension test was better than the inauthentic one like the EG1. Considering the third null hypothesis, i.e., metacognitive strategy instruction has no significant effect on EFL learners' metacognitive awareness, three paired sample tests were run to investigate the degree of EFL learners' awareness. It showed that students' awareness significantly increased after metacognitive strategy instruction.

The major concern of the present study was to explore the effectiveness of metacognitive strategies instruction on the reading comprehension performance of the EFL students and their awareness to metacognitive strategies. As it was shown, the experimental groups outperformed the control group on the reading comprehension performance. 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 groups received about how to plan and how to monitor their reading, contributed to this improvement. In addition, the findings of this study indicate that metacognitive strategies instruction increases the experimental groups'

metacognitive awareness. Meanwhile, it should be mentioned that both experimental and control groups outperformed in the authentic section of the reading comprehension test.

The findings of this study support other empirical studies on the effect of strategy instruction on reading comprehension performance. People like Paris and Oka, 1986, O'Malley, 1987, Cross and Paris, 1988, Barnett, 1988, Mokhtari and Reichard, 2002, Trenchs Parera, 2006, Philip and Kim Hua, 2006, just to name a few, who worked on this issue. Moreover, it can be asserted that the model (CALLA) used to teach metacognitive strategies was a practical and useful one.

The findings are also in line with the positive effect of authentic materials on learners' reading comprehension performance and support the following researchers' findings such as Vigil, 1987, Allen, Bernhardt, Berry and Demel, 1988, Shrum and Glisan, 1994, Hauptman, 2000, and Pritchard and Nasr, 2004.

In addition, the findings of this study support the following researchers' findings on the correlation among metacognitive strategies, authenticity and reading comprehension in EAP context like Ems-Wilson, 2000, Smith, 2003, and Cain, 2004. The findings of the present study have implications for learners, teachers, and textbook writers in the realm of TEFL in particular and education in general.

This study is limited in terms of having two metacognitive strategies for instruction and also not considering gender as a variable. Therefore, this research needs other enough replications and further studies are needed to shed more light on the issue.

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