

**THE EFFECT OF METACOGNITIVE STRATEGIES (PLANNING, SELF-MONITORING)
INSTRUCTION ON EFL LEARNERS' READING COMPREHENSION**

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ABSTRACT: The present study was conducted to investigate the effect of metacognitive strategy (planning, self-monitoring) instruction on reading comprehension of Iranian EFL learners. The participants were 30 male and female Iranian EFL learners in advanced level in a language institute in Zanjan. To meet the aim of the study, two reading comprehension tests were administered to the participants in two groups. In the first phase, a reading comprehension was administered as a pre-test. In the second phase, two 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). In the third phase, after completion of the instruction, a reading comprehension test as a post-test was administered to the groups. Data analysis revealed that participants in two groups outperformed in post-test of reading comprehension. It is implied that the instruction of planning and self-monitoring metacognitive strategies as learning aids can contribute to the improvement of students' reading comprehension performance.

KEYWORDS: Metacognitive Reading Strategy, Planning, Reading Comprehension, Self-monitoring

INTRODUCTION

Reading comprehension is considered a fundamental and indispensable skill in learning English as a second language. It is also a cognitive ability which requires the capacity to combine the text information with the background knowledge of the reader leading to elaboration of a mental representation (Anastasiou and Griva, 2009). Reading is a process including a combination of perceptual, psycholinguistic and cognitive ability and is classified into three key components as reading accuracy (involves phonological and rhetoric processing), reading fluency (involves time) and reading comprehension (Anonymous, 2000). It is important for the reader to involve in the text to develop, modify and reflect on the ideas of the text. The predominant goal of reading is creating meaning from the text resulting in an interactive process between the text and a reader (Sweet and Snow, 2002).

Metacognitive strategies involve the ability of readers to behave mentally for directing and controlling their cognitive strategy processing for successful performance (Phakiti, 2003). Oxford, (1990) listed metaconitive reading strategy as one of the six strategies within the broader context of reading strategies that could be referred to as sub-strategies. Oxford defined metacognitive strategies as behaviors of

learners to plan, arrange, and assess their own learning. Having variant problems in understanding academic texts in second language learning is considered to be an issue for second language learners in many different contexts, so conscious instruction of some learning strategies is likely of great importance (Phillips,1991). Metacognitive reading strategies instruction may improve learner's proficiency in reading comprehension. It means that learners need to be trained in the use of learning strategies to become autonomous in their learning approach. In metacognitive strategy instruction, the teacher should provide a situation for the learner to use the strategies in certain learning context (Phillips, 1991). Metacognitive strategy instruction makes learners aware of the purpose of the skill and helps them use the strategy to activate, monitor, regulate, and make sense out of the text. It also creates an awareness of the function and utility of reading skill in a specific context. Therefore, the main purpose of this study is to find out the effect of metacognitive strategies training or instruction on the reading comprehension of students in the EFL context of Iran.

According to Harris and Sipay (1979), reading skill needs to be taken into account as an important tool for academic studies and development. Oxford et al., (1990) believes that

metacognitive strategies help learners manage: (a) themselves as learners, (b) the general learning process, and (c) specific learning task. [Phillips, \(1991\)](#) however found no consistent differences between the strategy uses of high proficient and low proficient students and thus suggested that the relationship between proficiency and strategy use was curvilinear. [Adamson, \(1993\)](#) believes that reading is needed for students in advanced level to read a large mass of materials both in class and home. According to [Schraw and Dennison \(1994\)](#), individuals with high level of metacognitive strategies seem to excel in planning, managing information, monitoring debugging and evaluating.

Among the four skills of English, reading is considered a fundamental and necessary skill for anyone learning English as an international language. Traditional views of reading assumed readers, as passive recipients of text information, possessing a large number of sub-skills which automatically apply them to comprehend all kinds of texts; that is, it was assumed that reading comprehension occurred automatically ([Dole, 2000](#)).

Then a conceptual shift to a cognitive model of learning in the 1970's led to a different view of the reader as a result of a rethinking about the underlying processes in reading comprehension. Cognitive views of reading comprehension indicate that reading is an interactive and comprehension is a constructive process and that expert readers are distinguished from weak readers by their flexible use of a set of activities to make sense of the text and to monitor and regulate their comprehension ([Dole, 2000](#)).

A cognitive view of reading submits that comprehension instruction should emphasize teaching students a set of strategies to use to comprehend a text with the goal of empowering students with a sense of conscious control, or metacognitive awareness, over a group of strategies so that they can use and adapt the strategies with any text they read ([Dole, 2000](#)).

In line with this relatively recent shift of attention to effective second language learning strategies, there has been much attention to identifying what more-proficient readers do while trying to understand what they read, including what strategies they apply and how, why, and when they use those strategies ([Sheorey and Mokhtari, 2001](#)). Accordingly, in the last two decades, comprehension instruction and reading-strategies instruction have converged. As noted by [Grabe \(2002\)](#), comprehension instruction now includes teaching students a set of strategies to use while they are trying to comprehend the main idea of

the text, and combining these two goals through scaffolded discussions as the students are reading the text. This needs the identification of effective strategies that support comprehension. Based on [Lee, \(2003\)](#) the relationship between the two variables (strategy use and proficiency level) is linear. The findings of [Chamot, \(2004\)](#) showed that higher level students reported greater use of metacognitive strategies (i.e., strategies used by students to manage their own learning), leading the researchers to conclude that the more successful students are probably able to exercise greater metacognitive control over their learning. Chamot stated that English learners differ in using the number and range of strategies and how they are applied to the task.

In another study, [Paktinat, \(2005\)](#) found strong relationship between the subjects' proficiency level and strategy use for five categories including memory, cognition, compensation, and metacognition. Although the relationship between metacognitive strategy use and the learners' proficiency level has been emphasized in other studies, the present study aims to investigate the effect of metacognitive strategy use on learners reading comprehension performance. This study will specifically focus on the effect of instructing two metacognitive strategies, that is, planning and self-monitoring on EFL learners' reading comprehension.

In this regard, the following null hypotheses are formulated:

H₀₁. Instruction of planning metacognitive strategy does not have any significant effect on EFL learners' reading comprehension

H₀₂. Instruction of self-monitoring metacognitive strategy does not have any significant effect on EFL learners' reading comprehension

H₀₃. There is not any significant difference in the effects of instructing planning and self-monitoring metacognitive strategies on EFL learners' reading comprehension.

METHOD

2.1. Participants

This study was conducted with 60 male and female Iranian EFL learners with the age range of 17 to 28, in advanced level in a language institute in the province of Zanjan. A Michigan Test of English Language Proficiency (MTELP) was administered to homogenize the participants. The initial number of participants was then reduced to 30; 30 of the participants were excluded since their proficiency level did not meet the requirement of the study. Therefore, the final number of the participants who actively participated in this study was 30.

2.2. Instruments

In the present study, the following instruments were utilized to collect data:

1. A Michigan Test of English Language Proficiency (MTELP) was administered to the participants to specify their level of proficiency and to homogenize them. The MTELP used in the present study is a 100-item multiple choice test consisting of three parts. It includes forty grammar items, forty vocabulary items requiring the completion of a sentence or the selection of synonyms or antonyms, and four reading passages each followed by five reading comprehension questions.
2. A TOEFL reading comprehension test as a pre-test was administered to determine the students' reading comprehension performance at the beginning of the study.
3. A TOEFL reading comprehension test as a post-test was administered to determine the students' reading comprehension performance at the end of the study.

2.3. Procedure

At the first phase, to homogenize the participants, a multiple choice Michigan Test of English Language Proficiency (MTELP) including 100 grammar, vocabulary and reading comprehension questions was administered to the participants. After ensuring their homogeneity, the participants were divided into two groups. At the second phase (next session), a TOEFL reading comprehension test as a pre-test was administered to both groups. At the third phase, one group received instruction on planning and the other one received instruction on self-monitoring based on Cognitive Academic Language Learning Approach, or CALLA model (Chamot and O'Malley, 1994; Chamot et al., 1996, O'Malley and Chamot, 1990). They received instruction on metacognitive strategies for five sessions of forty five minutes during the term. This model 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 intermediate or advanced level of English proficiency. This model, which was used in this study, was presented very simply through five basic steps including preparation, presentation, practice, evaluation, and expansion (Oxford, 1990) as follows:

1. Preparation. 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

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.
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.
4. Evaluation. In the fourth stage of strategy instruction, learners reflect on their use of a specific strategy or strategies and evaluate its usefulness.
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.

At the fourth phase, a TOEFL reading comprehension test as a post-test was administered to both groups. Finally, the reading comprehension tests were scored by the researcher and the collected data were entered into the SPSS 19 for further analysis.

2.4. Data analysis

In order to test the first and the second null hypotheses and examine the effectiveness of explicit instruction of each metacognitive strategy (planning, self-monitoring) on EFL learners' reading comprehension, the researcher employed paired-samples t-test.

In order to test the third null hypothesis and to compare the effect of instructing planning and self-monitoring metacognitive strategies on EFL learners' reading comprehension, an independent samples t-test was conducted.

RESULTS

3.1. Results of the data analysis for first null hypothesis

The first null hypothesis sought to test the significant effect of metacognitive strategy (planning) instruction on reading comprehension of Iranian EFL learners.

To test this hypothesis, a statistical technique of paired samples t-test was run. Table 1 shows the summary of descriptive statistics for the first group performance on pre-test and post-test.

Table 1: Descriptive statistics for the first group performance on pre-test and post-test

	Mean	N	SD	SE Mean	
Pair 1	Pre1	20.60	15	5.38	1.39
	Post1	22.47	15	4.58	1.18

As it can be seen in the Table1, the mean score (mean=22.4) in post-test is higher than the mean score in pre-test (mean=20.6).

Table 2: Correlation among pre-test and post-test

	N	Correlation	Sig.
Pair 1 Pre1 & Post1	15	0.898	0.000

In order to find out whether there is a significant difference between the reading comprehension scores of the students in the pretest and posttest, a paired samples t-test was run (Table 3).

Table 3: Paired samples t-test

		Mean	SD	SE Mean	Paired Differences		t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre1 - Post1	-1.87	2.39	0.62	-3.19	-0.55	-3.03	14	0.009

* $p < 0.05$

As Table 3 indicates, there is a significant mean increase from the pretest ($M = 20.60$, $SD = 5.38$) to the posttest ($M = 22.47$, $SD = 4.58$), $t(14) = 3.029$, $p = .009$. This implies the significant effect of instructing planning strategy on the reading comprehension of the participants. Therefore, the first null hypothesis is rejected.

3.2. Results of the data analysis for second null hypothesis

The second null hypothesis attempted to see whether metacognitive strategy (planning) instruction has any significant effect on EFL learners' reading comprehension. To this end, a paired sample t-test was run. Table 4 contains the summary of descriptive statistics for the first group performance on pre-test and post-test.

Table 4: Descriptive statistics for the second group performance on pre-test and post-test

	Mean	N	SD	SE Mean
Pair 1	Pre2	19.87	15	7.07
	Post2	22.57	15	6.07

As it can be seen in the table, the mean score (mean=22.5) in post-test is higher than the mean score in pre-test (mean=19.8). To investigate the

Table 6: Paired samples t-test

		Mean	SD	SE Mean	Paired Differences		t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre2 - Post2	-2.60	3.54	0.91	-4.56	-0.64	-2.843	14	0.013

Table 7: Independent sample t-test

		Mean	SD	SE Mean	Paired Differences		t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre1	0.73	9.52	2.46	-4.54	6.01	0.30	14	0.77
	Pre2								
Pair 2	Post1	0.52	7.43	1.92	-4.11	4.11	0.00	14	0.008
	Post2								

Table 7 shows that the mean difference between instructing planning ($M = 0.73$, $SD = 9.52$) and self-

To investigate the degree of relationship between the pre-test and post-test a correlation coefficient was run.

Table 2 presents that there is a high correlation between participants' scores in pre-test and post-test.

degree of relationship between pre-test and post-test a correlation coefficient was run. Table 5 presents that there is a correlation between participants' scores in pre-test and post-test.

Table 5: Correlation among pre-test and post-test

	N	Correlation	Sig.
Pair 1 Pre2 & Post2	15	0.866	0.000

In order to test the second null hypothesis of the present study that Metacognitive strategy (self-monitoring) instruction does not have any significant effect on Iranian EFL learners' reading comprehension, a paired samples t-test was run. Table 6 indicates a significant result, therefore, it can be concluded that the second null hypothesis is rejected.

3.3. Results of the data analysis for third null hypothesis

The third null hypothesis was an attempt to see whether there is significant difference in the effects of instructing planning and self-monitoring metacognitive strategies on EFL learners' reading comprehension. To this end, an independent sample t-test was run (Table 7).

monitoring ($M = 0.52$, $SD = 7.43$) metacognitive strategies on EFL learners' reading

comprehension is significant, $p = 0.008$. In this regard, the third null hypothesis is also rejected.

DISCUSSION AND CONCLUSION

The present study examined the effect of metacognitive strategies (planning, self-monitoring) instruction on reading comprehension of Iranian EFL learners. The first null hypothesis predicting that planning strategy instruction has no significant effect on the learners reading comprehension was rejected. The second null hypothesis predicting that self-monitoring strategy instruction has no significant effect on the learners reading comprehension was also rejected. The third null hypothesis that there is no significant difference in the effects of instructing planning and self-monitoring metacognitive strategies on EFL learners' reading comprehension was rejected, too.

The major concern of the present study was to explore the effectiveness of metacognitive strategies instruction on the reading comprehension of the EFL students. As it was shown, the participants outperformed in the Post-test reading comprehension. Thus, the metacognitive strategy instruction seems to have contributed to the improvement of students' reading comprehension performance. The results of the current study indicated that training the students in using metacognitive strategies increased their reading comprehension ability at various cognitive levels. In other words, the explicit instruction and the practice the two groups received about how to plan and how to monitor their reading, contributed to this improvement. The findings of the present study are in accordance with a number of previous studies ([Sheorey and Mokhtari, 2001](#); [Phillips, 1991](#)) which support the present findings holding that metacognitive strategies (planning, self-monitoring) instruction has significant effect on EFL learners' reading comprehension. Moreover, it can be asserted that the model (CALLA) used to teach a metacognitive strategy was a practical and useful one.

The results also do fit with [Chumpavan. \(2000\)](#) who investigated the metacognitive strategies used by Thai students in learning English as a foreign language at Coat Illinois State University. In the study Chumpavan found that the participants applied their metacognitive strategies to facilitate their reading comprehension. However, the findings reported in this study did not fit with [Mante's. \(2009\)](#) findings with Filipino high school students, where the use of metacognitive reading strategies did not predict the reading test scores.

The study of metacognitive reading strategy training is still at an exploratory stage and more theoretical and empirical studies should be conducted to improve teaching and learning of reading in English. Although metacognitive reading strategy training may not solve all the problems that EFL learner's have in English reading comprehension, it paves the ground for students to increase their metacognitive reading strategy awareness, and part of their reading ability. The results of this study provide a number of different areas such as listening and writing for future investigation. This study is also limited in terms of having two metacognitive strategies for instruction and also not considering gender as a variable. Therefore, further studies are needed to shed more light on the issue.

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