

The Effect of Cognitive-Based vs. Text-Based Learning Strategies on Iranian EFL Learners' Reading Comprehension

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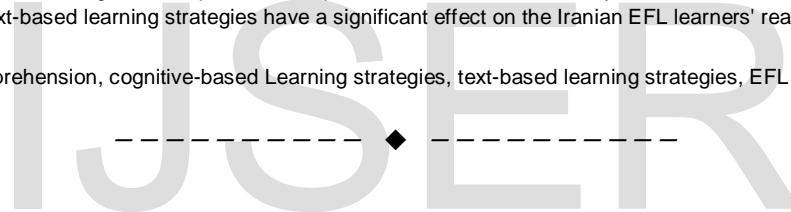
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Abstract—The purpose of the present research was to investigate the effect of cognitive-based vs. text-based learning strategies on Iranian EFL learners' reading comprehension. To fulfill this purpose, 90 intermediate students of Ofogh Foreign Language Institute in Gorgan were selected among 120 students attending courses at this institute through taking part in a Preliminary English Test (PET) and assigned to two experimental and one control groups. The same content was taught to all groups while one experimental group was treated with cognitive-based strategies and the other one with text-based strategies, and the control group instruction was limited to the conventional instruction. A reading test was given to students in all groups before and after the instruction and the mean scores of groups on the posttest were compared through an independent samples t-test which led to the rejection of the null hypotheses, thus concluding that cognitive-based and text-based learning strategies have a significant effect on the Iranian EFL learners' reading comprehension.

Key words— reading comprehension, cognitive-based Learning strategies, text-based learning strategies, EFL learners



1 INTRODUCTION

Over the last few decades, language teaching, more particularly English Language Teaching (ELT), as a scientific and academic discipline has witnessed a strong, dynamic, and continuous evolution and development [1]. Concurrently experts believe that reading comprehension involves a great deal of cognitive-based strategies capacity available for

In the field of language education, the development and amplification of reading, as a receptive skill, similar to listening, during which readers decode the message of the writer and try to recreate it anew [4]. There are several definitions of reading skill. The first entry on the word 'read' in Webster's New World Dictionary (1991) defines reading as getting the meaning of something written by using eyes to interpret its characters. Research findings have provided ample evidence that among the four language skills, reading comprehension has always been the main concern in second or foreign language [5]- [6]- [7]. In a similar vein, EFL learners regard reading comprehension as the most important skill

According to [15], foreign language learning is much more a cognitive-based strategies problem solving activity than a linguistic activity, overall. [16] Propose that the development of cognitive-based strategies control in children

comprehension [2]. Also, reading comprehension is a complex process that demands motivation as well as cognition because it is the result of an interactive process between the text (e. g., text difficulty), the context of the reading situation and the reader (e. g., purpose or goal, prior knowledge, questioning) [3].

1.1 Reading Comprehension

[8]. Moreover, recently the initiation of the postmethod era and the shift toward a learner-centered methodology in educational systems have resulted in focusing on self-education and transferring responsibilities from teacher to learner in the learning process. To this end, [9] argue that "effective reading requires the use of strategies that are explicitly taught" (p. 43). Studies conducted on reading instruction and reading strategies [10]- [11]- [12]- [13]- [14] indicated that reading comprehension strategy instruction had a positive effect either on learners' reading comprehension ability or their awareness of reading comprehension strategies.

1.2 Cognitive-Based Learning Strategies

parallels the development of language abilities, particularly inner speech. They argue that inner speech, though not necessary for performance, can facilitate certain aspects of cognitive-based strategies flexibility. Cognitive strategies are

classified into two types namely, surface cognitive strategies and deep cognitive strategies. Surface cognitive strategies refer to rehearsal, involving the repetitive rehearsal and rote

[18] mentioned the use of 'text' as a channel for communication may seem rather dry and de-motivational; while it is important to provide a range of materials, including colorful pictures, photos (particularly from authentic news stock), and 'text' is rich input that can be manipulated and serve as a springboard for highly communicative tasks. To this end, [19], as cited in [18], also considered the following points to creating text-based tasks: (1) Learner Needs (they may have a large group, consider also learners who stand out, in terms of being particularly strong and particularly weak communicators); (2) Input (this is the material (text & possibly images) teacher: selects according to learners' general level, interest and /or major and overall needs; (3) Task Type (this is a description of the activity and goal: there is a need for developing a task from teachers' input that they feel will address the learner needs, more specifically, skimming, scanning techniques etc.); (4) Goal/Purpose (this must be clear in the minds of the teachers, and in the minds of the learners during set-up); (5) Task Link (This is probably the most difficult consideration and the task does not exist in isolation and functions as a component in the

2 MATERIALS and METHODS

2.1 Participants

To fulfill the objective of this study, 90 male and female intermediate EFL learners with the age range of 18-26 studying English at Ofogh Foreign Language Institute in Gorgan, participated in this study. 120 students took the Preliminary English Test (PET) and based on the results 90 intermediate subjects were non-randomly selected. The participants whose scores are one standard deviation above and one standard deviation below the mean were selected. Then, the homogenized participants were randomly divided into two experimental groups and one control group each containing 30 participants.

2.2 Instrumentation

2.2.1 Preliminary English Test (PET)

The researchers used a sample of PET which covers the four main language skills: reading (35 items), writing (7 items), listening (25 items), and speaking at the beginning of the study for homogenizing the participants in terms of their general language proficiency. The PET test used in the study was a sample of the Preliminary English Test (PET) adopted from Louise Hashemi and Barbara Thomas (2010). KR-21 formula was employed for this purpose and an acceptable reliability of .889 was obtained.

memorization of information into short-term memory, mainly through reading the course material over and over again [17].

1.3 Text-Based Learning Strategies

overall lesson objective(s).; and (6) Learner Organization and Roles (What are the groupings? Who is the 'leader'? Who are the 'followers'? If a learner has weak listening skills, we might consider their role as note taker/observer/reporter).

Based on the points stated, there seems to be a theoretical association between reading comprehension, cognitive-based learning strategies, and text-based learning strategies which are believed to affect the process of learning. This point justifies the attempt to systematically investigate the interactions between these three factors. To fulfill this objective, the following research questions were proposed:

Q₁: Do cognitive-based learning strategies have any statistically significant impact on EFL learners' reading comprehension?

Q₂: Do text-based learning strategies have any statistically significant impact on EFL learners' reading comprehension?

Q₃: Is there any significant difference between the reading comprehension performance of cognitive-based strategy group and text-based strategy group?

2.2.2 The Reading and Writing sections of the PET

The reading section consists of five parts with 35 reading comprehension questions. The writing section consists of three parts with 7 questions. The examinees need to complete this part in 1 hour and 30 minutes.

2.2.3 The Listening and Speaking Section of the PET

Listening section includes four parts with 25 questions. The examinees need to complete this part in 30 minutes.

Speaking section of the PET an interviewer takes the speaking test. The candidates have to show their spoken English by taking part in conversation, asking and answering questions, and talking freely about their likes and dislikes. The examinees need to complete this part in 10 to 12 minutes.

2.2.4 Speaking and Writing rating scale of the PET

The rating scale used to rate the oral proficiency of the subjects was the predetermined official *Cambridge General Mark Schemes* for Speaking. The rating was done on the basis of the criteria stated in the rating scale including the range of scores from 0 to 5. The writing rating scale used to rate the writing section of the PET in this study was the one provided by *Cambridge General Mark Schemes* (2008) for Writing. The rating was done on the basis of the criteria stated in the rating scale including the rating scale of 0 to 5.

2.2.5 The Reading comprehension test

A reading comprehension test was used as pretest and posttest in the study. It included 5 passages selected from TOEFL practice test (Ryle, 2001).

2.2.6 Main Course Book

American English File 2 by Clive [20], is covered at the intermediate level. This book consists of 9 units, each unit includes four parts as A, B, C, and D. The purpose of the units is integration of four skills.

2.3 Procedure

The study consisted of three phases: (1) pre-testing (2) strategy instruction and (3) post-testing. A sample of PET was given to 120 intermediate level EFL learners studying English at Ofogh Foreign Language Institute in Gorgan who were selected non-randomly.

First, the researcher shared the rating scale with another researcher as a rater. Also, the speaking part of the PET was rated according to the rating scale provided by *Cambridge General Mark Schemes* (2008) for speaking following the same procedure for correcting writings. Based on the obtained results, 90 participants were randomly divided into three groups, each group with 30 participants; two experimental groups and a control group. One of the experimental group received treatment focusing on the cognitive-based learning strategies and the other experimental group followed the text-based learning strategies in the treatment. To make sure that the students were not significantly different in terms of their reading comprehension they were given reading comprehension pretest.

2.3.1 The Cognitive-based Group

In the first experimental group the teacher focused on the five main steps of cognitive -based strategies proposed by [21] in every session. The learners were taught the steps which were: *Clarification, Guessing, Deductive Reasoning, Practice and Memorization*.

The descriptions of the above-mentioned stages are as follows:

Clarification / Verification

After grouping the learners, the teacher and students started a discussion based on the topic of the reading passage and students gave their own ideas. Then, they discussed the topic in groups.

Guessing / Inductive Inferencing

The learners looked at the objectives and pictures of the text in a given time to guess about the text before reading.

Deductive Reasoning

The learners read the text and the teacher helped the students recognize how to find the rule and patterns.

Practice

Having finished the previous steps, the subjects start to restate what they had read and compared it with their first

discussion. In this step, the learners also helped each other with any difficulty and tried to facilitate one another's understanding.

Memorization

The teacher helped the students to select the central idea of a passage and summarize it as a 'keyword in order to recode the keyword as a mental picture and use additional mental imagery to relate other important facts to the keyword.

2.3.2 The Text-Based Group

In this experimental group the students received instructions for text-based strategies.

Verster's TASP [22], was chosen to apply for strategy training. The sequence of instruction is a five phase. TASP stands for Text as a Stimulus for Production.

The descriptions of the above-mentioned stages are as follows:

Doing a role play on the text

In the second part of the lesson the teacher created the space for the role play, decided about the characters and wrote the cue cards if needed.

Discussing issues raised by the text

The teacher talked about the characteristics, usefulness and the application of the strategies explicitly and made it clear through some related examples. Then the learners used the strategies to organize their own created ideas and used them in a more relevant and effective way.

Having a debate about the points of view presented in the text

The teacher started an argument to create a critical thinking point of view to the text.

Writing a similar text about something the students know about

In this phase the learners were encouraged to write a similar text regarding the topic.

Writing a response to the text

Students' responses suggest that the role of the reader is essential to the meaning of a text. The purpose of a reading response is examining, explaining, and defending personal reaction to a text.

2.3.3 Control Group

The control group received the common EFL treatment which was not very much concerned with teaching strategies. It followed the following procedure:

At the end of the treatment phase, the researcher administered a parallel form of the reading comprehension pretest as post-test among all groups.

3 Results and Discussion

Before discussing the results, a Preliminary English Test (PET) was administered among 120 learners, 90 of whom with scores falling one standard deviation above and below the mean were chosen as the participants of this study to be

placed randomly in the experimental and control groups. Table 1, below provides the descriptive statistics of the above process.

Table 1, Descriptive Statistics of the PET

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
PET	120	35.00	89.00	60.7833	14.0886	198.490	.274	.221
Valid N (listwise)	120							

3.
1 Reliability index of the PET

Table 2, reports the reliability estimate of this administration to stand at .889 which demonstrated a good degree of reliability.

Table 2, Reliability Index of the PET

	KR-21
PET	.889

3.1.1 Inter-rater Reliability of Speaking

In order to estimate the inter-rater reliability between the two raters scoring the speaking sections of the PET, scores were converted into percentages then the correlation was calculated as represented in Tables 3. The correlation (r=

.843) between the two raters of speaking is considerably high.

Table 3, Inter-rater Reliability between the Raters of PET Speaking

		Speaking R1	Speaking R2
Speaking R1	Pearson Correlation	1	.843**
	Sig. (2-tailed)		.000
	N	30	30
Speaking R2	Pearson Correlation	.843**	1
	Sig. (2-tailed)	.000	
	N	30	30
**. Correlation is significant at the 0.01 level (2-tailed).			

3.1.2 Inter-rater Reliability of Writing

Moreover, the inter-rater reliability between the two raters scoring the writing sections of the PET was estimated, scores

were converted into percentages, and then the correlation was calculated as represented in Tables 4, the correlation (r=.864) between the two raters of writing turned out to be significant.

Table 4, Inter-rater Reliability between the Raters of PET Writing

		Writing R1	Writing R2
Writing R1	Pearson Correlation	1	.864**
	Sig. (2-tailed)		.000
	N	30	30
Writing R2	Pearson Correlation	.864**	1
	Sig. (2-tailed)	.000	
	N	30	30
**. Correlation is significant at the 0.01 level (2 tailed).			

3.2 Reading Comprehension Test

Furthermore, the reliability of this test was calculated to be .617 which demonstrated a good degree of reliability.

To make sure that the students were not significantly different in terms of their reading comprehension a reading test was administered as the pretest. The pretest was conducted in the two experimental groups and the control group with the descriptive statistics represented in Table 5 below.

3.2.1 Descriptive Statistics of the Pretest

Table 5, Descriptive Statistics of the Groups on the pretest

	N	Minimum	Maximum	Mean	Std.	Variance	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Pretest Cont	30	14.00	38.00	26.800	5.2811	27.890	-.369	.427
Pretest Exp 1	30	13.00	39.00	26.667	5.7014	32.506	-.392	.427
Pretest Exp 2	30	15.00	40.00	27.100	5.9732	35.679	-.129	.427
Valid N (listwise)	30							

3.2.2 ANOVA of pretest

According to the result presented in the ANOVA table, the overall Sig. value is ($p=.955 > .05$), indicating that there is no statistically significant difference among the groups.

Table 6, ANOVA of the reading pretest

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.956	2	1.478	.046	.955
Within Groups	2786.167	87	32.025		
Total	2789.122	89			

According to Table 7, the groups being compared are not significantly different from one another ($p > .05$).

Table 7, Post Hoc Tests, Multiple Comparisons

Scheffe

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Control Group	Ex Group 1	.13333	1.46116	.996	-3.5057	3.7724
	Ex Group 2	-.30000	1.46116	.979	-3.9390	3.3390
Ex Group 1	Control Group	-.13333	1.46116	.996	-3.7724	3.5057
	Ex Group 2	-.43333	1.46116	.957	-4.0724	3.2057
Ex Group 2	Control Group	.30000	1.46116	.979	-3.3390	3.9390
	Ex Group 1	.43333	1.46116	.957	-3.2057	4.0724

Table 8, Homogeneous Subtests

Scheffe

Group	N	Subset for alpha = 0.05
		1
Ex Group 1	30	26.6667
Control Group	30	26.8000
Ex Group 2	30	27.1000
Sig.		.957

a. Uses Harmonic Mean Sample Size =30.000.

3.3 Descriptive Statistics of the Posttest

Once the treatment was over, a reading test was administered as the posttest. The posttest was conducted in

the two experimental groups and the control group with the descriptive statistics represented in Table 9 below.

Table 9, Descriptive Statistics of the Groups on the Posttest

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Posttest Cont	30	14.00	39.00	27.200	5.7977	33.614	-.178	.427
Posttest Exp 1	30	17.00	45.00	31.000	6.1420	37.724	0.34	.427
Posttest Exp 2	30	16.00	43.00	29.900	6.1383	37.679	-.089	.427
Valid N (listwise)	30							

3.3.1 ANOVA of posttest

According to the result of the ANOVA, the overall Sig. value is ($p=.047 < .05$), indicating that there is a statistically significant difference somewhere among the groups.

Table 10, ANOVA of the reading posttest

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	229.400	2	114.700	3.156	.047
Within Groups	3161.500	7	36.339		
Total	3390.900	9			

According to Table 11, there is not a significant difference among the groups ($p > .05$). Although there is a difference between the control group and experimental group

1 (.056), the experimental group 2 and a low p-value (.047) in ANOVA prevent a statistically significant difference.

Table 11, Post Hoc Tests, Multiple Comparisons Scheffe

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Control Group	Ex Group 1	-3.80000	1.55647	.056	-7.6764	.0764
	Ex Group 2	-2.70000	1.55647	.228	-6.5764	1.1764
Ex Group 1	Control Group	3.80000	1.55647	.056	-.0764	7.6764
	Ex Group 2	1.10000	1.55647	.780	-2.7764	4.9764
Ex Group 2	Control Group	2.70000	1.55647	.228	-1.1764	6.5764
	Ex Group 1	-1.10000	1.55647	.780	-4.9764	2.7764

Table 12, Homogeneous Subtests Scheffe^a

Group	N	Subset for alpha = 0.05
		1
Control Group	30	27.2000
Ex Group 2	30	29.9000
Ex Group 1	30	31.0000
Sig.		.056
Means for groups in homogeneous subsets are displayed.		

a. Uses Harmonic Mean Sample Size = 30.000.

3.4 Matched T-test on Reading Comprehension the first experimental of group

A match t-test was run between the means of the pretest and posttest of experimental group 1. According to the Table 13, with an $F = .017$ and a Sig value of .897, the assumption of equal variances was met. With a $t = 2.832$, $df = 58$, $p = .006 < .05$, it could be concluded that there was a significant difference

between the pretest and posttest of experimental group 1 in terms of their reading comprehension before and after the treatment.

Table 13, Match T-test on Reading Comprehension scores (pretest ex1, & posttest ex 1)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Reading Equal variances assumed	.017	.897	2.832	58	.006	4.333	1.530	1.271	7.396
Posttest assumed Equal variances not assumed			.832	57.682	.006	4.333	1.530	1.270	7.396

Match T-test on Reading Comprehension of the scored experimental group

A match t-test was run between the means of the pretest and posttest of experimental group 2. According to the Table 14, with an F=.000 and a Sig value of 1.000, the assumption of equal variances was met. With a t=1.791,

df=58, p=.079>.05, it could be concluded that there was no statistically significant difference between the pretest and posttest of experimental group 2 in terms of their reading comprehension before and after the treatment.

Table 14: Match T-test on Reading Comprehension Scores (pretest ex2, & posttest ex2)

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Reading Posttest	Equal variances assumed	.000	.000	1.791	58	.079	2.800	1.564	.330	5.930
	Equal variances not assumed			1.791	57.957	.079	2.800	1.564	.330	5.930

According to the Table 15, with an F=.377 and a Sig value of .542, the assumption of equal variances was met. With a t=.279, df=58, p=.781>.05, it could be concluded that

there was not a significant difference between pretest and posttest of control group in terms of their reading comprehension before and after the treatment.

Table 15, Match T-test on Reading Comprehension Scores of the pretest and posttest of the control group

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Reading Posttest	Equal variances assumed	.377	.542	.279	58	.781	.400	1.432	-2.466	3.266
	Equal variances not assumed			.279	57.502	.781	.400	1.432	-2.467	3.267

Regarding the outcomes of the statistical analysis, the pretest and posttest of experimental group 1 and showed that there was a significant difference between the pretest and posttest of experimental group 1 in terms of their reading comprehension before and after the treatment. Therefore, the first null hypothesis was rejected. In line with that a study conducted by [23] found that teaching cognitive-based strategies and metacognitive strategies had a significant effects on the reading comprehension of intermediate students. This result is also supported by the findings of [24], who conducted a study investigating the possible effects of cognitive learning strategies, on the Iranian EFL learners' improvement of reading comprehension. They report significant evidence that the strategies were effective in raising the subjects' scores in EFL reading.

Based on the results of this study, there was no statistically significant difference between the pretest and posttest of experimental group 2 in terms of their reading comprehension before and after the treatment. Therefore, the second null hypothesis was not rejected. The results of this study were more or less parallel with the results of a study carried out by [25], who investigated reader and text factors in reading comprehension processes, his study also showed that memory for text is not affected by differences in text structure.

Moreover, according to ANOVA Post Hoc Tests, Multiple Comparisons, it could be concluded that although there was a difference between the control group and experimental group1, experimental group 2 there was not a significant difference between the groups in terms of their reading comprehension after the treatment. Therefore, the third null hypothesis was not rejected.

CONCLUSION

This outcome has implications for EFL teachers and motivates them to provide their learners with reading strategies training which can lead them to better achievement in reading comprehension. Since reading strategies awareness and deliberate use of them are complementary, making the learners aware of reading strategies and helping conscious use of them are importance. Syllabus designers as players of a great role in the language learning setting, have a fundamental responsibility to make the process easier. They are required to know that incorporation of autonomy, and reading strategies in their courses can result in intellectually analytical learners that through using strategies can overcome their learning difficulties. It is suggested for further studies to investigate the effectiveness of instructional strategies on other language learning skills such as speaking, listening, and writing.

Since teaching cognitive-based and text-based strategies had statistically significant effects on EFL learners' reading comprehension scores, it can be interpreted that learning strategies help them be more successful in the complex process of reading comprehension. In this regard, cognitive-based tasks such as clarification, guessing, deductive reasoning, practice and memorization and also text-based tasks such as doing a role play, discussing issues, having a debate, writing a similar text, and writing a response to the text while reading are among the examples of support in reading strategies.

On the other hand, the outcomes of the study motivate EFL teachers to look back at their trend of teaching reading comprehension to EFL learners and evaluate their performance. EFL teachers are recommended to plan classroom activities while attempting to integrate

cognitive-based and text-based strategies oriented activities into the body of classroom activities. Creating an environment in which reading strategies are valued and learners take the responsibility of their own learning seems to be a considerable step toward benefiting from the potential capacities of learning strategies toward reading comprehension.

In addition, results of the study may also help curriculum designers and text book producers by reminding them to give due emphasis to preparing reading comprehension tasks for EFL learners. Syllabus designers, as planners of a great portion of the language learning setting, have a fundamental role in making the process easier. Furthermore, curriculum and material developers are recommended to infuse strategy training into materials in teacher training courses.

Finally, the researcher believes that this study paves the way for other researchers to carry out more detailed studies in the area of teaching reading comprehension. The most efficient way of raising learners' awareness is providing them with strategy training. That means, giving explicit instruction in how to apply language learning strategies and learning strategies in different ways.

The findings actually suggest that learners are aware of cognitive, metacognitive and support strategies to some extent and do employ them when engaged in reading comprehension. Therefore, knowing which strategies are used during the process of reading and comprehending academic texts is significant information both for teachers and learners.

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Table 13, Matched T-test on Reading Comprehension scores (pretest ex1, & posttest ex 1)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Reading Equal variances assumed	.017	.897	2.832	58	.006	4.333	1.530	1.271	7.396
Posttest Equal variances not assumed			.832	57.682	.006	4.333	1.530	1.270	7.396

3.4.1 Matched T-test on Reading Comprehension of the scored experimental group

A match t-test was run between the means of the pretest and posttest of experimental group 2. According to the Table 14, with an F=.000 and a Sig value of 1.000, the assumption of equal variances was met. With a t=1.791, df=58, p=.079>.05, it could be concluded that there was no statistically significant difference between the pretest and posttest of experimental group 2 in terms of their reading comprehension before and after the treatment.

Table 14: Matched T-test on Reading Comprehension Scores (pretest ex2, & posttest ex2)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Reading	Equal variances assumed	.000	.000	1.791	58	.079	2.800	1.564	.330	5.930
Posttest	Equal variances not assumed			1.791	57.957	.079	2.800	1.564	.330	5.930

According to the Table 15, with an F=.377 and a Sig value of .542, the assumption of equal variances was met. With a t=.279, df=58, p=.781>.05, it could be concluded that there was not a significant difference between pretest and posttest of control group in terms of their reading comprehension before and after the treatment.

Table 15, Matched T-test on Reading Comprehension Scores of the pretest and posttest of the control group

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper

Reading Posttest	Equal variances assumed	.377	.542	.279	58	.781	.400	1.432	-2.466	3.266
	Equal variances not assumed			.279	57.502	.781	.400	1.432	-2.467	3.267

Regarding the outcomes of the statistical analysis, the pretest and posttest of experimental group 1 and showed that there was a significant difference between the pretest and posttest of experimental group 1 in terms of their reading comprehension before and after the treatment. Therefore, the first null hypothesis was rejected. In line with that a study conducted by [23] found that teaching cognitive-based strategies and metacognitive strategies had a significant effects on the reading comprehension of intermediate students. This result is also supported by the findings of [24], who conducted a study investigating the possible effects of cognitive learning strategies, on the Iranian EFL learners' improvement of reading comprehension. They report significant evidence that the strategies were effective in raising the subjects' scores in EFL reading.

Based on the results of this study, , there was no statistically significant difference between the pretest and posttest of experimental group 2 in terms of their reading comprehension before and after the treatment. Therefore, the second null hypothesis was not rejected. The results of this study were more or less parallel with the results of a study carried out by [25], who investigated reader and text factors in reading comprehension processes, his study also showed that memory for text is not affected by differences in text structure.

Moreover, according to ANOVA Post Hoc Tests, Multiple Comparisons, it could be concluded that although there was a difference between the control group and experimental group1, experimental group 2 there was not a significant difference between the groups in terms of their reading comprehension after the treatment. Therefore, the third null hypothesis was not rejected.



CONCLUSION

This outcome has implications for EFL teachers and motivates them to provide their learners with reading strategies training which can lead them to better achievement in reading comprehension. Since reading strategies awareness and deliberate use of them are complementary, making the learners aware of reading strategies and helping conscious use of them are importance. Syllabus designers as players of a great role in the language learning setting, have a fundamental responsibility to make the process easier. They are required to know that incorporation of autonomy, and reading strategies in their courses can result in intellectually analytical learners that through using strategies can overcome their learning difficulties. It is suggested for further studies to investigate the effectiveness of instructional strategies on other language learning skills such as speaking, listening, and writing.

Since teaching cognitive-based and text-based strategies had statistically significant effects on EFL learners' reading comprehension scores, it can be interpreted that learning strategies help them be more successful in the complex process of reading comprehension. In this regard, cognitive-based tasks such as clarification, guessing, deductive reasoning, practice and memorization and also text-based tasks such as doing a role play, discussing issues, having a debate, writing a similar text, and writing a response to the text while reading are among the examples of support in reading strategies.

On the other hand, the outcomes of the study motivate EFL teachers to look back at their trend of teaching reading comprehension to EFL learners and evaluate their performance. EFL teachers are recommended to plan classroom activities while attempting to integrate cognitive-based and text-based strategies oriented activities into the body of classroom activities. Creating an environment in which reading strategies are valued and learners take the responsibility of their own learning seems to be a considerable step toward benefiting from the potential capacities of learning strategies toward reading comprehension.

In addition, results of the study may also help curriculum designers and text book producers by reminding them to give due emphasis to preparing reading comprehension tasks for EFL learners. Syllabus designers, as planners of a great portion of the

language learning setting, have a fundamental role in making the process easier. Furthermore, curriculum and material developers are recommended to infuse strategy training into materials in teacher training courses.

Finally, the researcher believes that this study paves the way for other researchers to carry out more detailed studies in the area of teaching reading comprehension. The most efficient way of raising learners' awareness is providing them with strategy training. That means, giving explicit instruction in how to apply language learning strategies and learning strategies in different ways.

The findings actually suggest that learners are aware of cognitive, metacognitive and support strategies to some extent and do employ them when engaged in reading comprehension. Therefore, knowing which strategies are used during the process of reading and comprehending academic texts is significant information both for teachers and learners.

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