The Effect of Teaching Different Vocabulary Learning Strategies on Reading Comprehension of Iranian EFL Learners

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Abstract :- This study explored the impact of three types of vocabulary instructional strategies including concept definition map, word web and vocabulary self-collection strategies on improving Iranian EFL learner's reading comprehension. After administering a standard proficiency test, Nelson English Language Test, the researcher selected 54 intermediate students, whose homogeneity was confirmed as the participants of the study. The participants were randomly assigned to one of the three groups that concept definition map, word web, and vocabulary self-collection strategies as treatment. The reading comprehension test was used as the pre-test and the post-test to infer any significant differences between the three groups' scores. In this study, the researcher used paired samples t-test and ANCOVA to analyze the collected data. Based on the results of the present study, these strategies are suggested as reading comprehension and vocabulary teaching strategies. The findings have significant pedagogical implications for Iranian EFL learners in their reading comprehension classes.

Keywords:- *Vocabulary Learning Strategies, Reading Comprehension, Concept Definition Map, Word Web*

I. INTRODUCTION

One of the oldest debates in educational research is the relationship between vocabulary knowledge and reading comprehension. Children's word recognition capability, vocabulary growth and comprehension development are essential components of a balanced reading program. Reading instruction that focuses on the growth of children's vocabulary results in enhancing their abilities to infer meanings and better comprehend what they read (Rupley, Logan, & Nichols, 1998). Word knowledge is important to reading comprehension and determines how students will be able to comprehend the texts they read in high school. Thus, if a student does not know the meanings of a proportion of the words in the text, comprehension is impossible. Reading provides a rich source of vocabulary and structure, and thus, helps to enhance other skills such as writing and speaking. Reading not only becomes important for being able to read and understand material successfully, it also becomes a key to using analytical skills to develop the correct answer through comprehension. Vocabulary experts agree that reading comprehension depends on a person already knowing between 90 and 95 percent of the words in a text.

Vocabulary teaching should be dynamic and should take into account various dimensions or the mental lexicon. On the other hand, it is necessary to use strategies to facilitate lexical consolidation in the student's memory.So, in order to enable language learners to improve and increase their lexical knowledge, teachers need to be aware of the importance of vocabulary and strategies or techniques that can be used for increasing their vocabulary knowledge and reading comprehension. As many teachers of foreign language reading comprehension suggested, when their students faced with an unfamiliar text in the foreign language the first challenge seem to be its vocabulary (Grabe&Stoller, 1997) .Vocabulary forms the biggest part of meaning of any language and vocabulary acquisition is receiving attention in second language pedagogy and research. Vocabulary and reading comprehension are much correlated;Moreover, many second language students tend to concentrate on each word they read and try to understand many words that are necessary to get the main idea from a text. One of the most effective methods of helping students learn new vocabulary is to teach unfamiliar words used in a text prior to the reading experience. So, most teachers and researchers would agree that knowing vocabulary before reading and having vocabulary knowledge that is well developed (i.e., knowing a variety of meanings, idiomatic uses) is very important for fluent and successful reading in the L2.

Vocabulary is one of the five main components of reading instruction. These main components include phonemic awareness, phonics and word study, fluency, vocabulary and comprehension.Grabe (1991) asserts that one of the most important areas of research for reading comprehension is research in vocabulary development. He believes that the role of large vocabulary knowledge is important in reading comprehension. Instructional activities that use visual display of words and promote student's comparing and contrasting of new words can be beneficial means for increasing their vocabulary knowledge. The result of this study, therefore, can be

interesting for learners and researchers of L2 as to employ strategies that improve vocabulary and reading comprehension.

II.   METHODOLOGY

Participants

This study was conducted with 70 intermediate EFL learners – 31 males and 39 females – in Maks Language Institute in Qeshm who were in the age range of 16 to 23. For the purpose of determining the participants' level of language proficiency, prior to research a Nelson English Language Test as a proficiency test was given to the students and the participants of the study were selected based on the results of the proficiency test. Students whose scores were between one standard deviation minus and plus the mean 54 students – 23 males and 31 females – took part in the study. Final participants of the study were divided into three groups randomly.

III.   DESIGN

The present study includes pre-test, post-test, and experimental groups. Therefore, the design of this study was 'pre-test – post-test experimental-group design'. This study is also a *quasi-experimental* research as the participants were not randomly selected out of the population. In this study, the types of strategies being taught were the independent variables which their effects on the vocabulary learning of the students as the dependent variable was investigated.

Instruments

The following instruments were used to conduct the present study:
1.   *Nelson English Language Test:* was used as a tool for determining the participants' level of language proficiency. The Nelson English Language Test is a battery including 40 separate tests for ten levels of language proficiency which range from beginner to the advanced. The levels are numbered from 050, 100, …, to 500. Each test consists of 50 items. In the present study a test in intermediate level – 250A – was used.
2.   *Preliminary English Test (PET):* the reading section of two different version of PET was used to provide a practical way of assessing students' level of L_2 reading as pre-test and post-test; i.e., the former refers to experiencing reading comprehension without applying vocabulary learning strategies while the latter includes attempts measure the participants' reading comprehension after undergoing the treatment process. The reading part of the PET is composed of 35 multiple-choice, true-false, and matching items with a total score of thirty-five – one point for each correct answer.

Data analysis

Data analysis was done by SPSS 19 software. A number of descriptive and inferential analyses were conducted on the data. The collected data were analyzed descriptively using mean and standard deviation. Three paired sample t-tests were run to investigate first three research hypotheses. In addition, an ANCOVA was run not only to compare the function of three experimental groups after the treatment period but also to show whether post-test differences are due to treatment effect or their possible variation in the starting point – pre-test.

IV.   RESULTS

The Results of the English Language Proficiency Test

The overall homogeneity of the participants of the study was checked through administration of a Nelson English Language Test. For this purpose, all initial 70 students took part in Nelson English Language Test and students who got scores between one standard deviation below and above the mean participated in the main study. Table 1 indicates the descriptive statistics regarding the participants' Nelson English Language Test scores.

Table 1
Descriptive Statistics Regarding the Participants' Nelson English Language Test Scores

	N	Minimum	Maximum	Mean	Std. Deviation
Nelson	70	16	50	36.46	7.899
Valid N (listwise)	70				

As Table 1 shows, the mean of the initial participants' Nelson English Language Test scores was 36.46 with the standard deviation of 7.899. Therefore, from among 70 initial students, 54 who scored between 29 and 44 were chosen.

V.   THE RESULTS REGARDING THE FIRST RESEARCH HYPOTHESIS

In order to explore the first null hypothesis of the study, the researcher ran a paired samples t-test. Table 2 presents the results of this analysis.

Table 2*Paired Samples T-test of Pre- and Post-Test Scores in the Concept Definition Map Group*

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-test – Post-test	-10.944	1.305	.308	-11.593	-10.296	-35.585	17	.000

As indicated in Table 2, there was a significant difference between the pre-test and post-test scores of the participants in the Concept Definition Map group (t(17) = -35.585, p < 0.05). Due to the means of the two tests shown in Table 2, it can be concluded that there was a statistically significant improvement in post-test scores in the Concept Definition Map group after accomplishment of the treatment.

The Results Regarding the Second Research Hypothesis

In order to investigate the second null hypothesis of the study, the researcher ran another paired samples t-test. Table 3 reports the results of this analysis.

Table 3
Paired Samples T-test of Pre- and Post-Test Scores in the Word Web Group

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-test – Post-test	-2.889	1.937	.457	-3.852	-1.926	-6.328	17	.000

As shown in Table 3 there was a significant difference between the pre-test and post-test scores of the participants in the Word Web group (t(17) = -6.328, p < 0.05). Based on the means of the two tests shown in Table 1.3, it can be concluded that there was a statistically significant improvement in post-test scores of Word Web group after the treatment.

The Results Regarding the Third Research Hypothesis

. In order to explore the third null hypothesis of the study, the researcher conducted a paired samples t-test. Table 4 presents the results of this analysis.

Table 4*Paired Samples T-test of Pre- and Post-Test Scores in the Vocabulary Self-collection Group*

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-test – Post-test	-6.833	1.654	.390	-7.656	-6.011	-17.529	17	.000

As indicated in Table 4, there was a significant difference between the pre-test and post-test scores of the participants in the Vocabulary Self-collection group (t(17) = -17.529, p < 0.05). Due to the means of the two tests shown in Table 1.4, it can be concluded that there was a statistically significant improvement in post-test scores in the Vocabulary Self-collection group after the study.

The Results Regarding the Fourth Research Hypothesis

After performing an ANCOVA and being assured of the significant differences among groups, it was necessary to run a pairwise comparison to locate the difference more precisely. The LSD Post Hoc test was conducted on the data to serve the purpose, the result of which are presented in this table.

Table 5 *Analysis of Covariance (ANCOVA)*

Dependent Variable: Reading Post-test						
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1302.985[a]	3	434.328	161.799	.000	.907
Intercept	42.700	1	42.700	15.907	.000	.241
Pre-test	750.504	1	750.504	279.583	.000	.848
Groups	586.561	2	293.280	109.255	.000	.814
Error	134.218	50	2.684			
Total	39147.000	54				
Corrected Total	1437.204	53				
a. R Squared = .907 (Adjusted R Squared = .901)						

As it is clear, the mean score of the participants in the Concept Definition Map group differed significantly from both Vocabulary Self-collection ($p<0.05$) and Word Web ($p<0.05$) groups and also the Vocabulary Self-collection group had a significant difference with the Word Web group ($p<0.05$). As the mean differences indicate, Concept Definition Map group outperformed both Vocabulary Self-collection (I-J= 4.116) and Word Web (I-J= 8.075) groups. Similarly, the Vocabulary Self-collection group had a better performance than the Word Web group (I-J= 3.959).

VI. DISCUSSION AND CONCLUSION

The statistical analysis of the first three research hypotheses revealed that there were significant improvements in reading comprehension scores of the participants in all three groups. That is, the findings indicate that these vocabulary learning strategies have a positive effect on improving learner's reading comprehension. The results of the statistical analyses related to the fourth research hypothesis indicated that there were significant differences between the performances of students in the three groups. The results of this study partially confirmed the findings of Schwartz and Raphael (1985) who investigated the effect of concept definition map on improving vocabulary development through reading skill.

The results of the study indicated that these strategies had a positive effect on the students' reading scores.In another study conducted by Gooden, Carreker, Thronhill and Joshi (2007), reading comprehension and vocabulary achievement of two groups of students was investigated to determine the impact of the strategies on vocabulary. According to the results of study, there was a statistically significant difference between the two groups.The results of the present study partially confirmed the results of Tang (1992) who investigated the effect of graphic representation of the knowledge structure of classification on comprehension.The results revealed the effectiveness of strategy training on the vocabulary achievement of the participants of the study. In addition, it was found that the order of the effectiveness of the strategies from the highest to the lowest was concept definition map, vocabulary self-collection, and word web. the main purpose of this study was to investigate the improvement of Iranian EFL learners' reading comprehension through three vocabulary instructional strategies (i.e., concept definition map, word web and vocabulary self-collection). Previous studies have examined the effects of three vocabulary instructional strategies on improving vocabulary development. Drawing on the related literature in this area, this study has considered the efficiency of the above mentioned hypotheses in the domain of improving reading comprehension skill through three vocabulary instructional strategies.As the results of the present study demonstrated and according to the previous studies the process of mapping techniques may increase content-area achievement, enhance recall of material and reduce student anxiety. It is also concluded that these vocabulary teaching strategies had a positive effect on improving learner's reading comprehension skill. In addition, the study indicated that using these strategies in reading class facilitated learning process and enhanced learner's reading comprehension ability. As Tang (1992) expresses, graphic organizers lower the language barriers for the students both in terms of understanding the topic and in completing tasks.

VII. SUGGESTIONS FOR FURTHER RESEARCH

The present study surveyed the research variables among Iranian intermediate EFL learners in Maks Language Institute in Qeshm. Students from other language institutes or other levels of proficiency or even high school or university students may be selected as participants in similar studies. This study did not differentiate the gender of the participants. Other studies may focus on gender and compare the effects of different strategies on reading comprehension and vocabulary achievement of male and female EFL learners.

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