

## THE EFFECT OF VOCABULARY LEARNING STRATEGY INSTRUCTION ON THE DEPTH OF VOCABULARY KNOWLEDGE

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### ABSTRACT

*A notable body of research in English Language Teaching shows that not all Strategy-Based Instruction (SBI) studies have been successful in a true sense of the word. Some SBI programs have been effective in various skill areas but not in others, even within the same study (Oxford, 1989). The current study investigated the effect of vocabulary learning strategy instruction on the depth of vocabulary knowledge among a group of low intermediate Iranian EFL students. To achieve this purpose, a language proficiency test of PET (Preliminary English Test) was administered to ninety-three students of Islamic Azad University of Arak in Iran. Sixty one students whose scores fell between one standard deviation below the mean and one standard deviation above the mean were selected as the participants of the study. The selected participants were randomly divided into two groups and were randomly assigned to control group and experimental group. Both groups worked on the same reading passages and textbook. The students in experimental group were also instructed in vocabulary learning strategies and the use of vocabulary learning strategies while the students in control group received conventional teaching vocabulary training without any treatment for 13 sessions. The result of the data analysis indicated that vocabulary learning strategy instruction had positive impact on depth of vocabulary knowledge of students. The results of the study from the theoretical point of view may lead to a better understanding of the nature of language learning in general ,especially in foreign language learning contexts. Moreover, the findings may be found useful for the practitioners involved in the area of curriculum planning, material development and syllabus designing.*

**KEYWORDS:** Strategy-Based Instruction; Vocabulary Strategies; Depth of Vocabulary knowledge; EFL students; Preliminary English Test

### INTRODUCTION

Vocabulary plays an exceedingly important role in learning second or foreign language (Laufer, 1992). Vocabulary is regarded as “an essential part of mastering a second language” (Schmitt, 2008, p.329). language learning strategies in general have enjoyed much popularity in recent decades in ELT. The interest in this area initiated when successful language learners became the target of the investigation of language educators and researchers. It is always

postulated that successful language learners have their own "special ways of doing it". The idea of successful language learners was first broached by Stern (1975) and Rubin (1975) in the 1970s. This notion was helpful in triggering serious attempts in the investigation of the nature of language learning and also in the facilitation of the language learning process for other learners. Upon the inception of the engagement with learning strategies, most of the research in the area of strategies for language learning has focused on the identification, description, and categorization of helpful language learning strategies. Learning strategies have been defined by O'Malley and Chamot (1990) as "special thoughts or behaviors that individuals use to comprehend, learn, or retain new information" (p.1). Oxford (1994) considers them as "actions, behaviors, steps, or techniques students use, often unconsciously, to improve their progress in apprehending, internalizing, and using the L2" (p.1). Naiman, Frohlich, and Todesco (1975) and Rubin (1975) have made a list of strategies used by successful second learners.

One of the alluring areas in vocabulary research has been the investigation of the strategies of vocabulary learning. In the last decades there has been a mounting interest in vocabulary learning strategies given that they are found to facilitate second/foreign language vocabulary learning (Alptekin, 2007; Toyoda, 2007). Research on the employment of vocabulary strategies has indicated differences among learners in terms of their strategy use. Successful vocabulary learners were found to be active strategy users who were conscious of their learning and took steps to regulate it, whereas poor learners displayed little awareness of how to learn new words or how to connect new words to old knowledge (Atay & Ozbulgan, 2007; Tyner, 2009). Therefore, a learner needs to be given explicit instruction to become more aware of the broad range of strategies that can be employed during the learning process (Fan, 2003; Yang, 2007).

In this regard, Cohen (1990), Hatch and Brown (1995) and Nation (2001), studied various types of strategies used in vocabulary learning; Lawson & Hogben (1996) and Sanaoui (1995) compared the vocabulary learning methods and strategies of learners with different proficiency levels (high and low students); Grabe & Stoller (1997), Krantz (1991), and Nassaji (2003), investigated the correlation between extensive reading, using dictionaries and vocabulary learning.

Recent findings also reveal that vocabulary knowledge is crucial to reading comprehension and its enhancement, to which it is closely linked (Tozcu & Coady, 2004). As Stahl (1983, p.33) proposed, the relationship between reading comprehension and vocabulary knowledge is "one of the best documented relationships in reading research". This relationship between vocabulary and reading comprehension caused a good number of researchers to believe that a reader's vocabulary knowledge can be the best predictor of his understanding of text (Anderson, 2000; Paribakht & Wesche, 1997).

Vocabulary learning strategy is a subcategory of language learning strategies (Oxford, 1990: 8), vocabulary learning strategy organizes knowledge about what learners do to find out the meaning of new words, retain them in their memory for a long time, recall them when needed in comprehension, and also apply them in language production (Catalan 2003, cited

in :Ruutemets, 2005). Language learning strategy instruction improves both the learning product and process because it enhances learners' awareness of how to learn successfully and motivates them (Rasekh & Ranjbari, 2003). It helps teachers to become more aware of their learners' needs and of how their teaching styles are appropriate to their learners' strategies (Oxford, et al, 1990), and to direct their teaching efforts (Kinoshita, 2003).

Wu and Wang (1998) focused on the strategies used in English vocabulary learning by Non-English majors; in a similar study Zhang (2001) investigated the English vocabulary learning strategy of postgraduates; Gu and Hu (2003) investigated the relationship between learners' vocabulary learning strategy, vocabulary size and English achievements. Alseweed's (2000) study showed that training students in using word-solving strategies increased high proficiency students' strategy use than low proficiency one. Tassana-ngam (2005) in an investigation also revealed that training Thai EFL university students in using five vocabulary learning strategies (dictionary work, keyword method, semantic context, grouping and semantic mapping) enhanced their ability to learn English words and increased awareness of how to learn vocabulary.

Within the realm of vocabulary research, a significant number of researchers have differentiated between two facets of vocabulary knowledge, namely breadth and depth (e.g., Bogaards & Laufer, 2004; Read, 2000). Nation (2001) stated that breadth or size of vocabulary knowledge is the number of words that language learners know. Depth of vocabulary knowledge, on the other hand, refers to how well the language learner knows a word (Read, 1993, 2000). Read (1993, p. 357) explained the notion of depth of word knowledge which is more absorbing from an L2 vocabulary acquisition research belief than just quantitative angles of lexical knowledge, as "the quality of the learner's vocabulary knowledge". Many researchers have emphasized the intricate and dynamic nature of this knowledge. It seems to be axiomatic that knowing a word means knowing more than its single meaning in a particular text. Learners also need to know the pronunciation, spelling, syntactic and semantic relationship with other words such as collocation, synonym, antonym and hyponym (Chapelle, 1994). Therefore, vocabulary should not be considered a single dimension, instead it is better to be considered as a multidimensional structure (Qian, 1999). According to Nassaji (2004, p. 112), researchers have indicated "the complexity and multi-dimensionality of word knowledge and have suggested that knowing a word well should mean more than knowing its individual meanings in particular contexts." Various kinds of knowledge are associated with a word that a learner must know; each of such types of knowledge has its own measure. One widely used measure assessing only some of these aspects is Word Associates Test (WAT) that was originally developed by Read (1993, 2000). WAT measures only some elements of vocabulary depth, since these elements are vital, they appear frequently in discussions of vocabulary knowledge (e.g. Chapelle, 1994; Nation, 1990, 2001; Qian, 1999, 2002; Read, 1993, 2000; Wesche & Paribakht, 1996).

## **RESEARCH QUESTIONS**

Although, as pointed out above, research findings strongly advocate the importance of learners' employment of vocabulary learning strategy instruction, many learners and teachers may

not be cognizant of the efficacy of such strategy-based instruction (Celce- Murcia, 2001; Diamond & Gutthohn, 2006). Given the paramount importance of vocabulary learning strategy instruction and the attention-grabbing nature of the depth of vocabulary in vocabulary research, this study aims at the investigation of the impact of on the depth of vocabulary knowledge to contribute to the existing literature on the use of vocabulary learning strategy instruction. With all these in mind, this study intends to answer the following research question:

*Does vocabulary learning strategy instruction affect the depth of vocabulary knowledge of Iranian EFL students?*

Based on the above question, the following null hypothesis is formulated:

*Vocabulary learning strategy instruction does not affect the depth of vocabulary knowledge of Iranian EFL students.*

## METHODOLOGY

### *Participants*

The participants of the present study were 61 undergraduate engineering students selected out of 93 students volunteering to participate in this study. In fact, these 61 students were screened based on their scores on the PET exam and were regarded as of nearly the same proficiency level. First, the PET exam was administered to a number of 93 undergraduate engineering students at Islamic Azad university of Arak in Iran, after the scoring of the exam papers 61 testees whose scores fell between one standard deviation below the mean and one standard deviation above the mean were selected as the participants of the study. The participants included both male and female students. Their age range varied from 18 to 25. The average age of the participant was 21.72. They had passed general English course as a requirement of their university before. The selected participants were assigned into two classes and considered as low intermediate level of language proficiency. One of the classes was randomly selected as the experimental group and the other class as control group. The number of the students in the control was 31 and there were 30 individuals in the experimental group.

### *Instruments*

#### *Preliminary English Test (PET)*

A retired version of PET exam (2004), as an internationally valid proficiency test, was utilized in this study as a measure of general language proficiency of the participants of this study. Based on the PET Handbook (2004), the test is developed to assess the use of language in real life. PET is based on the communicative approach to learning English while considering the need for accuracy. As for content, the test requires understanding public notices and signs; reading and understanding of short written texts incorporating factual information; understanding of grammar as utilized to express language notions such as time, space, possession, etc. The reliability of the test as estimated against Kuder-Richardson Formula (KR-21) turned out to be 0.82.

*Word Associates Test (WAT)*: Devised by Read (1993), WAT measures three vocabulary elements: synonymy, polysemy, and collocation. Most of the stimulus words are general academic adjectives. The reliability of the test (KR-20) is 0.92 (Read, 1993). The split-half reliability of the test in the study by Qian (2002) was 0.89. WAT contains 40 items. Each item in WAT consists of one stimulus word (an adjective), and two boxes, each containing four words. Among the four words in the left box, one to three words can be synonymous to one aspect of, or the whole meaning of, the stimulus word. Also, there can be one to three words that collocate with the stimulus word among the four words in the right box. The instruction sheet for the test taker further explains that there are always four correct answers in each item. This arrangement effectively reduces the chances of guessing. In scoring, each word correctly chosen was awarded one point. The maximum possible score, therefore, was 160 for the 40 items. The following is an example:

Original							
careful	closed	first	proud	condition	mind	plan	sister

The scores obtained from this measure were treated as the variable of depth of vocabulary knowledge while those obtained from VLT were treated as the variable of size of vocabulary knowledge in the analyses.

### ***Design***

In this study, there were two groups of participants, namely control group and the experimental group. The design of this study seems to be true-experimental because this design has three characteristics: 1) a control group is present, 2) the students are randomly selected and assigned to the groups, and 3) a pre-test is administered to capture the initial differences between the groups (Hatch & Farhady, 1982, p. 22). But the truth of the matter is that the concept of experimental design is an idealized abstraction in applied linguistics (Hatch & Farhady, 1982, p. 22). Therefore the design of this study is better to be considered as quasi-experimental. The homogeneity of the two groups in terms of the depth of vocabulary knowledge and language proficiency was checked using WAT test and PET test respectively.

### ***Procedure***

First of all the PET test was administered to a number of 93 low intermediate, undergraduate engineering students at Islamic Azad university of Arak in Iran, after the scoring of the exam papers 61 testees whose scores fell between one standard deviation below the mean and one standard deviation above the mean were selected as the participants of the study. Then the selected participants were randomly divided into two groups of experimental and control. To ensure the homogeneity in the groups regarding the vocabulary, a Word Associate Test (WAT) was administered as the pre-test. The result of pre-test indicated that there was no significant difference between the control and experimental groups in terms of their depth of vocabulary knowledge prior to the initiation of the treatment. After division of the groups, the control group was taught conventionally without any explicit vocabulary learning strategy instruction while the experimental group received vocabulary learning strategy instruction. The duration of treatment lasted for 13 sessions and each of such session was scheduled to receive 90 minutes of vocabulary learning strategy instruction. On the first session, the researcher first assigned the



participants in the experimental group a table of suffixes and prefixes to memorize. Then he gave them an introductory lesson on vocabulary learning and possible strategies to learn vocabularies. According to the guidelines recommended by a number of researchers (Cohen, 1998; Hulstijn, 1997), the researcher of the current study first talked about the importance of vocabulary knowledge in foreign language learning and discussed the advantages of strategy employment, functional and contextualized practice with the vocabulary learning strategies, self-assessment and monitoring of one's own language learning process and suggestions for or demonstrations of the transferability and extension of the strategies to new tasks. Table 1 indicates vocabulary learning strategies employed in the present study .

*Table 1: Vocabulary Learning Strategies Employed in This Study*

Strategies	Vocabulary Tasks
Memory Strategies	a) reviewing b) place new words in new sentences
Cognitive Strategy	a) Analyzing word into its parts (affixes) b) grouping words according to the parts of speech c) listing new word along with other words related to it by topic
Compensation Strategies	a) guessing from context linguistically b) guessing non-linguistically
Metacognitive Strategies	a) monitoring b) evaluating

In this study, according to the model proposed by Chamot & O'Malley (1994), the researcher carried out SBI in the experimental group based on a five-phase recursive cycle for introducing, teaching, practicing, evaluating, and applying the intended vocabulary learning strategies.

At the end of the semester both the control group and the experimental group were given WAT test as the post-test of the study to check their progress after the treatment and the results of the tests were compared to find the effects of the training.

### *Statistical analysis*

In order to answer the research question, the mean scores of the control and experimental groups were compared and also Statistical analysis of independent samples T-test was used to test possible differences between the two groups at the beginning and end of the study. This was done to see if there was any significant difference between the performance of the control and experimental group on the pre-test and post-test.

## **RESULTS AND DISCUSSION**

In data analysis, first of all the normality of distribution was investigated. One of the key assumptions of parametric tests is that the data should be normally distributed. This normality of the distribution, in fact, means that the sample is significantly representative of the population. In order to check this normality assumption in this study, one-sample Kolmogorov-Smirnov (K-S) test was conducted on both pre-test and post-test scores. In this test, if the significance level is larger than .05, then we can claim that the data are normally distributed and there is no significant difference between the sample and the population. In other words, we can say that our sample is representative of the population. As it is shown in table 2., the results of K-S test indicated that the data is normally distributed; hence, this assumption of parametric tests was not violated.

Table 2: One-Sample Kolmogorov-Smirnov Test

		pre	Post
N		61	61
Normal Parameters <sup>a</sup>	Mean	34.5246	39.3443
	Std. Deviation	9.51246	1.23692E1
Most Extreme Differences	Absolute	.147	.124
	Positive	.147	.124
	Negative	-.101	-.091
Kolmogorov-Smirnov Z		1.149	.967
Asymp. Sig. (2-tailed)		.143	.307

Then, in order to analyze the gathered data, first the mean scores of experimental and control groups in pretest were compared with each other, second the mean scores of experimental and control groups in posttest were compared with each other.

Concerning the statistical analysis of the data presented in table 3, a mean score of 34.80 with a standard deviation of 9.59 was gained for the control group, while the mean score of 34.33 with a standard deviation of 9.58 was obtained for the experimental group on the pre-test. Given this data, it can be concluded that the two groups were homogeneous in terms of depth of vocabulary knowledge. Also as indicated in the table 3, it can be found out that the t-critical value is higher than our t-observed - 0.233 at 0.05 level of significance, i.e.  $t(59) = -0.233$ . The Sig (2-tailed) 0.81 is higher than the assumed level of significance 0.05, this indicates that there was not any statistically significant difference between control and experimental group prior to the initiation of the treatment of the study. That said, in order to answer the research question of the study, the mean scores of the two groups on the post-test can be taken into account.

Table 3: Comparing differences between two groups

	Group	N	Mean	Std. Deviation	t*	Sig
Experimental	30	34.33	9.58		Pre-test	
Control	31	34.80	9.59		- 0.233	0.81
Experimental	30	42.90	13.22		2.28	0.026
Control	31	35.90	10.58			Post-test

\*  $P < 0.05$

Table 3 also reveals that there has been a significant increase in the mean score of experimental group after the treatment. A mean score of 35.90 with a standard deviation of 10.58 was obtained for the control group, while the mean score of 42.90 with a standard deviation of 13.22 was obtained for the experimental group on the post-test.

Also as far as the results of the results of the independent samples T-test are concerned, with 59 degrees of freedom the t-observed at 0.05 level of significance, i.e.,  $t(59) = 2.28$ , exceeds the t-critical value and it means that the observed difference between groups is statistically

meaningful. The Sig (2-tailed) 0.026 which is smaller than the assumed level of significance 0.05 is also evidence for the difference between the groups. Given this result, it can be concluded that the that vocabulary learning strategy instruction had positive impact on depth of vocabulary knowledge of students in the experimental group. In other words, the treatment has enhanced the depth of vocabulary knowledge of the experimental group on the post-test.

### ***Discussion***

The main purpose of the current study was to investigate the effectiveness of vocabulary learning strategy instruction on the depth of vocabulary knowledge among a group of low intermediate Iranian EFL students. As it was indicated, the group which received vocabulary learning strategy instruction outperformed the control group on the depth of vocabulary knowledge test. The statistical analyses revealed that vocabulary learning strategy instruction did have a significant effect on the Iranian EFL students' depth of vocabulary knowledge. In other words, the vocabulary learning strategy instruction and practice the experimental group received about reviewing , placing new words in new sentences, analyzing word into its parts (affixes) , grouping words according to the parts of speech, listing new word along with other words related to it by topic, guessing from context linguistically , guessing non-linguistically, monitoring , evaluating, contributed to this improved and expanded lexical knowledge. The results of this study reveal that vocabulary learning strategy instruction has positive effect upon the development of the depth of lexical knowledge of Iranian EFL students. The findings of the current study are in line with the results of the studies which emphasize the beneficial role of language learning strategy based instruction developing language skills and components (Carrell, 1998; Carrel et al., 1989; Cohen, Weaver, & Li, 1998; Kern, 1989; Wenden, 1987 ; Wenden, 1998).

### **CONCLUSION**

This study has important implications for language learners, practitioners, teachers, and teacher educators in ELT. It might open new gates for teachers and teacher educators in providing more appropriate setting and opportunities for language learners in overcoming the potential hurdles created by vocabulary learning as a challenging task in ELT. The issue of vocabulary learning is considered to be of more importance in EFL contexts where learners have less exposure and input to language compared to ESL contexts. By incorporation of strategy-based instruction in language education, teachers can assist learners to become autonomous and self-regulated. From the theoretical point of view, the findings of the present study will enrich the existing accumulated body of knowledge regarding vocabulary learning strategy instruction and depth of vocabulary knowledge. From the practical perspective, Textbook writers and material developers in ELT should pay more serious attention to the inclusion of vocabulary learning strategies to the textbooks and materials. Teacher educators should take Strategy-Based (SBI) Instruction into account in the teacher education program. Both learners and teachers need to have a solid knowledge of vocabulary learning strategies and their beneficial role in language education. Oxford (1990) recommends that SBI can be achieved after familiarizing the students with the language learning strategies and providing them with opportunities for practicing these strategies through integrating them into the classroom instructional plan and embedding them into regular



class activities (p. 12). SBI has been empirically verified and recommended in ELT (Cohen, Weaver, & Li, 1998; Rubin & Thompson, 1994). However, before training language learners on how to employ strategies effectively, teachers themselves should be trained in strategy instruction and assessment. They should also be educated on how to implement SBI inside their classrooms. Being carried out in an EFL context could be defined as the main limitation of this study. Furthermore, the study just investigated the effect of SBI on the Depth of Vocabulary Knowledge at one level of language proficiency, i.e. low intermediate level students. It could be more desirable, if the results of study were screened for different subjects with different levels of proficiencies.

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