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Research Article

The Effect of Meta-cognitive Vocabulary Strategy Training on the Breadth of Vocabulary Knowledge

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Abstract

A significant amount of research in Second Language Acquisition (SLA) manifests that not all Strategy-Based Instruction (SBI) studies have been beneficial in driving interlanguage development forward. The purpose of the current study was to investigate the effect of metacognitive vocabulary strategy training on the breadth of vocabulary knowledge among a group of intermediate Iranian EFL students. In so doing, two intact classes at Islamic Azad University of Hamedan in Iran were selected as the participants of the study. The total number of students were sixty students with thirty students in each of the experimental and control group. The participants were randomly assigned to control group and experimental group. Vocabulary Levels Test (VLT) as an instrument for measuring the breadth of vocabulary knowledge was administered before (as pre-test) and after (as post-test) the treatment of the study. Both groups worked on the same reading passages and textbook. In addition, the students in experimental group were also taught in meta-cognitive vocabulary learning strategies while the students in control group received traditional teaching without any treatment for 12 sessions. The result of one-way ANCOVA indicated that meta-cognitive vocabulary strategy training was beneficial in enhancing the breadth of vocabulary knowledge of students.

Keywords: Strategy-Based Instruction; Meta-cognitive Vocabulary Strategies; Breadth of Vocabulary knowledge; EFL students; Vocabulary Levels Test

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I. Introduction

One of the most important aspects in learning any language has been the vocabulary and vocabulary continues to be considered a fundamental aspect” (Qian, 2002). Accordingly, foreign language and second language learners are generally aware of the extent to which limitations in their vocabulary knowledge affect their communication skills since lexical items carry the basic information they wish to comprehend and express (Nation, 2001).

Over the last decade, vocabulary has been regarded as a component of language proficiency, both in first and second language acquisition. After years of the scrutiny of morphological and syntactic skills, knowledge of words is now deemed the most important factor in language proficiency and school success – in part due to its close ties with text comprehension. Words are the carriers of meaning: without knowledge of words, understanding sentences or texts is not possible. As Lewis (1993, p. vi) wrote, “Language consists of grammaticalized lexis, not lexicalized grammar.”

Vocabulary learning strategies (VLS) are a subcategory of language learning strategies on which there has been lengthy discussion within second language acquisition literature (Nation, 2001). Vocabulary learning strategies normally vary depending on the target language and the learners’ learning goal; whether passive or productive knowledge. Cameron (2001) defines VLS as “the actions that learners take to help themselves understand and remember vocabulary items” (p. 92). Catalán (2003), in her study of gender differences in VLS, adopts a similar definition as Oxford’s (1990) and Schmitt’s (1997), stating that VLS correspond to :

Knowledge about the mechanisms (processes, strategies) used in order to learn vocabulary as well as steps or actions taken by students (a) to find out the meaning of unknown words, (b) to retain them in long-term memory, (c) to recall them at will, and (d) to use them in oral or written mode. (p. 56).

After the introduction of VLS, many studies were conducted in L2 vocabulary learning research. Most of this research, according to Cohen and Macaro (2007), can be divided into two periods: pre- and post-1990. Prior to 1990 Cohen and Macaro argued, SLA research was centered on syntactic issues and productive skills related to communicative competence and proficiency and away from discrete-point vocabulary learning. Traditional language pedagogy in this time frame emphasized grammar and communicative proficiency and fluency. Vocabulary, however, was left at the students’ discretion. Since 1990, though, scholars in the field of SLA have increasingly recognized the critical role vocabulary size and knowledge plays in L2 acquisition (Cohen & Macaro, 2007). In fact, during the early 1990s, researchers (O’Malley & Chamot, 1990; Oxford,

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1990) finally realized that most L2 learning strategies being studied were in fact related to vocabulary learning. The following review of the literature considers the lexical dimension of language learning, evaluating the arguments and the findings from post-1990 studies which describe strategies through which L2 learners discover the meaning of unknown L2 words and integrate and consolidate newly acquired vocabulary.

An approach to facilitate vocabulary acquisition that has been gaining attention in L2 research and pedagogy is vocabulary learning strategies (VLS). The term vocabulary learning strategies in the present study refers to “any set of techniques or learning behaviors, which language learners reported using in order to discover the meaning of a new word, to retain the knowledge of newly-learned words and to expand one’s knowledge of vocabulary” (Intaraprasert, 2004, p. 53). According to Schmitt (2000), scholars’ interest in L2 VLS stems from the movement to get away from a predominantly teacher-oriented pedagogical philosophy to a more learner-centered ideology that includes an interest in how learners themselves can manage their own language learning. Studies reveal that adults are perfectly capable of actively engaging in the management of their own vocabulary learning; even more so than with other language skills such as reading, writing, speaking, listening, and grammar (Schmitt, 2000). Schmitt believes that this is the case because of the relatively discrete nature of vocabulary learning compared to more integrated language activities, which makes it easier to apply learning strategies to vocabulary learning. In fact, judging by the number of books on language and vocabulary learning strategies that have been recently published (for examples see: McCarthy, 1990; Milton, 2009; Nation, 1990, 2001; Oxford, 1990; Schmitt, 1997, 2000; Schmitt & McCarthy, 1997), many SLA scholars now endorse the importance of L2 students developing autonomous L2 learning strategies.

According to results from three landmark studies on L2 vocabulary acquisition conducted in the 1980s by Cohen and Apeh (1981), O’Malley et al. (1985) and Ahmed (1989), researchers developed some hypotheses on the VLS most commonly used by L2 learners. These authors argued that memorization, dictionary use, note-taking, and visual and oral repetition are the most common learning strategies among L2 learners. The results of these studies also support the idea that many beginning-level L2 learners prefer mechanical, less cognitively-demanding VLS over more complex meta-cognitive ones (Schmitt, 1997). These studies also led to more systematic research into VLS, although questions still remain today over which type of VLS, or combination of such strategies, are more effective in acquiring a large L2 vocabulary (Takač, 2008). A number of recent studies (Barcroft, 2009; Borer, 2007; Catalán, 2003; Fan, 2003; Gu, 2002; Gu & Johnson, 1996; Schmitt, 1997; Tseng & Schmitt, 2008) have concluded that more proficient L2 learners

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successfully use a variety of VLS significantly more often than less proficient students, and use learning strategies that require more cognitive effort. In fact, it has been suggested that L2 learners can be categorized on the basis of their learning strategies (Ahmed, 1989; Lawson & Hogben, 1996). Successful L2 learners, according to Ahmed, are able to use a wider variety of meta-cognitive demanding strategies, while less successful learners generally use fewer strategies and tend to use them inadequately. This is an important factor to consider since research in cognitive psychology has shown that the more cognitive effort is invested in learning a word, the easier it becomes to recall that word at a later time (Borer, 2007; Ellis, 1995; Grace, 1998; Hulstijn, 1992; Schmitt & McCarthy, 1997).

Unfortunately, most research studies on VLS have mainly focused on a single or a small number of learning strategies—keyword mnemonics, context inference and memorization—and therefore, they reveal relatively little about the many learning techniques that most L2 students actually use outside the classroom. Relatively few studies (Catalán, 2003; Fan, 2003; Gu & Johnson, 1996; Sanaoui, 1995; Schmitt, 1997; Stoffer, 1995) have looked at an all-inclusive and more exhaustive group of strategies used as a whole by L2 learners and the effects of these strategies on vocabulary acquisition. As Gu and Johnson (1996), Lawson and Hogben (1996) and Sanaoui (1995) all point out, most L2 learners use a variety of different strategies, and the combinations of strategies used may be far more important and predictive of vocabulary acquisition than the effect of one single learning strategy.

Sanaoui (1995) carried out a study with ESL and French foreign language students to determine what mnemonic procedures they used to learn new lexical items. Upon the analysis of journal entries of English and French L2 learners, Sanaoui concluded that adult L2 learners fall into one of two categories based on their approach to vocabulary learning: structured and unstructured L2 learners. According to Sanaoui, these two approaches differed in several criteria: learning independence, the range of self-initiated learning activities, the extent to which learners record the words they are learning, the extent to which learners review the words, and the extent to which learners use the words outside of the classroom. These two approaches to vocabulary learning can be conceptualized as the two ends of a continuum of vocabulary learning organization. Sanaoui argued that the more ‘structured’ vocabulary learners have a more organized and independent approach to learning, whereas vocabulary learners in the unstructured end of the continuum are less systematic in their learning approaches and more reliant on the course or the teacher for instruction. Sanaoui’s study highlights the importance of independent and organized approaches to vocabulary learning.

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Stoffer (1995) carried out a large-scale vocabulary-learning study using Russian, Japanese, German, and Spanish FL students at a large university in the United States. Stoffer designed a questionnaire—the Vocabulary Learning Strategy Inventory (VOLSI)—to determine the most commonly used VLS among the participants. The VOLSI consisted of 53 strategies grouped into nine categories: 1) strategies involving authentic language use, 2) strategies involving creative activities, 3) strategies used for self-motivation, 4) strategies used to create mental linkages, 5) memory strategies, 6) visual and auditory strategies, 7) strategies involving physical action, 8) strategies used to overcome anxiety, and 9) strategies used to organize words. Among the findings in Stoffer's study was the fact that strategies used to create mental linkages were the most frequently used type of strategies. Students who score high in this factor were the ones who used strategies such as linking L2 words to their native language (either by sound or by spelling), learning words group in related topics, linking new words to already known concepts, or using natural associations (opposites). Another interesting finding was the fact that experienced language learners, those who had previously studied a FL, used significantly more strategies than novice FL learners, those learning a FL for the first time. Stoffer also found that students learning a language more lexically distant from English (such as Russian and Japanese) use VLS more frequently than those who were learning a language less distant such as Spanish.

Schmitt (1997) developed a comprehensive and often cited taxonomy of VLS by integrating several classification systems into a taxonomy organized around Oxford's (1990) meta-cognitive, cognitive, memory, and social classifications of L2 learning. The first classification, meta-cognitive, involves reflecting on the learning processes such as planning and self-evaluation. Cognitive strategies, on the other hand, involve manipulating or transforming learning materials; examples include note-taking, analysis and translation. Memory strategies are those which are used to commit information to memory, such as flashcards, word lists, etc. Finally, social strategies are those which require interaction with other learners or teachers, such as asking a peer the meaning of an unknown word. Schmitt's taxonomy was developed on the basis of an extensive literature review, language learners' retrospective descriptions of their learning strategies, and teacher surveys (Schmitt, 1997). This taxonomy incorporates 59 different strategies divided into two domains: strategies used to infer the meaning of the unknown words (discovery strategies), and strategies used to consolidate the meaning of the new word (consolidation strategies).

Schmitt's taxonomy includes commonly used VLS which fall in one of the following six categories: 1) Discovery-determination (e.g. analyzing parts of speech, checking for L1 cognates,

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guessing from context, and use of bilingual or monolingual dictionary), 2) Discovery-social (e.g. asking the L2 teacher for an L1 translation, asking classmates for meaning, and discovering meaning through a group work activity), 3) Consolidation-social (e.g. study and practice word meaning in a group and interaction with native speakers), 4) Consolidation-memory (e.g. study word with a pictorial representation of its meaning, using semantic maps, imaging word form, using keyword mnemonics, and connecting words to a personal experience), 5) Consolidation-cognitive (e.g. note-taking, verbal repetition, written repetition, word lists, flash cards, and keeping a vocabulary journal or notebook), and 6) Consolidation-meta-cognitive (e.g. testing oneself with word tests, use of target language media, using spaced word practice and continuing to study a word over time). Using this VLS taxonomy, Schmitt found that the most commonly-used discovery strategies among the participants in his study were using a bilingual dictionary, guessing from context, and asking classmates for help, while verbal repetition, written repetition, and studying the spelling of a word were the most frequently-used consolidation strategies. Schmitt's VLS taxonomy was used successfully in vocabulary learning studies by Kudo (1999) and Catalán (2003).

After a thorough analysis of Long's (1996) interaction hypothesis, Winke and Abbuhl (2007) proposed a tripartite taxonomy for VLS that offers a new way of positioning the often-criticized construct of language learning strategies into a relatively established theory of SLA. This tripartite taxonomy is divided into three broad categories of strategies: Input-based strategies, output-based strategies, and cognition-based strategies. Input-based VLS, under this taxonomy, includes such strategies as listening to native speakers of the target language, extensive reading in the L2, asking for a translation of the L2 word into the L1, and consulting reference books among others.

Such strategies, according to Winke and Abbuhl (2007), all have a core feature; the learner is seeking input in the target language. Output-based strategies, on the other hand, include such strategies as taking notes, practicing pronunciation, speaking with native speakers, engaging in oral and written rehearsal or repetition, and creating and maintaining vocabulary journals. Output-based strategies, Winke and Abbuhl argue, all share the characteristic that the L2 learner is producing the L2 in either written or oral form. Finally, cognition-based strategies include such actions as using associations to remember word meanings (mnemonics), contextual guessing, planning one's course of study, monitoring one's progress, and self-testing among others. Again, Winke and Abbuhl argue, cognition-based strategies all share the same characteristic; they all involve learner-internal cognitive activities.

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All in all, regarding the significance of vocabulary learning strategy, this study intends to answer the following research question:

Does meta-cognitive vocabulary strategy training affect the breadth of vocabulary knowledge of Iranian EFL students?

Based on the afore-mentioned question, the following null hypothesis can be formulated:

Meta-cognitive vocabulary strategy training does not affect the breadth of vocabulary knowledge of Iranian EFL students.

II. Methods

A. Participants

The participants of the present study were 60 intermediate students who were intact classes at Islamic Azad University of Hamedan. They were all the first years' college students of English translation major. The participants included both male and female students. Their age range varied from 18 to 24. The average age of the participant was 20.83. They had already passed their first semester. The participants were randomly assigned to two classes and were regarded as 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 both groups of experimental and control group were 30. After the selection of the participants, the PET was administered to the participants of the study. The purpose of the administration of the PET test was to ensure the homogeneity of the students in terms of general language proficiency prior to the treatment. The result of an independent sample T-test for the mean score of the PET test for both groups (Table 1) indicated that the scores of the two groups were not statistically different.

TABLE I. Independent Samples T-Test for The Pet Scores

Group	N	Mean	Std. Deviation	t*	Sig
Experimental	30	49.33	5.50	0.429	0.67
Control	30	48.66	6.49		

B. Instruments

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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 Kudar-Richardson Formula (KR-21) turned out to be 0.84.

Vocabulary Levels Test (VLT): This is a test which measures the breadth of vocabulary knowledge. The breadth of a learner's word knowledge (also referred to as vocabulary size) is the number of words with which the individual is familiar to some extent. VLT a) exists in terms of levels of frequency, b) consists of larger samples of words from different word-frequency levels, c) is statistically reliable (Read, 2000), d) is related to success in reading, writing, and general language proficiency as well as to academic achievement (Laufer, 1997) and can provide efficient placement and admission in language teaching programs. It appears to be practical, economical, easy to administer, and can be completed in a short time. In the present study, version 2 of VLT was used; this version was previously revised and validated by Schmitt et al. (2001). Each level of the test contains 30 items. According to the guidelines, the examinees were asked to match the definitions on the right column in each set with the words on the left. A sample item of VLT is provided below.

- a. copy
- b. event 1. _____end or highest point
- c. motor 2. _____this moves a car
- d. pity 3. _____thing made to be like another
- e. profit
- f. tip

Vocabulary Levels Test has been considered by some L2 lexical researchers as an appropriate measure of vocabulary size (e.g. Nassaji, 2004; Nation, 2001; Qian, 1999, 2002). In the present

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study, the reliability indices for all levels of VLT using Kudar-Richardson Formula (KR-21) was 0.86.

C. Procedure

First of all, the students of two intact classes of English translation major at the Islamic Azad University of Hamedan were selected as the participants of the study. Then the PET test was administered to the participants of the study. The purpose of the administration of the PET test was to ensure the homogeneity of the students in terms of general language proficiency prior to the treatment. The result of an independent sample T-test for the mean score of the PET test for both groups indicated that the scores of the two groups were not statistically different. Then the VLT was administered to two groups as the pre-test of the study. After the administration of the pre-test, the control group was taught conventionally without any meta-cognitive vocabulary strategy training while the experimental group received meta-cognitive vocabulary strategy instruction. The duration of treatment lasted for 12 sessions and each of such session was scheduled to receive 80 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. The experimental group received practice and instruction about how to plan their vocabulary learning, set specific goals within a time period, select the most appropriate vocabulary learning strategy among a repertoire of strategies, monitor the use of strategies, use a combination of strategies, self-testing degree of mastery of the new vocabulary items after meeting the words for the first time, managing their time by devoting some time during their study hours to vocabulary practice, and finally evaluating the whole process.

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.

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Finally, after the treatment, both the control group and the experimental group were given VLT 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.

D. 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 one-way ANCOVA 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 of the study.

III. Results and Analysis

In order to answer the research question of the study, the gathered data were statistically analyzed. In so doing, first the normality of distribution for the scores was investigated. To check the normality assumption, one-sample Kolmogorov-Smirnov (K-S) test was conducted on both pre-test and post-test scores. In one-sample Kolmogorov-Smirnov (K-S) test, if the significance level is larger than .05, it shows that the data are normally distributed. As it is indicated in Table 2, the results of one-sample K-S test revealed that the data was normally distributed.

In order to answer the research question of the study which dealt with the comparison of the two groups in terms of breadth of the vocabulary knowledge, a one way ANCOVA was run. According to Pallant (2007), ANCOVA can be used when you have a pre-test/post-test design (e.g. comparing the impact of two different interventions, taking before and after measures for each group). The scores on the pre-test are treated as a covariate to 'control' for pre-existing differences between the groups.

For the use of ANCOVA, one important assumption which is the homogeneity of regression slopes must be met first. This assumption concerns the relationship between the covariate and the dependent variable for each of the groups (Pallant, 2007). What should be checked is that there should be no interaction between the covariate and the treatment or experimental manipulation. Table 3 indicates that this assumption has not been violated; If the Sig. level for the interaction is less than or equal to .05, the interaction is statistically significant, indicating that we have violated the assumption. As the table indicates the Sig. level for group * pretest is .083 which suggests that this assumption has not been violated.

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Then, a one-way between-group analysis of covariance was run to investigate the effectiveness of the intervention which was meta-cognitive vocabulary strategy training on the breadth of the vocabulary knowledge of Iranian EFL students. The independent variable was meta-cognitive vocabulary strategy training, and the dependent variable consisted of scores on VLT administered after the treatment. Participants' scores on the pre-test administration of the VLT were used as the covariate in this analysis.

TABLE 1. One-Sample Kolmogorov-Smirnov Test

		pretest	posttest
N		60	60
Normal Parameters ^a	Mean	49.0000	67.5333
	Std. Deviation	5.98019	8.96597
Most Extreme Differences	Absolute	.086	.098
	Positive	.083	.098
	Negative	-.086	-.087
Kolmogorov-Smirnov Z		.664	.760
Asymp. Sig. (2-tailed)		.770	.611

Preliminary checks were conducted to ensure that there was no violation of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariate. After adjusting for pre-intervention scores, as the Table 3 shows that there was significant difference between the control and the experimental groups on post-intervention scores on the VLT, $F(1, 57) = 86.12$, $P = .000$, partial eta squared = .60.

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TABLE 2. Tests of Between-Subjects Effects

Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Corrected Model	3008.823 ^a	3	1002.941	32.388	.000
Intercept	2625.559	1	2625.559	84.788	.000
Group	12.414	1	12.414	.401	.529
Pretest	112.779	1	112.779	3.642	.061
group * pretest	96.421	1	96.421	3.114	.083
Error	1734.110	56	30.966		
Total	278388.000	60			
Corrected Total	4742.933	59			

a. R Squared = .634 (Adjusted R Squared = .615)

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TABLE 3. Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2912.402 ^a	2	1456.201	45.344	.000	.614
Intercept	2882.537	1	2882.537	89.758	.000	.612
Pretest	83.335	1	83.335	2.595	.113	.044
Group	2765.892	1	2765.892	86.126	.000	.602
Error	1830.531	57	32.115			
Total	278388.000	60				
Corrected Total	4742.933	59				

a. R Squared = .614 (Adjusted R Squared = .601)

IV. Conclusions

The main purpose of the present study was to investigate the effectiveness of meta-cognitive vocabulary strategy training on the breadth of vocabulary knowledge among a group of low intermediate Iranian EFL students. As it was shown, the group which received meta-cognitive vocabulary strategy instruction outperformed the control group on the breadth of vocabulary knowledge test. The statistical analyses of the gathered data revealed that meta-cognitive vocabulary strategy training did have a significant effect on the Iranian EFL students' breadth of vocabulary knowledge. In other words, the meta-cognitive vocabulary strategy training and practice the experimental group received about how to plan their vocabulary learning, set specific goals within a time period, select the most appropriate vocabulary learning strategy among a repertoire of strategies, monitor the use of strategies, use a combination of strategies, self-testing degree of mastery of the new vocabulary items after meeting the words for the first time, managing their time by devoting some time during their study hours to vocabulary practice, and finally evaluating the whole process contributed to this improved and expanded lexical knowledge. The

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results of this study reveal that meta-cognitive vocabulary strategy training has positive effect upon the development of the breadth of the vocabulary 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). The findings of this study advocate the foreign language research literature on strategy training of other components and skills of the language such as reading comprehension (Kern, 1989; Carrell, 1998). The findings of the current study corroborated the findings of Eslami-Rasekh and Ranjbari (2003) in which it was revealed that explicit meta-cognitive strategy training has a significant positive effect on the vocabulary learning of EFL students. The findings can also verifies the argument put forth by Wenden (1998) that meta-cognitive knowledge about L2/FL learning is a prerequisite for the self-regulation and the effective management of language learning. In fact, the adopted procedure in the current study may allow English language learners to more rapidly develop the vocabulary size and meta-cognitive skills necessary to engage in a variety of more effective and more cognitively-demanding strategies (Nation, 2005; Nation & Gu, 2007; Nation & Macalister, 2010).

The findings of the present study might have notable implications for those involved in language education in ELT. From the theoretical point of view, the findings of the present study will add to the existing literature concerning vocabulary learning strategy instruction especially meta-cognitive vocabulary strategies and the breadth of vocabulary knowledge. From the practical point of view, ELT methodologists, textbook designers and material developers should pay more serious attention to the incorporation of meta-cognitive vocabulary strategies into the language textbooks and materials.

Drawing on the findings of such studies, teacher educators should pay particular attention to Strategy-Based (SBI) Instruction in the teacher education program. According to the recommendation pointed out by Oxford (1990) 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). Therefore, it is highly recommended that meta-cognitive vocabulary strategy training be taken seriously as far as foreign language education methodology is concerned. To achieve such a purpose, teachers themselves should also be trained on how to implement SBI in their own classes.

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