THE IMPACT OF EXPLICIT VOCABULARY LEARNING STRATEGY TRAINING PROGRAM ON RECEPTIVE LEXICAL BREADTH AMONG EFL MAJORS OF DIFFERENT LEARNING STYLES

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Abstract

The current study aimed at investigating the impact of an explicit vocabulary learning strategy training program on developing receptive lexical breadth as measured by the Vocabulary Size Test among 68 male first-year EFL majors at the Faculty of Education, Al Azhar University during the academic year 2015-2016. The study also intended to tap the contribution of learning style preferences to the development of receptive lexical breadth using the Perceptual Learning Style Preference (PLSP). ANCOVA analysis results showed that the differences between the groups in receptive lexical breadth were not statistically significant. Results of ANOVA analysis referred that learning style preferences contribute with a slightly similar share to the development of receptive lexical breadth. The study concludes that metacognitive strategies, extensive training, modeling, and practice are major keys to effective foreign language learning.

Keywords: *Vocabulary Learning Strategies, Langauge Learning Strategies, Explicit Strategy Training, Receptive Lexical Breadth, Learning Style Preferences, Vocabulary Size*

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The Impact of Explicit Vocabulary Learning Strategy Training Program on Receptive Lexical Breadth among EFL Majors of Different Learning Styles

Introduction

Though vocabulary has been acknowledged to be central and pre-requisite for fluent language learning and use, little attention has been given to variables that contribute to its development (Qian, 2002; Llach, 2016). Among these variables are the linguistic input and the way students learn vocabulary. On the one hand, impoverished linguistic input by allowing only one modality – acoustic only or visual input - the so-called learning style of the student - reduces the chances of learning vocabulary (Macedonia, 2015). On the other hand, ease or difficulty in learning a word can be caused by the way the word is learned or taught (Nation, 1990). In other words, bad organization of the learning situation can make learning a word more difficult.

Researchers on vocabulary knowledge agree that lexical knowledge is not an all-or-nothing phenomenon (Shen, 2008, p. 136), but it involves degrees of knowledge; i.e. vocabulary is learned and constructed on a continuum of three different dimensions namely, 1) partial - precise knowledge (e.g., different levels of comprehension of the same lexical item), 2) receptive – productive and, 3) depth – of - knowledge (involves the knowledge of a word's different sense relations to other words in the lexicon, e.g. paradigmatic (antonymy, synonymy, hyponymy, gradation) and syntagmatic (collocational restrictions)' (Haastrup and Henriksen (2000, p. 221). The most commonly distinguished dimensions of vocabulary knowledge are lexical breadth or size (Both terms will be used interchangeably throughout the research paper) and depth. *Depth of vocabulary knowledge*, in principal, refers to how well one knows a lexical item; i.e. how well s/he knows all word characteristics such as phonemic, graphemic, morphemic, syntactic, semantic, collocational and phraseological properties (Qian, 2002). On the other hand, breadth or size of vocabulary knowledge refers to the number of words a person has in his/her mental lexicon (Nation, 2001).

Many studies on vocabulary learning have focused on measuring the quality of word knowledge – i.e. the depth of word knowledge (e.g. David, 2008; Li & Kirby, 2014; Nation, 2001; Qian, 2002; Shiotsu, 2007). However, vocabulary size was the main concern of research for many years (e.g. Bedir & Onkuzu, 2014; Law II & Edwards, 2015; Llach, 2016) in an attempt for developing vocabulary use in both spoken and written modality, especially among those who lack the adequate word store with the hope to empower them to use and interact in the target language. According to Nation (1990), all EFL students need to know from

2,000 to 3,000 word level in order to function effectively in reading and interacting with others in the target language. Similarly, Laufer (1997) suggested that the threshold vocabulary size level essential for language use is about 3,000 word.

It was argued that it is difficult for students to read complicated texts unless they know high-frequency words. These words occur often in the material students read or listen to, and they occur in many different kinds of material on many different topics. Furthermore, it was shown that students below the 3,000-word vocabulary level did poorly on the reading test regardless of how high their academic ability was (Laufer, 1997). In terms of text coverage, the 3,000-word vocabulary level was reported to provide coverage of between 90% and 95% of any text. More importantly, it is necessary to have good knowledge of at least 5,000 words if someone aims to read advanced, authentic, academic texts (Hirsch & Nation, 1992).

Measuring vocabulary size has taken many forms such as tokens and lemmas (e.g. Schmitt and Marsden, 2006) and word families (e.g. Bertram, Laine, & Virkkala, 2000). However, most researchers agreed that the best unit of counting is the one that reflects the goals, participants, and resources of the given study. For the present study, receptive vocabulary size - in terms of word families – was considered the best unit of counting at this early stage of study among the freshmen students who have just come to college with limited word store.

However, as indicated by Nadarajan (2009), many factors play a crucial role in affecting the growth of that vocabulary size, including individual differences (i.e. individual interest and motivation, proficiency level, type of input, time of exposure and learning styles preferences) and instructional factors (i.e. quality and manner of instruction). Moreover, using different measures of vocabulary size throughout the literature makes it difficult to compare vocabulary gains across studies. Therefore, there is a need for more research focusing on FL vocabulary size development with better control of instructional and individual difference factors. Hence, the present study would focus on vocabulary size development among participants of different learning style preferences via an explicit and informed vocabulary learning strategy training program (instructional factor) over a period of 9 weeks of training (time of exposure).

More specifically, to improve EFL majors' vocabulary size, explicit teaching of vocabulary was deemed necessary to some extent due to the fact that incidental learning from meaning-focused input (reading or listening) is ineffective if that context contains a large number of unknown lexical items and the frequency of exposure is limited (Nation, 2001; Schmitt, 2000).

Furthermore, such teaching should be guided by the use of strategies that empower language students to become more self - directed, resourceful, flexible, and effective in learning vocabulary items (Nacera, 2010).

Vocabulary Learning Strategies (VLSs) research has begun as a part of the shift from a teacher-centered perspective to a learner-centered perspective in the 1970s. One of the main goals of early research was to identify effective language learning strategies (Cohen, 1998, 1999, 2002, 2003; O'Malley & Chamot, 1990; Oxford, 1990, 1996, 1999; Rubin, 1987; Schmitt, 1997). More recently, most research seemed to deal with individual VLSs or small numbers of VLSs (Oxford, 2013). Therefore, VLSs have been classified in various ways by different researchers. Some categories offered were distinctive while some others were made in lists. Although some of these taxonomies have been named differently, and seem overlapped, they seem to share some common strategies.

One of the recent and comprehensive taxonomies of vocabulary learning strategies is that of Intaraprasert (2004). The taxonomy classified VLSs into three main categories, namely, 1) str*ategies to discover the meaning of new vocabulary*, 2) *strategies to retain the knowledge of newly learned vocabulary* and 3) *strategies to expand the knowledge of vocabulary*. Intaraprasert (2005) reported that the strategies in the three categories are always compatible with each another; i.e. the strategies students employ to discover the meaning of new words may help them retain the knowledge of such vocabulary items and vice versa.

Identifying and classifying vocabulary learning strategies is a good step towards having an overall understanding of the most frequent strategies used by competent students. More importantly, training less competent students on how to use such strategies to enhance their vocabulary knowledge and use became inevitable. Vocabulary strategy instruction can help EFL students become better students. In addition, skillful use of vocabulary strategies assists students in becoming self-independent and confident students (Chamot, 1999, p. 1). Hence, this research paper has adopted explicit vocabulary learning strategy training that provides students with the appropriate usage of the words and offers repeated practice in different contexts that empower students to observe and use new words in different contexts. Moreover, explicit training "can serve to bridge the gap between foreign language students' present proficiency level and the proficiency level needed to learn from complex input beyond their language proficiency" (Nation, 2001, p. 97).

A good repertoire of vocabulary learning strategy training may not guarantee to foster students' learning if the instructional content is badly organized and does not attend to students' different learning style preferences. Learning style is one of the most important factors which plays a crucial role in learning EFL vocabulary. Each student has his/her own style of learning which is mentally used to achieve better learning (Dunn & Dunn, 1993; Shen, 2008). Teachers also would have clear perspectives on how students perceive and process new information. Hence, they would be more able to accommodate the teaching environment to students' learning styles.

Learning styles have been studied by many researchers in the educational context presenting different models including their implications and applications to educational situations. Dunn and Dunn (1979 as cited in Reid 1987) define learning styles as "a term that describes the variations among students in using one or more senses to understand, organize, and retain experience" (p. 89). Although the theories differ in types of learning style domains, they present almost the same perceptions about the nature, significance, and concept of learning styles (Dunn & Griggs, 2000). Among these models are Myers-Briggs' Model (Myers & Myers, 1980), Dunn & Dunn's Model (Dunn & Dunn, 1993), Kolb's Model (introduced by Kelly, 1997), Felder-Silverman's Model (Felder & Silverman, 1988) and Reid's Model (Reid, 1987).

Among these models, the Perceptual Learning Style Preference (PLSP) developed by Reid (1987) aimed at uncovering different learning styles. Reid (1995) conceptualized learning styles as the internal characteristics unconsciously used by students to comprehend information. She highlighted that each individual has more than one learning style preference, some are weak or minor and some are strong or major. Moreover, she assumed that there is a significant correlation between learning styles and learning strategies (see also, Affholder, 2003; Alavinia & Farhady, 2012; Johnsen, 2003; Kafipour, Yazdi and Shokrpour, 2011; O'Malley & Chamot, 1990; Oxford, 1990, 2013). As such, the researchers thought it is pervasive to utilize this model in conducting the present research paper. Hence, the present study adopted the Reid's Model of categorizing the learning styles into six major or minor preferences, namely, 1) *visual* students who learn best from seeing words in books or on boards and like to observe and read, 2) *auditory* students who often learn from hearing or through spoken explanation and like to relate information to what they hear and listen, 3) *kinesthetic* students who prefer experiential learning, that is, total physical involvement with a learning situation, 4) *tactile* students who learn best through "hands-on" tasks, such as building models or doing

hands-on tasks, 5) *individual* students who like to work alone and can achieve better when they study alone, and 6) *group* students who prefer group interaction and social activities and are more comfortable to learn with classmates or with another student.

Research context and problem:

Freshmen students at faculties of education in Egypt are mostly characterized by poor and limited word store that might hinder their interaction and use of the target language effectively (Attia, 2005; El Hilaly, 1997; 2000; Diyyab, Abdel-Haq & Aly, 2013; Zayan, 2015). Moreover, first-year EFL majors at the Faculty of Education, Al Azhar University lack the threshold level of vocabulary that would enable them learn and use English effectively. With this in mind, one of the authors of this paper conducted an MA thesis (Zayan, 2015) whose aim was to enhance the lexical richness of EFL majors' oral performance in terms of *lexical density* (the proportion of content words respect to the complete discourse) and *lexical variation* (the ratio of the number of different lexical types - noun, adjective, adverb and verb variations - to all words in the text) by training them explicitly on vocabulary learning strategies. As a part of that study, the present research paper highlighted the contribution of the proposed training program to the development of participants' receptive vocabulary size taking into account their different learning styles preferences.

The main aim driving this research paper was to develop EFL majors' vocabulary knowledge in terms of both quantity - that could enable them in the upcoming years of study – and quality of vocabulary knowledge to be able to use and interact effectively in the foreign language. Furthermore, their learning styles preferences were considered as a significant factor in the teaching-learning processes. Therefore, the present research aimed at empirically probing the impact of the proposed explicit vocabulary learning strategy-training program in developing the lexical breadth and richness among first-year EFL majors of different learning styles preferences at the Faculty of Education, Al Azhar University.

Research questions:

The present study sought to answer the following questions:

- What is the impact of an explicit vocabulary learning strategy-training programme on first-year EFL majors' receptive lexical breadth?

- To what extent do learning styles preferences contribute to effective development of receptive lexical breadth among first-year EFL majors?

Research hypotheses:

To answer the research questions highlighted above, the following hypotheses would be tested:

- first-year EFL majors of the experimental group do not statistically outperform those of the control group in receptive lexical breadth as measured by the posttest of vocabulary size.

- first-year EFL majors of different learning styles preferences do not differ in their vocabulary size before and after the treatment as tapped by Reid's Perceptual Learning Style Preference survey (Reid, 1987).

Research objectives:

The present research paper aimed at:

- probing the impact of an explicit vocabulary strategy-training programme on the development of vocabulary size among first-year EFL majors of different learning styles preferences.

- investigating the contribution of learning styles preferences to the development of EFL majors' vocabulary size.

Research significance:

The current research paper might be significant for the following:

- uncovering the contribution of explicit vocabulary learning strategy training on the development of EFL majors' receptive vocabulary size.

- offering insights into the positive contribution of students' learning styles preferences in the development of their mental lexicon.

- documenting the potential impact of incorporating language-learning strategies with learning styles preferences when designing language courses that target promoting students' command of language use.

Research delimitations:

The current research has been delimited to:

- a proposed explicit vocabulary learning strategy-training program based on the classification proposed by Intaraprasert (2004) of vocabulary learning strategies, as it is the recent and the most inclusive one.

- first-year EFL majors at Faculty of Education (Cairo), Al-Azhar University for the feasibility of the data elicitation process and their need to be provided with language learning strategies to make use of them throughout their future years of study.

Moreover, the study was conducted during the academic year 2014-2015 in the first semester as a part of an MA thesis entitled *"Developing Lexical Richness of English Majors' Oral Performance Through a Vocabulary Strategy-Based Program"* (Zayan, 2015).

Research method and procedures:

Research design

This research paper adopted the quantitative research paradigm so that it could verify the predetermined levels of participants' learning styles preferences. It used an experimental research design to determine the impact of the given treatment (Explicit vocabulary learning strategy-based training program) on the experimental group participants' vocabulary size. Hence, this research paper utilized an experimental research design called the pretest-posttest control group design illustrated in Table (1) below. More specifically, this research was undertaken in two phases. In phase one, first-year EFL majors received Reid's PLSP survey (Reid, 1987) so as to determine their learning styles preferences. In phase two, those participants were randomly assigned into two groups; experimental and control. Both groups sat for the Vocabulary Size Test (Nation & Beglar, 2007) before training the experimental group students on the proposed explicit vocabulary learning strategy training program. Following the treatment, both groups received the Vocabulary Size Test again as a posttest to verify the research hypotheses and answer the research questions.

Table 1

Research pretest-posttest control group design

Phase one		Phase two				
		Randomization	Groups	Pretest	Treatment	Posttest
Participants of the study	Reid's PLSP survey	Randomly assigned into	Experimental Group	O1 VST	X The Training program	O2 VST
			Control Group		C Without Treatment	

Participants

Among EFL majors enrolled in the first-year of English Section at the Faculty of Education, Al Azhar University, sixty-eight students participated in the present research. They were randomly assigned into two groups using table of random digits. Thirty-four participants represented the experimental group and received the proposed training program while the other thirty-four represented the control group who were left to their personal effort in learning the newly encountered vocabulary items.

Research tools

The present research utilized two tools to answer its questions:

1- Reid's Perceptual Learning Style Preference Survey (Reid, 1987)

This instrument measures four perceptual modalities (auditory, visual, tactile, and kinesthetic) along with group versus individual learning preferences (Appendix A). It consists of 30 statements (5 per category) to which students are to indicate level of agreement using a 5-point Likert scale, ranging from strongly agree to strongly disagree.

2- Vocabulary Size Test (Nation & Beglar, 2007)

The Vocabulary Size Test, according to Nation and Beglar (2007, p. 9), "was developed to provide a reliable, accurate, and comprehensive measure of a learner's vocabulary size from the 1st 1000 to the 14th 1000 word families of English". The test consists of 140 items (ten from each 1000 word level) (see the Appendix B).

Answering the test items requires test-takers to have a developed idea of the meaning of the word. This makes it a slightly more difficult than the Vocabulary Levels Test (Schmitt, Schmitt, & Clapham, 2001), "because the correct answer and the distractors usually share elements of meaning" (Nation & Beglar, 2007, 11).

Validity and reliability of research tools

Both tools were submitted to a jury of specialists in psychology and educational assessment as well as in TEFL to verify their content validity and suitability for measuring the participants' vocabulary size as well as determining their major learning styles preferences. The jury highlighted that Reid's survey was widely used and deemed valid for the Egyptian context (see also, Aly, 2005; Aliweh, 2011; Amer & Ibrahim, 1995). The jury approved the PLSP survey without any modification. It might be worth mentioning here that the survey was translated into Arabic and piloted on a sample of thirty first-year EFL majors among the same population of the research to avoid misunderstanding and make sure that wording and instructions were clear[*]. Cronbach Alpha coefficient yielded 0.76 which indicated that the survey was reliable in tapping participants' learning styles preferences and ready for use.

For the content validity of the Vocabulary Size Test, the jury members preferred to introduce only the first 8th 1000 questions. They assumed that presenting the 14th 1000 vocabulary size test would shock the participants and may have a detrimental impact on their willingness to participate in the study. They did not modify the test as it was carefully designed by its authors and they deemed it valid for assessing students' vocabulary size in many contexts. For reliability measurement, test-retest reliability was administered to the Vocabulary Size Test on 30 first-year EFL majors among the same population of the participants over a period of 15 days. Using SPSS v23, the raw scores of both tests were used to calculate the reliability coefficient. Pearson correlation yielded 0.94 which is significant at 0.01 level (2-tailed). Hence, the Vocabulary Size Test was reliable to be used in assessing participants' vocabulary size.

Development of the training program

The proposed explicit vocabulary learning strategy training program was designed in the light of the strategy based instruction approach in order to be used with the hope of developing participants' vocabulary size (for a detailed description of the training program see Zayan, 2015). The

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(*) Those participants were excluded from those participated in the main study.

vocabulary learning strategies included in the training program were divided into three categories according to Intaraprasert (2004):

> 1) Strategies to discover the meaning of new vocabulary (word analysis and dictionary use).
>
> 2) Strategies to retain the knowledge of newly learned vocabulary items (using collocation and using synonyms and antonyms).
>
> 3) Strategies to expand the knowledge of vocabulary item (contextual clues and semantic mapping).

The training program was designed according to a scope and sequence over six units (a unit for each strategy) in addition to the introductory unit. The main goals of the training program were:

> a. To define the strategy.
> b. To define the strategy related concepts.
> c. To identify the steps involved in the strategy use.
> d. To model the strategy steps in real activities.
> e. To use the knowledge of the strategy to discover the meanings of unknown words, retain, or expand the knowledge of new words.
> f. To practice the strategy in oral activities and conversation.
> g. To evaluate the strategy in developing his word knowledge.
> h. To cooperate with peers to practice the strategy.
> i. To demonstrate interest to practice the strategy in further situations.

As a part of the main study conducted, the proposed training program was judged to be valid and suitable for developing EFL majors' vocabulary knowledge and size. Moreover, the pilot study revealed the readability of the program and highlighted that each unit needs four sessions to be fully covered with a total of 27 sessions over nine weeks of study 2 hours per session (totalling 54 hours).

Results and Discussion

Testing the first research hypothesis that addressed the first research question required ensuring the homogeneity of the two groups in receptive lexical breadth as measured by the pretest of vocabulary size. Table (2) below shows the independent sample *t*-test of the participants' receptive lexical breadth mean scores in the pretest of vocabulary size.

Table 2

Independent-sample t-test of receptive lexical breadth between groups (pretest)

	Sample	N	Mean	SD	Std. Error Mean	df	T	Sig.	MD
Vocabulary Size	**Experimental**	34	1173.53	404.002	69.286	66	3.133	.003	282.353
	Control	34	891.18	336.080	57.637				

The results shown in Table 2 above indicate that there was a statistically significant difference between the mean scores attained by the experimental group students and those of the control group in their receptive lexical breadth as measured by the Vocabulary Size Test at 0.01 level as t = 3.13; Sig. (2tailed) = 0.003. this value indicates that the difference is in favor of the experimental group (M=1173.53). This means that the two groups did not start at the same level before conducting the study which might contaminate the final results of the research. To avoid such heterogeneity between groups in the pretest, Analysis of Covariance (ANCOVA) would be used to adjust scores for initial differences on the pretest while comparing differences between groups.

The researchers were, first, more interested in referring to the descriptive statistics to reveal how much observable improvement in students' receptive lexical breadth as measured by the Vocabulary Size Test (Figure 1 below).

Figure 1: Raw mean scores of receptive lexical breadth

	Pretest	Posttest
Experimental Group	1173.53	4170.59
Control Group	891.18	2426.47
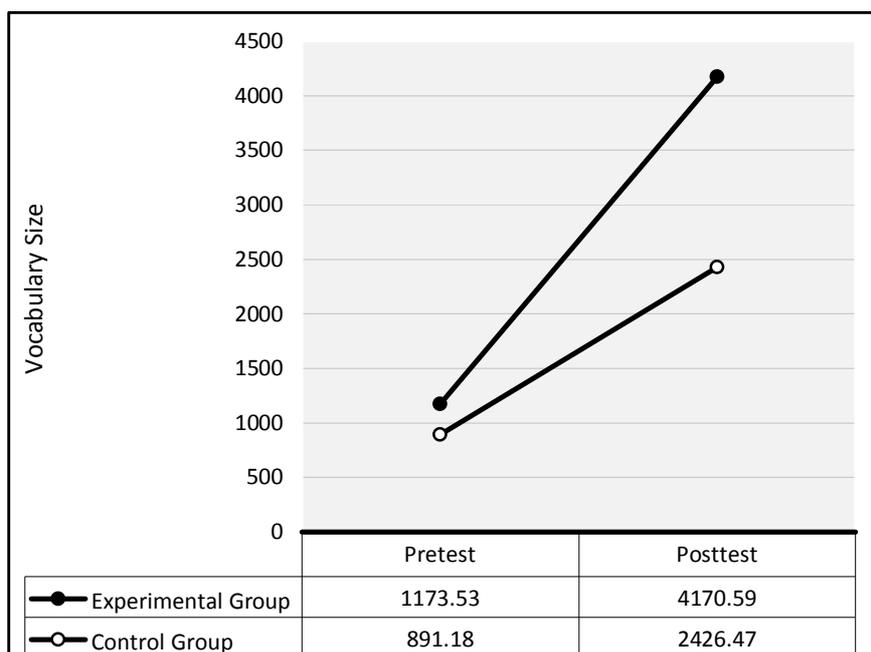
As shown in Figure (1) above, the experimental group students' receptive lexical breadth as measured by the Vocabulary Size Test has been developed to exceed the threshold level of vocabulary size (3000) essential for language use (M=4170.6) as suggested by Laufer (1997). As for the control group, they showed a kind of improvement, however, they could not reach such threshold level of vocabulary size. Such improvement in the vocabulary size among the experimental group students might be attributed to the training program.

Furthermore, Table (3) below shows the mean scores and the standard deviations of the row mean scores in receptive lexical breadth as measured by the pretest and posttest of Vocabulary Size.

Table 3:

Raw means and standard deviations of receptive lexical breadth scores

	Sample	N	Mean	Std. Deviation	Std. Error Mean
Vocabulary Size Test (Pre)	Control Group	34	891.18	336.080	57.637
	Experimental Group	34	1173.53	404.002	69.286
Vocabulary Size Test (Post)	Control Group	34	2426.47	475.655	81.574
	Experimental Group	34	4170.59	543.574	93.222

As shown in Table (3) above, the starting point of the control group was at M=891.18 of vocabulary Size with a standard deviation of 336.9, whereas in the experimental group was at M=1173.53 of vocabulary size with a standard deviation of 404.0. Moreover, the *t*-test value of the pretest was statistically significant at 0.05 level as shown in Table (2) above. However, both groups were below the threshold level of vocabulary size (3000) that could enable them to use and interact in the foreign language.

The experimental group students who have been trained on the suggested program of explicit vocabulary learning strategies were able to exceed that threshold level to score M=4170.95 of vocabulary size, whereas the control group students who have not been introduced to explicit instruction of vocabulary learning strategies were still below the threshold level of vocabulary size (M=2426.47). To get more insight into the difference between groups after the treatment, taking into consideration the heterogeneity between both groups in the pretest, analysis of gain scores was used to find out a *t* value for the difference between the gain scores of both groups in receptive lexical breadth. Descriptive and inferential statistics were used to verify if there were ant statistical significant differences between the gain scores of both groups in receptive lexical breadth as measured by the Vocabulary Size Test.

Table 4:

Raw means and standard deviations of receptive lexical breadth gain scores

	Sample	N	Mean	Std. Deviation	Std. Error Mean
Gain Scores	Control Group	34	1535.29	578.861	99.274
	Experimental Group	34	2997.06	569.681	97.700

Descriptive statistics showed that there was an observable difference between the gain scores of both groups in favor of the experimental group students (M = 2997.06) with a standard deviation of 97.7. Independent-sample *t*-test was used to ensure if this observable difference is statistically significant (Table 5 below).

Table 5

Independent-sample t-test of receptive lexical breadth between groups (Gain scores)

	Sample	Std. Error Mean	Df	T	Sig. (2-tailed)	MD
Gain Scores	**Control Group**	139.286	66	-10.495	.000	-1461.765
	Experimental Group	139.286				

The results of independent-sample *t*-test of the gain scores attained by both groups in receptive lexical breadth as measured by the Vocabulary Size Test revealed that there was a statistically significant difference between the mean gain scores with a t value 10.49 (Sig. 2-tailed = 0.00) which is significant at 0.01 level in favor of the experimental group students (M = 2997.06). However, the results reached using the gain scores might be not an exact indicative for the improvement for two reasons (Mills & Gay, 2016). First, each participant might not have the same potential to gain, as those students with low pretest scores have larger opportunities to gain than those who scored high; i.e. the latter group are at or near the high end of the possible range, which is *referred to as the ceiling effect* (Mills & Gay, 2016, p. 539). The second resason is that gain scores are less reliable than analysis of posttest alone. Given the criticism of the results that were reached by the analysis of gain scores, ANCOVA was a preferred approach in the case of that there was a statistically significant difference between the mean scores in the pretest to adjust posttest scores for initial differences.

Table 6:

Results of ANCOVA in receptive lexical breadth

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	52284228.988[a]	2	26142114.494	102.083	.000
Intercept	70203704.172	1	70203704.172	274.141	.000
VSTpre	571140.752	1	571140.752	2.230	.140
Sample	41443333.455	1	41443333.455	161.833	.000
Error	16645623.954	65	256086.522		
Total	808790000.000	68			
Corrected Total	68929852.941	67			

a. R Squared = .759 (Adjusted R Squared = .751)

Results of ANCOVA (Table 6 above) yielded an R^2 coefficient of .759, which means the variation in treatment accounted for 76 % of the variation in the receptive lexical breadth as measured by the Vocabulary Size Test after it was adjusted by the covariate (prestest). However, they showed that there was not a statistically significant difference at 0.05 level (F = 2.23; sig. = 0.14) between the adjusted mean scores attained by the experimental group students and those of the control group even after adjusting the mean scores.

A possible interpretation to reaching the threshold level of vocabulary size among the experimental group students might be attributed to the effect of the proposed training program that might have helped EFL majors use the vocabulary learning strategies to enhance their receptive lexical breadth. This interpretation coincides with the results revealed by Cohen (1990); Ellis (1994); Hamzah, Kafipour, and Abdullah (2009); Kalajahi and Pourshahian (2012); and Şener (2009). The results of these studies revealed that explicit training of students on vocabulary learning strategies helped them develop their vocabulary size in a way that could enable them use the foreign language effectively.

A plausible interpretation for the statistically insignificant difference between the mean scores of both group students in the posttest of vocabulary size even after adjusting the mean scores with the pretest as a covariate using ANCOVA (Table 2) might be attributed to the duration of the training program. The training program was intensively delivered in a two months period (28 sessions, two hours for each), the matter that might hinder some

of EFL majors from transferring the declarative knowledge of vocabulary learning strategies to the procedural knowledge included in the vocabulary size test.

Furthermore, as noted by Zayan (2015), the absence of metacognitive learning strategies in the training program might have hindered EFL majors from planning, monitoring, regulating and evaluating the learning process. Such absence of metacognitive strategies in a short period of training could not help EFL majors take the full advantage of the training to be transferred into their language use. Such interpretation goes along with the results reached by El Hilaly (2000); Attia (2002) and Hamzah, et al. (2009). The incorporation of metacognitive strategies in training and teaching programs might help students monitor, plan, regulate, evaluate and set priorities for their learning processes in a structured and methodological way (Puzziferro, 2008).

With this in mind, the answer to the first research question revealed that the explicit vocabulary learning strategy training program partially developed their receptive lexical breadth as measured by the vocabulary size test. Furthermore, the first null hypothesis was verified as there was no statistically significant difference between the mean scores attained by the experimental group learner and those of the control group in the posttest of vocabulary size test. However, the impact of the training program was manifested in helping the experimental group students attain the threshold level of vocabulary size that could enable them use vocabulary and interact in the foreign language. Hence, first-year EFL majors participated in the experimental group did not statistically outperform those of the control group in receptive lexical breadth as measured by the vocabulary size test.

The second research hypothesis and question implied exploring the major learning style preferences among first-year EFL majors participated in the study and find out the possible contribution of different learning style preferences to the development of receptive lexical breadth. Table (7) below shows the number of cases in each learning style and the descriptive statistics of the raw scores in the vocabulary size test before and after the treatment.

Table 7:

Major learning styles preferences of EFL majors

Group	Learning Styles Preferences	N	VST (pre)		VST (post	
			Mean	SD	Mean	SD
Experimental Group	Auditory	5	1040.00	240.832	4020.00	725.948
	Group	5	1160.00	279.285	4320.00	609.918
	Individual	4	1125.00	221.736	4050.00	723.418
	Kinesthetic	6	1350.00	575.326	4350.00	164.317
	Tactile	11	1109.09	500.908	4190.91	570.008
	Visual	3	1366.67	208.167	3900.00	500.000
	Total	34	1173.53	404.002	4170.59	543.574
Control Group	Auditory	5	980.00	506.952	2100.00	504.975
	Group	2	1000.00	424.264	2300.00	848.528
	Individual	3	1033.33	585.947	2733.33	321.455
	Kinesthetic	14	871.43	289.372	2371.43	366.750
	Tactile	6	850.00	294.958	2816.67	416.733
	Visual	4	750.00	173.205	2275.00	579.511
	Total	34	891.18	336.080	2426.47	475.655

Table (7) above showed that most EFL majors' learning style preferences in the experimental group students were tactile (11 students) and kinesthetic (6 students) respectively, whereas in the control group, 14 students were kinesthetic and only six students preferenced tactile learning style. This result goes along with the results reached by Aly (2005), Aliweh (2011), and Amer and Ibrahim (1995) that revealed that most Egyptian EFL majors preferred tactile and kinesthetic learning styles. However, this result, surprisingly, contradicts the results of many studies (e.g. Oxford, 2003; Reid, 1987; 1995; Oxford & Anderson, 1995) that revealed that the most prevalent learning styles preferred by learners are visual and auditory majors. This might be attributed to that hands-on-tasks and practice are mostly prefered by EFL majors in learning. Furthermore, the nature of learning foreign

language vocabulary and structures needs require lots of movement and practical practice rather than sitting on desks for auditory or visual stimuli (Oxford, 2003).

Moreover, the results shown in Table (7) above revealed that those EFL majors with kinesthetic learning style scored the highest vocabulary size of among all learning style groups (M = 4350.00) in the posttest of vocabulary size, although students with visual learning styles outperformed all other groups in the pretest (M = 1366.67). In the control group, EFL majors of individual learning style outperformed other learning style preferences in the posttest (M=1033.33), whereas students with tactile learning styles scored the highest vocabulary size among other groups of different learning styles (M=2816.67).

To find out if there were any statistically significant differences among theses six major learning style preferences, Analysis of Variance (ANOVA) in the form of Least Significant Difference (LSD) Post hoc test was used (Tables 8, 9, 10 & 11 below).

Table 8:

ANOVA LSD Post hoc test results of vocabulary size pretest among experimental group students

		Auditory	Group	Individual	Kinesthetic	Tactile	Visual
Auditory	Mean Difference	-------	-120.00-	-85.00-	-310.00-	-69.09-	-326.67-
	Std. Error	-------	265.714	281.832	254.401	226.601	306.820
	Sig.	--------	.655	.765	.233	.763	.296
Group	Mean Difference		--------	35.00	-190.00-	50.91	-206.67-
	Std. Error		--------	281.832	254.401	226.601	306.820
	Sig.		--------	.902	.461	.824	.506
Individual	Mean Difference			---------	-225.00-	15.91	-241.67-
	Std. Error			---------	271.193	245.303	320.880
	Sig.			---------	.414	.949	.458
Kinesthetic	Mean Difference				----------	240.91	-16.67
	Std. Error				---------	213.224	297.077

		Auditory	Group	Individual	Kinesthetic	Tactile	Visual
	Sig.				---------	.268	.956
Tactile	Mean Difference					-------	-257.58
	Std. Error					-------	273.647
	Sig.					-------	.355
Visual	Mean Difference						-------
	Std. Error						-------
	Sig.						--------

The results of ANOVA LSD Post hoc test results of vocabulary size pretest among experimental group students (Table 8 above) yielded no statistically significant differences between students of different learning style preferences in the receptive lexical breadth.

Table 9:

ANOVA LSD Post hoc test results of vocabulary size pretest among control group students

		Auditory	Group	Individual	Kinesthetic	Tactile	Visual
Auditory	Mean Difference	--------	-20.00-	-53.33-	108.57	130	230
	Std. Error	--------	296.152	258.503	184.414	214.339	237.45
	Sig.	---------	0.947	0.838	0.561	0.549	0.341
Group	Mean Difference		--------	-33.33-	128.57	150	250
	Std. Error		-------	323.128	267.576	289.015	306.546
	Sig.		--------	0.919	0.635	0.608	0.422
Individual	Mean Difference			--------	161.9	183.33	283.33
	Std. Error			--------	225.198	250.294	270.348
	Sig.			----------	0.478	0.47	0.304
Kinesthetic	Mean Difference				---------	21.43	121.43
	Std. Error				---------	172.719	200.682
	Sig.				----------	0.902	0.55
Tactile	Mean Difference					-------	100
	Std. Error					-------	228.486
	Sig.					--------	0.665
Visual	Mean Difference						--------
	Std. Error						--------
	Sig.						--------

Tables (9) above revealed that there were no statistically significant differences in receptive lexical breadth as measured by the vocabulary size test among EFL majors of different style preferences before administering the training program. This means that all students in the experimental and control groups almost have no observable differences in vocabulary size before administering the training program. Hence, any development in the experimental group students' vocabulary size might be attributed to the training program.

Table 10:

ANOVA LSD Post hoc test results of vocabulary size posttest among experimental group students

		Auditory	Group	Individual	Kinesthetic	Tactile	Visual
Auditory	Mean Difference	----------	-300.00-	-30.00-	-330.00-	-170.91-	120
	Std. Error	----------	359.565	381.376	344.257	306.638	415.19
	Sig.	-----------	0.411	0.938	0.346	0.582	0.775
Group	Mean Difference		----------	270	-30.00-	129.09	420
	Std. Error		----------	381.376	344.257	306.638	415.19
	Sig.		----------	0.485	0.931	0.677	0.32
Individual	Mean Difference			-----------	-300.00-	-140.91-	150
	Std. Error			-----------	366.98	331.945	434.216
	Sig.			-----------	0.421	0.674	0.732
Kinesthetic	Mean Difference				--------------	159.09	450
	Std. Error				--------------	288.536	402.006
	Sig.				--------------	0.586	0.272
Tactile	Mean Difference					----------	290.91
	Std. Error					----------	370.301
	Sig.					----------	0.439
Visual	Mean Difference						----------
	Std. Error						----------
	Sig.						----------

Results of LSD post hoc test as shown above (Table 10) reveal that there were no statistically significan differences between the experimental group students of different major

learning styles in the posttest of vocabulary size. Such results highlight that most students in the experimental group had equal chances to meet their preferences of learning. With this in mind and given that the experimental group students reached vocabulary size that exceeded the threshold level, these results revealed that explicit vocabuary learning strategy instruction yielded almost the same effect on lexical breadth among EFL majos of different learning styles.

Table 11:

ANOVA LSD Post hoc test results of vocabulary size posttest among control group students

		Auditory	Group	Individual	Kinesthetic	Tactile	Visual
Auditory	**Mean Difference**	-----------	-200.00-	-633.33-	-271.43-	-716.67-*	-175.00-
	Std. Error	-----------	373.198	325.754	232.39	270.101	299.224
	Sig.	-----------	0.596	0.062	0.253	0.013	0.563
Group	**Mean Difference**		----------	-433.33-	-71.43-	-516.67-	25
	Std. Error		----------	407.192	337.187	364.204	386.297
	Sig.		----------	0.296	0.834	0.167	0.949
Individual	**Mean Difference**			--------------	361.9	-83.33-	458.33
	Std. Error			--------------	283.785	315.41	340.682
	Sig.			--------------	0.213	0.794	0.189
Kinesthetic	**Mean Difference**				--------------	-445.24-	96.43
	Std. Error				--------------	217.654	252.891
	Sig.				--------------	0.05	0.706
Tactile	**Mean Difference**					----------	541.67
	Std. Error					----------	287.929
	Sig.					----------	0.07
Visual	**Mean Difference**						----------
	Std. Error						----------
	Sig.						----------

*. The mean difference is significant at the .05 level.

Table (11) above shows the LSD post hoc test results of control group students' with different major learning style preferences. The results yielded that there was only a statistical

significant difference between EFL majors of auditory major learning style and those of tactile learning style (MD=716.67; sig.= 0.013) in favor of those of tactile learning style (M=2816.66) as the mean scores of those students of auditory learning style were 2100.00. Such results might be due to the fact that most of learning activities delivered to the control group students had focused on hands-on tasks. Moreover, the audio learning activities were not given the same proportion as other activities which might have hindered EFL majors of auditory learning style from attaining the same proportion of vocabulary size.

The results of the second hypothesis revealed that learning style preferences partially contribute to the development of receptive lexical breadth in an explicit vocabulary learning strategy instruction environment. Moreover, there were no statistically significant differences between EFL majors of different learning style preferences in their receptive lexical breadth as measured by the Vocabulary Size Test before and after the treatment either in the experimental group or the control group except for that difference between control group students of tactile and auditory learning style preferences in the posttest. Hence, the second null hypothesis was verified stating that first-year EFL majors of different learning style preferences do not differ in their receptive lexical breadth as measured by the vocabulary size test before and after the treatment.

Several interpretations might be relevant here. One possible interpretation for that EFL majors of different learning style preferences participated in the experimental group did not show any statistically significant differences in their receptive lexical breadth is that the training program might have met all their learning styles at a slightly similar share. Hence, most students might reach the threshold level of vocabulary size in a way that they preferred. On the other hand, those EFL majors in the control group, especially those of auditory major learning style preferences, might not have received the same activities and instruction provided in the proposed training program, so they could neither reach the threshold level of vocabulary size nor develop their word store in a similar way to those students preferred other learning styles.

Another interpretation for such statistically insignificant differences in the posttest of vocabulary size among the experimental group students is that they had different learning style preferences. This means that learning styles did not contribute to the development of receptive lexical breadth. Such interpretation goes along with the results revealed by Kafipour, et al. (2011) who concluded that "[a] learning style of the learner didn't contribute to their vocabulary level" (p. 314).

Conclusions

This study intended to highlight the impact of a proposed explicit vocabulary strategy training program on receptive lexical breadth as measured by the Vocabulary Size Test among first year EFL majors at the Faculty of Education, Al Azhar University. It also aimed at investigating the extent to which learning style preferences can contribute to the development of EFL majors' receptive lexical breadth.

The results of the study revealed that the proposed training program might have helped EFL majors attain the threshold level of vocabulary size as verified by the mean scores and the results of independent-samples t-test of the gain scores. However, the results of ANCOVA revealed that the difference between the mean scores of both groups in the posttest of receptive vocabulary size as measured by the vocabulary size test was not statistically significant. Moreover, the results also referred that learning style preferences were not a major contribution to the development of receptive lexical breadth as there were not any statistically significant differences between EFL majors of different learning styles preferences either before or after the treatment.

Surprisingly, the results of the study revealed that most of the participants preferred tactile and kinesthetic learning styles and a few of them highlighted visual and group learning styles as their major preferences. However, visual and kinesthetic EFL majors outperformed students with other major learning style preferences with regard to receptive vocabulary size. Hence, the study concludes that explicit vocabulary strategy training might have been a good tool for improving receptive lexical breadth and helped EFL majors reach the threshold level of vocabulary size that might enable them use and interact in the foreign language effectively.

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