Comparative Effect of Memory and Cognitive Strategies Training on EFL Intermediate Learners' Vocabulary Learning

Maryam Banisaeid[1]

[1] Faculty of International Studies, Zhejiang University, Hangzhou, China

Correspondence: Maryam Banisaeid, Faculty of International Studies, Zhejiang University, Hangzhou, China. Tel: 86-188-5788-4450. E-mail: banymary@yahoo.com

Abstract

The present study was conducted to compare the effect of memory and cognitive strategies training on vocabulary learning of intermediate proficiency group of Iranian learners of English as a foreign language. It is to check how memory and cognitive strategies training affect word learning of EFL intermediate learners (N=60) who were homogenized by the Nelson proficiency test (Nelson 250 B). They were divided into two experimental groups. For omitting the words learners know, pre test of vocabulary was taken. Also a questionnaire adapted by Rezaee et al (2004) based on Kudo' (1999) work with the reliability of 0.92 was taken to deduce not only their familiarity of strategies but also their knowledge of strategies uses. In the first experimental group, 30 students were trained to use memory strategies (keyword and semantic map) in word learning and in the other experimental group, the other 30 students were taught to learn the same new English words through cognitive training (flashcards and repetition). The course consisted of 11 sessions (two two-hour sessions per week). At the end the data was collected using a teacher made test as the post test (including 60 open ended items). The results of the independent t-test shown that there is no significant difference between the effect of cognitive and memory strategy training on intermediate EFL learners' word learning. In general, the finding suggests that memory strategies training and cognitive strategy training respectively enhance memory and cognitive strategy uses

Keywords: strategy training, memory strategy, cognitive strategy, vocabulary learning

1. Introduction

One of the major components of language knowledge is the knowledge of words that are said to be building blocks of the language, so teaching language is not apart from teaching vocabulary. These days the approach of discrete-point vocabulary learning change to be more communicative. Before 1990, vocabulary was taught with grammar (Nyikos & Fan, 2007). In order to learn a word, two aspects of form and meaning should be taught. Meaning includes grammatical uses, collocation, connotation and form involves spelling, pronunciation. Vocabulary is a central part of any language and there is no language without words. It is the component of language which not only is inherently the most important linkage in the ring of skills and components that keeps the chain of language connected but also is the very first medium and facilitator for them to be taught and learned. Although works on vocabulary learning has rendered many ups and downs from first years of the dominance of Latin until now, it was never eliminated from the major framework of language teaching and learning endeavors. As Thornbury (2002) mentions that the acquisition of words never stops since the coining of the words never does.

In the history of language learning and teaching studies, there was always an unavoidable look and focus on ways and procedures for presenting lexical items, strategies and techniques for practicing, remembering and increasing the word retention since vocabulary itself is vital for communication as well as essential for language and skills learning. Until 1980s, there was not a systematic approach for teaching vocabulary except using a set of mnemonics of which the most important one was keyword. One of these efforts came from memory works done around 1930s that led to the emergence of the Mnemonics (Cohen, 1987), therefore the main concern mostly became investigating the role of mnemonics and memory enhancing devices in the preceding years. Sagarra & Alba (2006) mention that keyword and rote memorization are among the most studied vocabulary learning methods to day (also in Mohsenifar, 2007).

Traditionally, vocabulary learning was often left back and received only incidental attention in many textbooks and language programs (Richards & Renandya, 2002, p. 255). By the added modern languages into the school curriculum in eighteen century, statements of abstract grammar use, lists of vocabulary and sentences for translation which followed the same basic procedures that were used for teaching Latin were added to the textbook of European schools (Richards & Rogers, 2001). Rote memorization of the lexical items through bilingual word lists and dictionary study in GTM and teaching only everyday vocabulary in DM (concrete ones through demonstration, objects, pictures, and realia and abstract ones through association of ideas) are among those views of vocabulary learning and teaching in 1800s and the first decades of 1900s as mentioned by Richards and Rogers (2001). They also elaborate that in the 1920s to 1930s, because of 1) a general consensus among language teaching specialists such as Palmer, who underlined the role of vocabulary as the most important aspect of the foreign language learning, 2) the increased emphasis on reading skill especially by Coleman and 3) the works of Michael West on the other hand, the role of the vocabulary was one of the first aspects of the method design to receive attention (Richards & Rogers, 2001). By the beginning of 1940s, the army specialized training program had given the impetus for coining a new method called audiolingualism that emphasized grammar over vocabulary. This method which was the offspring of behaviorism and structuralism was then criticized by Chomsky who is characterized as the father of contemporary studies in syntax by Richards and Rogers (2001) and nobody suspected that he would adapt a "lexicon-is-prime" in his Minimalistic linguistic theory someday. Lexico-based approaches as Willis's (1990) lexical syllabus and Lewis's (1993) lexical approach are among the recent trends which give vocabulary the most important roles in language learning and teaching (Richards & Rogers, 2001). Although there were some syllabi and approaches that mainly focused on words and lexis during 1990s; no method had existed with a strong pillar of vocabulary blocks until then. Before 1990s, many explored vocabulary learning separately without any motive to shape a method with a main emphasis on word learning. But all these trends have not still drawn a richly colored guiding line in the complicated picture of word learning and retrieval. Works for enhancing the retention of words and facilitating the vocabulary learning was kept on in 1980s with more motive and zeal. Also this effort was strengthened by the emergence of learning strategies and had shaped a new era in vocabulary learning.

1.1 Language Learning Strategies

By the emergence of the works on learning strategies that was inspired by the works of Rubin and Stern in the mid 1970s and shaped by the efforts of Omally and Chamot from 1982 to 1990, the areas in language learning and teaching rendered great changes and so the roles and responsibilities of individuals were tended to be more important (Brown, 2000). Ellis (1994) emphasizes on the mediating role of strategy between learners and situational factors and learning outcomes. He defined learning strategy as "the particular approaches or techniques that learners employ to try to learn an L2" (1997, p. 76-77). Mainly, strategy is regarded as tactic or technique by which learners can be devised. Accordingly different classification of language learning strategies came into existence. "Omally & Chamot (1990) have attempted to ground the study of learning strategies within the information-processing model of learning by Anderson" (as cited in Ellis, 1994. p. 533). Omally (1985) and Omally & chamot (1990) as cited in Brown (2000), and also in Ellis (1994), classify learning strategies into three main groups with 25 subcategories: metacognitive, cognitive and socioaffective strategies.

Table 1. Learning strategies by Omally & chamot (cited in Browm, 2000)

Metacognitive strategy	Cognitive strategy	Socioaffective strategy
Self-evaluation	Deduction, Recombination	Question for clarification
Advanced organizer	Directed physical response	Cooperation
Directed attention	Imagery Grouping, Transfer	
Inferencing	Repetition Auditory representation	
Selective attention	Note-taking, Translation	
Self-management	Keyword	
Advance preparation	Contextualization	
Self-monitoring	Resourcing	
Delayed production	Elaboration	

Oxford (1990) classified the general learning strategies into two main categories: direct (cognitive, memory and compensation) and indirect (metacognitive, affective, social). Oxford's classification consists of sixty two

strategies, 35 in direct and 27 in indirect strategies (Eliss, 1994). Griffith (2004) defines direct and indirect strategies respectively as "those which directly involve the target language such as reviewing and practicing and those which provide indirect support for language learning such as planning, co-operating and seeking opportunities" (p. 4). Ellis (1994) states "perhaps the most comprehensive classification of learning strategies to date is that provided by Oxford (p. 539; also in Brown, 2001, p. 217). There are many studies that seek to find the effect of teaching learning strategies on the learners specific skill or area of language (Ayaduray & Jacobs, 1997; Bimmel et al., 2001; Cadierno-Lopez, 1992; Carrell et al., 1989; Holunga, 1994; Kitajima,1997; Kusiak, 2001; Ozeki, 2000; Raymond, 1993; Talbot, 1995; Thompson & Rubin, 1996) and this shed light on more effort to in making learners aware of all possible strategies for different skills that was then accompanied with what was called as "strategy instruction".

1.2 Vocabulary Learning Strategy Taxonomy

The emergence of different classifications of language learning strategies and strategies training has the subsequent effects on the approach of teaching different skills one of which is vocabulary. "Research on vocabulary learning strategies is a relatively new field" (Ching-yi Lin, 2008). He also states that the first who started study on vocabulary learning strategy was Ahmed (1998). According to Kudo (1999) and Stork (2003), who followed Kudo, Stoffer's (1995) works was the first study that investigated vocabulary learning strategies as a whole group. However, this statement was not accurate. According to Schmitt (1997) as well as Nation (2001), investigation as such had already started with Ahmed (1989)." (p. 22). As Schmitt & McCarthy (1997) state in their book, Ahmed (1989) used a cluster analysis technique to isolate five kinds of learners (good to poor) typified by the kind of strategies they used. After him the studies of introducing a taxonomy of vocabulary learning strategies was kept on by Hatch & Brown (1995), Stoffer's (1995) , and Gu and Johnson (1996).

1.3 Schmitt's Model of Vocabulary Learning Strategies

The most comprehensive vocabulary learning strategy taxonomy is presented by Schmitt and McCarthy (1997). They believe that lack of research in area of vocabulary learning strategies is because of having no compressive list of such strategies. This taxonomy of vocabulary learning strategies includes two main groups: strategies for the discovery of a new word's meaning and strategies for consolidating a word once it has been encountered.The perspectives Schmitt & Mccarthy (1997) look at the strategies of vocabulary learning differ greatly from the other taxonomies. Not only they tried to present a comprehensive classification of vocabulary learning strategies but also their focus was based on a pedagogical framework through which learner's benefits from the underlying theory of learning words. That is to say, differentiation between discovery and consolidating strategies along with the base of Oxford' (1990) works on language learning strategies were taken into account. Two ways to discover a new meaning were first determining the word meaning and second employing the social strategy of asking someone who knows (Schmitt, 1997). The consolidation strategies have four groups that overlapped with what Oxford (1990) under the terms "direct" and "indirect", that differ from Schmitt's consolidation strategies in the sense that they are not specifically used for vocabulary learning.

Table 2. Taxonomy of Vocabulary Learning Strategies (Schmitt, 1997)

Strategies for the discovery of a new word's meaning			
DET	Analyze part of speech	DET	World lists
DET	Analyze affixes and roots	DET	Flash cards
DET	Check of L1 cognate	SOC	Ask teacher for an L1 translation
DET	Analyze any available pictures or gestures	SOC	Ask teacher for paraphrase or synonym of new word
DET	Guess from textual context	SOC	Ask teacher for a sentence including the new word
DET	Bilingual dictionary	SOC	Ask classmates for meaning
DET	Monolingual dictionary	SOC	Discovery new meaning through
Strategies for consolidating a word once it has been encountered			
SOC	Use Study and practice meaning in a group	MEM	Keyword Method
SOC	Teacher checks students' flash cards or world lists for accuracy	MEM	Affixes and roots (remembering)
SOC	Interact with native-speakers	MEM	Part of speech (remembering)

MEM	Study word with a pictorial representation of its meaning	MEM	Paraphrase the word's meaning
MEM	Image word's meaning	MEM	Use cognates in study
MEM	Connect word to a personal experience	MEM	Learn the words of an idiom
MEM	Associate the word with its coordinates	MEM	Use physical action when learning a word
MEM	Connect the word to its synonyms and antonyms	MEM	Use semantic feature grids
MEM	Use semantic maps	COG	Verbal repetition
MEM	Use 'scales' for gradable adjectives	COG	Written repletion
MEM	Peg Method	COG	Word lists
MEM	Loci Method	COG	Flash cards
MEM	Group words together to study them	COG	Take notes in class
MEM	Group words together spatially on a page	COG	Use the vocabulary section in your textbook
MEM	Use new word in sentence	COG	Listen to tape of word lists
MEM	Group words together within a storyline	COG	Put English labels on physical objects
MEM	Study the spelling of a word	COG	Keep a vocabulary notebook
MEM	Study the sound of a word	MET	Use English-language media (songs, movies, newscasts, etc.)
MEM	Say new word aloud when studying	MET	Testing oneself with word tests
MEM	Image word form	MET	Use spaced word practice
MEM	Underline initial letter of the word	MET	Skip or pass new word
MEM	Configuration	MET	Continue to study word over time

Kudo (1999) tries to describe and categorize vocabulary learning strategies and found that the results of his study are congruent with those of Schmitt (1997) descriptive studies and Oxford (1990) classification scheme.

1.4 Memory Strategies

Research on the use and effect of mnemonic was among the first works in the first decades of 1990s. According to Oxford, memory strategies deal with memory, the entering and retrieving of information. Farragher-Paras (2004) assets that memory strategies contain creating mental links; imagery; physical responses; grouping/classifying; sound representation; association and elaboration.Wixon (1986) defines semantic map as concept of Definition Maps (or Word Maps) which reflect the idea that students need to have some understanding of what a definition is and how it works before they can give the meaning of a word on their own. He also states:

Concept of definition maps are graphic displays that show common elements of a dictionary definition. These elements include (1) the category to which the word being defined belongs (What is this?), (2) some characteristics of the word (What is it like?), and (3) some specific examples and some non-examples of the word. Students refer to context, their prior knowledge, and dictionaries to find the elements needed to complete the map (p. 47).

In a study with Arabic L2 learners of English at two levels of proficiency, Brown and Perry (1991) also advocated for the benefits of semantic methods. They compared the efficacy of the keyword method, a semantic method, and a combination of the two after 4 days of instruction. The semantic method consisted of identifying a semantic connection between the target word and other known words. Posttests showed that the keyword–semantic group (the condition implying the greatest depth of processing) outperformed the keyword group and the semantic group, whereas the results for the semantic group fell in between the other two groups. Semantic map and keyword technique were among those strategies that works on them although seem too much but with no improvements. In the period of dominance of behaviorism, many teaching method and approaches came to existence that their purpose of learning facilitation was reached by them. In more modern era, cognitivisim as the later approach of behavirisom contributes learning to the process of mind, something unobservable. This division renders different changes when different methods and techniques are adjusted in, that is to say as the slogan of behavirisom is meaningful repetition, the purpose of mnemonics as keyword

method or semantic map is to make the retention of the word better by deep processing while the purpose of strategies as those related to shallow processing is some kind of rote learning which relies on the short-term and long-term memory. Rote memorization versus meaningful learning gets their differences through the comparison of repetition and mnemonics. That is to say although repetition seems to be a kind of mnemonics but in respect to the memory, it involve more cognitive strategies rather than memory strategies. Cognitive strategies are those leading the learners to more shallow mental processing (Schmitt, 1997) and also fast processing because of the function of the short memory. But the process of learning through mnemonics occurs more meaningfully and also deeper.

1.5 Cognitive Strategies

Cognition as one half of a human to learn is the most important factor in understanding and producing. Banisaeid's (2010) work on strategy-based vocabulary acquisition and self-regulated learning lead the conclusion that learners who use more cognitive strategies in learning vocabulary are more self-regulated in their learning. According to Oxford cognitive strategies involve manipulation of reception and production of language. Cohen (1996) believes that cognitive strategies usually involve the identification, retention, storage, or retrieval of words, phrases, and other elements of the second language. Farragher-Paras (2004) exemplifies Cognitive strategies as practicing; analyzing/reasoning; substitution; organizing; SCAN (Survey headings, Capture captions/visuals, Attack bold words, Notice and check parts you do not understand and reread or read on); note-taking; SQR3 (Scan, Question, Read, Recite, Review); word identification and sentence clues; recombining; naturalistic practicing; SCAR your draft for writing (Substitute and Cut repeated, dead, or dull words, Add details and descriptions, Rearrange sentence length, openings and closings). The most important cognitive strategy in field of vocabulary learning is repetition. Another newly well-known strategy in this area is using flash cards especially for the situation of having so many unknown words to learn. However, Schmitt found it difficult to clearly distinguish cognitive strategies from memory strategies because "the goal of both is to assist recall of words through some form of language manipulation" (Schmitt, 1997; p. 205). Hence, in order to solve this problem, he adopted Purpura's (1994) division of storing and memory strategies and decided to categorize those strategies which are "less obviously linked to mental manipulation (repeating and using mechanical means)" as cognitive, while memory strategies are those "closer to traditional mnemonic techniques which either organize mental information together or transform it in a way which makes it more memorable," such as associating, linking with prior knowledge, using imagery, and summarizing (Schmitt, 1997, p. 206).Van Hell and Candia Mahn (1997) studied the comparison of keyword mnemonic and rote rehearsal. They found that keyword methods meaningfully related to the word forms are more effective in interval than the keyword of semantically unrelated words. But in general, words taught through rote rehearsal were better learned and retained. Lawson and Hobgen (1996) found by research on Italian students that most of the techniques used by learners are repetition.

1.6 Strategy-Based Instruction and Strategies Training

By introducing different classification of learning strategies, strategy instruction was planned as a new approach to teach learners how to learn the language. Cohen (1996) defines SBI as "explicit classroom instruction directed at learners regarding their language learning and use strategies, and provided alongside instruction in the foreign language itself" (p.13) and regards it as the most efficient way to heighten learner awareness. Eslami & Ranjabry (2003) clarified the distinction between Direct (overt) and embedded (covert) training. O'Malley & Chamot (1990, p. 229-230) as cited in Elami & Ranjbari (2003, p.6) define these two models of language learning strategies training respectively as learning strategy instruction in which students are informed about the value and purpose of learning strategies and the second as guidance in the use of learning strategies that is embedded in the task materials but not explicitly defined to the learner as strategy instruction. Cohen (2003) lists seven models for foreign language strategies training one of which is Strategies-Based Instruction (SBI) which both explicitly and implicitly integrate the strategies into the course content. Oxford as cited in Richards & Renandya (2002) states that "some strategy training has been effective in various skill areas but not in others.

1.7 Current Perspective

There are many studies concerning about finding the effect of strategy instruction on comprehension skill (Carrell et al., 1989; Cadierno-Lopez, 1992; El-Koumy, 1999; Kitajima, 1997; Kusiak, 2001; Holunga, 1994; Talbot, 1995; Thompson & Rubin, 1996), While there is a few numbers of studies that their focuses are on the effect of strategy instruction on the productive skills. Ellis (1994) states: "one area in which strategy training may be particularly useful is in vocabulary acquisition" (p. 556).The overt training of the cognitive and memory strategies can rarely be found in the literature when they are to be compared especially when the case is the

effect of flashcards and repetitions on vocabulary learning when compared with the effect of semantic and keyword technique. This does not necessarily rely on training overtly or covertly since learners already knows about these simple known ways of learning vocabulary especially in cognitive training.

2. Research Questions

The study aims to answer the following questions:

1.   Is there any significant difference between the effect of memory and cognitive strategies training on vocabulary learning of intermediate EFL learners?

2.   Is there any significant difference between the effect of memory and cognitive strategies training on intermediate EFL learners' uses of vocabulary learning strategies?

3. Method

3.1 Subjects

Sixty female students of a pre-university school in Tehran took part in the study. Their mean age was about eighteen. English was their second language. They were assigned randomly to two groups, each of which included thirty subjects.

3.2 Instrumentation

Proficiency test: Since speaking and listening are not taught to Iranian learners in the school and the subjects of this study are the school students, a suitable proficiency test is the one with more questions on structure, reading and vocabulary not speaking and listening, so Nelson test is used to homogenize the participants. The 1978 version of Nelson English Language Test included 50 multiple-choice items testing grammatical points and knowledge of vocabulary (Nelson 250B). Nelson proficiency test is a standard way of measurement suitable for the level of intermediate in which learners are to answer according to their own knowledge. It includes 50 Mc items of grammar and vocabulary. Participants had to choose the correct answer which best completed the sentence.

Teacher-made vocabulary tests: Pre and post test are not MC items but they consist of open ended questions which draw short answer in Persian from the learners. The teacher only presented the word taught in English in one column and wanted the learners to only write the meaning. Questionnaires: the questionnaire is proposed by Kudo (1999) and revised when translated and given to the learners as the pre questionnaire. Both pre and post questionnaire have the same content and format. The questionnaire has 29 statements asking about the learners' strategies uses. Learners were to read each statement and circle around one choice among three (never, occasionally, and always). The questioner was translated into Persian for compensating any misunderstanding.

This questionnaire was also revised by Rezaee, Sadighi and Zare (2004) with the Pearson product moment reliability of 0.92 translated into Persian and then administered as the pre questionnaire for checking the learners' understanding of the uses of vocabulary learning strategies both as a whole and categories of four interrelated subcategories (social, memory, cognitive, metacognitive). Only two statements of 28 and 16 were eliminated after administering pre questionnaire since those statements were repeated and the answers of them were constant and had no apparent effect on the main results.

Pre-questionnaire: the purpose of this questionnaire was to understand what vocabulary learning strategies are used by the learners and how much they were familiar with them.

Post-questionnaire: according to Oxford (1989, cited in Oxford & Nyikos, 1989:291) strategy use was found to be affected by 14 factors, one of which is "type of strategy training". So the purpose of this questionnaire is to see how learners' uses of vocabulary learning strategies will be changed after strategies training. In other words it's to show the effect of vocabulary strategies training on the learner use of strategies and compare the result between two groups trained with different types of strategies. Because of ineffectiveness of the two statements that were repeated in the questionnaire, this post questionnaire was with 27 statements. The statement number 16 and 28 were eliminated from pre questionnaire.

The treatment material were English book 1 taught in the fourth grade of schools and a pamphlet of strategies including some activities and exercise for student to become more familiar with vocabulary strategies.

English book 1: this book consists of four chapters each includes eight parts that deals with vocabulary, reading comprehension, structure, speaking, pronunciation and writing. But the main focus of the book is on vocabulary and reading comprehension rather than the other skills. Each book chapter started with some sentences to make new vocabularies contextualized and then a reading comprehension passage is allocated and it also ended with a

word list of the taught words that were presented in the lesson regardless of the grammatical and pronunciation parts that are after theses two main focus.

Strategies pamphlet: The overt training of the cognitive and memory strategies can rarely be found in the literature when they are to be compared. That is to say the effect of flashcards and repetitions on vocabulary learning when compared with the effect of semantic and keyword technique is not necessarily relied on training overtly or covertly since learners already knows about these simple known ways of learning vocabulary especially in cognitive training. Even though the researcher have completely introduced the definition and understanding of both (memory as keyword and semantic map, cognitive as repetition and flash cards) to ensure that all the instruction are overt that is learners are aware of the understanding of the mentioned strategies for future use. Because studying with strategies is partially dependant on the learners, two pamphlets of strategies, one for cognitive strategies and the other for memory strategies, were distributed between the learners. The purpose of this was to give learners more time, context, opportunity and control over his/her vocabulary learning approach by working on each group of strategies. Also according to Cohen (2003) for comprehensive strategies training there should be at least 3 to 4 hours study on each specific strategy. Both include ten pages for introducing and practicing theses two groups of strategies and their subsets.

3.3 Procedure

The main study started with selecting ninety students randomly. They were going to be given Nelson test that was first piloted before administrating the main study with thirty participants whose characteristics were the same as the participants of the main study. The test was to ensure that there is no significant difference between the levels of language proficiency of the participants. The total number of sixty subjects who were selected from among ninety students whose score on Nelson test fallen within one standard deviation below and above the mean took part in the study. Thirteen out of ninety were not to take part in the course because their score was significantly different from the rest of the participants. All remain sixty subjects were divided into two groups (two experimental ones) and this has been done randomly. Then a teacher made vocabulary test that open- ended was to be administered to both groups in their first session in order to check the possibility of comparability of the groups and to eliminate the words they know. In the first session, the reliable questionnaire by Kudo (1999) was revised and translated into Persian and it was given to the learners at first not only to understand their level of vocabulary strategies uses but also to eliminating ineffective statement that were number 16 and 28. Both two classes studied the same material and the same book. The course lasted for eleven sessions (two two- hour sessions per week). For each session they learned six new words chosen based on two criteria: 1) as checked by the pretest, learners shouldn't be familiar with them; 2) the aim of book is to learn them, in other words they are emphasized by the book to be learned. The first session was dedicated to strategy training and making the learners familiar with the strategies they are going to use based on the treatment type. Also pamphlets of activities, exercises and more elaboration on strategies with respect to the treatment were given to them. In one experimental group, learners were cognitively trained in learning the mentioned range of vocabulary and in the other group they were exposed to memory strategies training. The type of strategies each groups used not only as a medium for vocabulary learning but for learning the strategies themselves, were two. Repetition (verbal & written), flashcards for cognitive strategies and Keyword, semantic map for memory strategies are the main focus of the syllabus. Each two hour session was dedicated to teach words through mentioned strategies and more work on strategy uses was done as assignments. This training had been accompanied by teaching different parts of the book as completion of the reading part or covering the grammatical points.   In both groups they were trained explicitly to become familiar with different strategies and a number of examples were presented by both the teacher and learners themselves. That is to say they are overtly involved in the process of how to use each learned strategies with having the knowledge of knowing that kind of strategy.   After ten sessions treatment covering four lessons of the book with teaching words of them through training, the teacher made vocabulary test that was 60 open ended-item test was administered as a post test and a three point Likert scale questionnaire in the final session to both groups that includes 27 statements were given to them.

4. Results

For investigating the first question, comparison of two training of cognitive and memory strategies on vocabulary learning of intermediate EFL learners, the performed analysis after collection of data, has been presented in descriptive measures (Number, Mean, Standard deviation, Error of standard deviation) and interpretative measures (the result of independent groups' T-TEST) in table 3.

Table 3. Descriptive statistics and the results of the dependant t-test related the effect of cognitive and memory strategy training on word learning o the experimental groups

Experimental Group	N	Mean	Standard Deviation	Error Of Standard Deviation	T	df	Significance Level
Cognitive strategies training	30	45.10	7.94	1.45	1.570	58	0.122
Memorial strategies training	30	48.16	7.16	1.30			

The result of this analysis related to the comparison of two training of cognitive strategies and memory strategies on vocabulary learning of intermediate language learners (table 3) indicates that by the achieved data (*t*=1/570, *df*=58, *p*= 0.122), there is not any significance difference between the effect of cognitive strategies training and memory strategies training on intermediate EFL learners' vocabulary learning, the hypothesis has not been rejected.

For investigating the second hypothesis "there is no significant difference between the effect of cognitive and memory strategy training on EFL learners' uses of vocabulary learning strategies", the overall mean of strategies uses of the three point likert scale and significant level is presented in table 4.

Table 4. The results of covariance analysis of the effect of cognitive and memory strategies training on social, memory, cognitive and metacognitve strategies uses

Post-questionnaire	Two types of training	Mean	Significant level
social strategy uses	Cognitive strategy training	1.43	0. 388
	Memory strategy training	1.23	
memory strategy uses	Cognitive strategy training	1.82	0.000
	Memory strategy training	2.14	
cognitive strategy uses	Cognitive strategy training	2.45	0.000
	Memory strategy training	1.43	
metacognitive strategy uses	Cognitive strategy training	1.55	0.214
	Memory strategy training	1.44	

The result shows that the uses of two strategies of memory and cognitive are affected by two different cognitive and memory strategy training. By the overall mean, it can be deduced that memory strategies training and cognitive strategy training respectively enhance memory and cognitive strategy uses.

5. Discussion and Conclusion

The results of the research showed that those who were trained by two main memory strategies are not better in word learning than those trained cognitively. That is to say they remember the meaning of the word as fast as those trained cognitively.

There is no significant difference between cognitive and memory strategy training on social strategy use of intermediate EFL learners. Both cognitive and memory strategy training have positive effect on memory strategy use but the effect of memory strategy training on memory strategy use is more than the effect of cognitive strategy training on memory strategy use.

Cognitive and memory strategies trainings play an important role on making learners more autonomous in using different kinds of vocabulary strategies. Based on the obtained results, memory strategies training has a positive effect on EFL learners' use of memory strategies that seems absolute, has no effect on social, cognitive strategies, and has negative effect on metacognitive strategy uses.

Cognitive strategy training is effective in enhancing the learners' use of metacognitive strategies use better than the memory strategy training. So for having more autonomous learners, the teacher should have more cognitive based strategic program for the learners to become more self-directed in their own learning. Banisaeid (2010) stated that learners who use more cognitive strategies in learning vocabulary are more self-regulated in their learning.

Cognitive strategies training has absolutely positive effect on cognitive strategies use and has no effect on social and metacognitive strategies uses of EFL intermediate learners. In general both cognitive (some form of rote rehearsal as repetition and flash cards) and memory (some form of grouping as semantic map and mnemonics as keyword technique) strategy training should be mixed in the syllabus of the educational program since:

1. Cognitive strategies training help them to learn the exact meaning of the word while memory strategy training help them to remember less closer meaning of the word.

2. For better training as was investigated through strategy use, learners learn more strategies as from both categories of cognitive and memory.

3. Learners do not get bored.

4. Learners can choose from the trained strategies based on their style, characteristics and purposes since they have more knowledge and authority over their understanding of different strategies.

References

Ahmed, M. O. (1998). Vocabulary Learning Strategies: A Case Study of Sudanese Learners of English. Unpublished PhD thesis. Wales: Bangor.

Ayaduray, J., & Jacobs, G. (1997). Can learner strategy instruction succeed? The case of higher order questions and elaborated responses. *System*, *25*(4), 561-570. http://dx.doi.org/10.1016/S0346-251X(97)00044-4

Banisaeid, M. (2010). The relationship between self-regulated strategies and strategy-based vocabulary acquisition of Iranian EFL learners at the academic level. Paper presented on February 2010 in the second postgraduate conference on issues in language teaching and learning in Iran.

Bimmel et al. (2001). Effects of strategy training on reading comprehension in first and foreign language. *Zeitschrift f`ur Fremdsprachenforschung*, *13*(1), 113–41.

Brown, H, D. (2000). Principles of language learning and teaching. *Pearson Education*.

Brown, T., & Perry, F. (1991). A comparison of three learning strategies for ESL vocabulary acquisition. *TESOL Quarterly, 25*(2), 655-70. http://dx.doi.org/10.2307/3587081

Cadierno-Lopez, T. (1992). Explicit instruction in grammar: a comparison of input based and output based instruction in second language acquisition. Unpublished PhD thesis: University of Illinois at Urbana-Champaign.

Carrell, P. L., Pharis, B. G., & Liberto, J. C. (1989). Metacognitive strategy training for ESL reading. *TESOL Quarterly, 23*, 647-678. http://dx.doi.org/10.2307/3587536

Ching-yi Lin. (2008). Learning German Vocabulary: An Investigation into Learners' Use of Vocabulary Learning Strategies. A thesis presented to the University of Waterloo in fulfillment of the thesis requirement for the degree of Doctor of Philosophy in German.

Cohen, A. P. (1987). The use of verbal and imagery mnemonics in second-language learning. *Studies in Second Language Acquisition, 1987*(9), 43-64. http://dx.doi.org/10.1017/S0272263100006501

Cohen, A. (1996). Second language learning and use strategies: Clarifying the issue. Minneapolis: Center for Advanced Research on Language Acquisition, University of Minnesota.

Cohen, A. D. (2003). Strategy-based learning of speech acts: Developing and evaluating a web-based curriculum. Paper presented at the *Independent Language Learning Conference, The Open University, Milton Keynes*, UK, 5th December 2003.

El-Koumy, A-S. (1999). Effects of three semantic mapping strategies on EFL students' reading comprehension. In: Annual Meeting of the Teachers of English to Speakers of Other Languages, Chicago 1996. ERIC

document ED435193 [Full document available on ERIC but original source details unavailable].

Ellis, R. (1994). *The Study of Second Language Acquisition*. Oxford: Oxford University Press.

Eslami, R. Z., & Ranjbary, R. (2003). Cognitive strategy training for vocabulary learning. *TESL-EJ, 7*(2). Retrieved September 2009, from http://www-writing.berkeley.edu/tesl-ej/ej26/a5.html

Farragher-Paras, K. (2004). Teaching Language Learning Strategies to English Language Learners. *A Reflection*. Southern New Hampshire University.

Griffith, C. (2004). Language Learning Strategies: Theory and Research. School of Foundations Studies. AIS St Helens, Auckland, New Zealand.

Gu, Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning, 46*, 643-679. http://dx.doi.org/10.1111/j.1467-1770.1996.tb01355.x

Hatch, E. M., & Brown, C. (1995). *Vocabulary, semantics and language education*. Cambridge: Cambridge University Press.

Holunga, S. (1994). The effect of metacognitive strategy training with verbalization on the oral accuracy of adult second language learners. Unpublished doctoral dissertation, University of Toronto.

Kitajima, Ryu. (1997). Referential strategy training for second language reading comprehension of Japanese texts. *Foreign Language Annals, 30*(1), 84-97. http://dx.doi.org/10.1111/j.1944-9720.1997.tb01319.x

Kudo, Y. (1999). L2 vocabulary learning strategies (nflrc network 14) [html document]. Honolulu: University of Hawai'i, Second Language Teaching & Curriculum Center. Retrieved Oct 20, 2000, from the World Wide Web: http://www.lll.hawaii.edu/nflrc/NetWorks/NW14/

Kusiak, M. (2001). The effect of metacognitive strategy training on reading comprehension and metacognitive knowledge. *EUROSLA Yearbook ,1*, 225-74. http://dx.doi.org/10.1075/eurosla.1.19kus

Laufer, B., & Hill, M. (2000). What lexical information do L2 learners select in a CALL dictionary and how does it affect word retention? *Language Learning & Technology, 3*, 58-76.

Lawson, M., & Hogben, D. (1996). The vocabulary-learning strategies of foreign-language students. *Language Learning, 46*(1), 101-135. http://dx.doi.org/10.1111/j.1467-1770.1996.tb00642.x

Mohseni-Far, M. (2007). Techniques utilized for vocabulary acquisition. *Language Forum, 32*, 147-165.

Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge, England: Cambridge University Press. http://dx.doi.org/10.1017/CBO9781139524759

Nyikos, M., & Fan, M. (2007). A review of research on vocabulary learning strategies. In A. Cohen, & E. Macaro (Eds.), *Language learner strategies: 30 years of research and practice* (pp. 251-273). Oxford: Oxford University Press.

O'Malley, M. J., Chamot, A. U., & Küpper, L. (1989). Listening comprehension strategies in second language acquisition. *Applied Linguistics*, *10*(4), 418-437. http://dx.doi.org/10.1093/applin/10.4.418

Oxford, R., & Nyikos, M. (1989). Variables Affecting Choice of Language Learning Strategies by University Students. *Modern Language Journal, 73*, 291-329. http://dx.doi.org/10.1111/j.1540-4781.1989.tb06367.x

Oxford, R. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House.

Ozeki, N. (2000). Listening strategy instruction for female EFL college students in Japan. Unpublished doctoral dissertation, Indiana University of Pennsylvania.

Paribakht, T. S., & Wesche, M. B. (1993). Reading comprehension and second language development in a comprehension-based ESL programme. *TESL Canada Journal*, *11,* 9-27.

Raymond, P. M. (1993). The effects of structure strategy training on the recall of expository prose for university students reading French as a second language. *The Modern Language Journal, 77*(4), 445-458. http://dx.doi.org/10.1111/j.1540-4781.1993.tb01992.x

Rezaee, A., & Sadighi, F., & S, Z. (2004). The effect of EFLstudents' L2 proficiency and age on their overall pattern of vocabulary learning strategies use. *Journal of SID, 8*(2), September 2005.

Richards, J. C., & W. A. Renandya. (Eds.) (2002). *Methodology in Language Teaching: An Anthology of Current Practice*. U.S.A: Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511667190

Richards, J. C., & T. S. Rogers. (1986). *Approaches and Methods in Language Teaching: A Description and*

Analysis. NY: Cambridge University Press.

Sagarra, N., & M, Alba. (2006). The key is in the keyword: L2 vocabulary learning methods with beginning learners of Spanish. *The modern language journal, 90,* 228-243. http://dx.doi.org/10.1111/j.1540-4781.2006.00394.x

Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt, & M. McCarthy (Eds.), *Vocabulary. Description, acquisition and pedagogic* (pp. 199-227). Cambridge, England: Cambridge University Press.

Stoffer, I. (1995). University Foreign Language Students' Choice of Vocabulary Learning Strategies as Related to Individual Difference Variables. Unpublished doctoral dissertation. University of Alabama, Alabama.

Talbot, D. (1995). Metacognitive strategy training for reading: developing second language learners' awareness of expository text patterns. Unpublished PhD thesis: University of Hong Kong.

Thompson, I., & Rubin, J. (1996). Can strategy instruction improve listening comprehension? *Foreign Language Annals*, *29*(3), 331-342. http://dx.doi.org/10.1111/j.1944-9720.1996.tb01246.x

Thornbury, S. (2002). *How to teach vocabulary*. Essex: Longman.

Van Hell, J. G., & Candia Mahn, A. (1997). Keyword Mnemonics Versus Rote Rehearsal: Learning Concrete and Abstract Foreign Words by Experienced and Inexperienced Learners. *Language Learning, 47*, 507-546. http://dx.doi.org/10.1111/0023-8333.00018

Wixson, K. K. (1986). Vocabulary instruction and children's comprehension of basal stories. *Reading Research Quarterly, 21,* 317-329. http://dx.doi.org/10.2307/747712