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

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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)

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

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)

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

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) asserts 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, cognitivism as the later approach of behaviorism 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 behaviorism 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
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-Kouny, 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 these 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 these 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 on the experimental groups

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Error Of Standard Deviation</th>
<th>T</th>
<th>df</th>
<th>Significant Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive strategies</td>
<td>30</td>
<td>45.10</td>
<td>7.94</td>
<td>1.45</td>
<td>1.57</td>
<td>58</td>
<td>0.122</td>
</tr>
<tr>
<td>Memorial strategies</td>
<td>30</td>
<td>48.16</td>
<td>7.16</td>
<td>1.30</td>
<td>0</td>
<td>58</td>
<td>0.122</td>
</tr>
</tbody>
</table>

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 metacognitive strategies uses

<table>
<thead>
<tr>
<th>Post-questionnaire</th>
<th>Two types of strategy uses</th>
<th>Mean</th>
<th>Significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td>social strategy uses</td>
<td>Cognitive strategy training</td>
<td>1.43</td>
<td>0.388</td>
</tr>
<tr>
<td></td>
<td>Memory training</td>
<td>1.23</td>
<td></td>
</tr>
<tr>
<td>memory strategy uses</td>
<td>Cognitive strategy training</td>
<td>1.82</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Memory training</td>
<td>2.14</td>
<td></td>
</tr>
<tr>
<td>cognitive strategy uses</td>
<td>Cognitive strategy training</td>
<td>2.45</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Memory training</td>
<td>1.43</td>
<td></td>
</tr>
<tr>
<td>metacognitive strategy uses</td>
<td>Cognitive strategy training</td>
<td>1.55</td>
<td>0.214</td>
</tr>
<tr>
<td></td>
<td>Memory training</td>
<td>1.44</td>
<td></td>
</tr>
</tbody>
</table>

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


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