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King Saud University

Deanship of Graduate Studies

The Department of English Language and Literature

The Effect of Memory Strategy Training on Vocabulary Learning by EFL Female Students of the College of Languages and Translation: An Experimental Study

A thesis submitted in partial fulfillment of the requirements

for the Master's Degree in Applied Linguistics

in the Department of English at the College of Arts, King Saud University

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جامعة الملك سعود

عمادة الدراسات العليا

قسم اللغة الإنجليزية وآدابها

تدريب طالبات برنامج اللغة الإنجليزية بكلية اللغات والترجمة بجامعة الملك سعود على استخدام إستراتيجيات الذاكرة ومدى تأثير ذلك على حصيلتهن من المفردات اللغوية: دراسة تجريبية

قدمت هذه الرسالة استكمالا لمتطلبات الحصول على درجة الماجستير في اللغويات التطبيقية من قسم اللغة الإنجليزية بكلية الآداب بجامعة الملك سعود

إعداد

غادة فهد الزايدي

٤٢٦٢٢١٣٠٣

إشراف

الأستاذ الدكتور: إبراهيم صالح الفلاي

الفصل الدراسي الثاني

١٤٣٤ـ ٢٠١٣

Abstract

The purpose of this study was to investigate the effectiveness of memory strategies (MSs) in improving students' ability to recall and spell newly learned vocabulary items. The researcher only considered three types of MSs: grouping, placing new words in to a context and structured reviewing. In addition, the study used a questionnaire that explored students' attitudes towards MSs in general, and towards the specific MSs that they have been trained to use, as well as the relationship between MSs and motivation and between MSs and anxiety.

Two intact groups (63 students in total) were selected from level three of the College of Languages and Translation (COLT) at King Saud University (KSU), Kingdom of Saudi Arabia. The two groups were assigned to the experimental group (36 students) and the control group (27students). The control group received traditional instruction that depended on the textbook only without any MS training, whereas the experimental group received a combination of traditional instruction and MS training. A pre- and post-test were administered to both groups before and after the experiment to examine students' ability to recall the meaning of vocabulary items and their ability to spell them correctly. The experiment lasted for fourteen weeks through which the participants received seven MS training sessions.

The study found out that MS training was effective in improving students' ability to recall the meaning of vocabulary items when needed and their ability to spell them correctly. Moreover, the results showed that the subjects of the experimental group showed positive attitude towards MSs and most of them agreed on the positive effect that MSs had on raising their motivation and reducing their anxiety while learning vocabulary.

ملخص الرسالة

هدفت هذه الرسالة إلى التحقق من مدى فعالية التدريب على استخدام إستراتيجيات الذاكرة في تطوير مقدرة الطالبات على تعلم المفردات اللغوية وتذكر معناها ومدى فعالية استخدام هذه الإستراتيجيات في تحسين مقدرتهن على تهجئة هذه المفردات وكتابتها بشكل إملائي صحيح. ركزت الباحثة في هذه الدراسة على ثلاث إستراتيجيات هي : تصنيف المفردات اللغوية إلى مجموعات، ووضع المفردات اللغوية في جمل مفيدة،ومراجعة المفردات اللغوية بشكل منتظم. كما تضمنت الرسالة استبانة لقياس اتجاهات الطالبات نحو استخدام إستراتيجيات الذاكرة بشكل عام ونحو الإستراتيجيات التي قمن بالتدرب عليها ومدى فعالية هذه الإستراتيجيات في زيادة دافعية الطالبات لتعلم المفردات اللغوية وتقليل قلقهن من عدم إتقانها.

تكونت عينة الدراسة من ٦٣ طالبة من طالبات المستوى الثالث ببرنامج اللغة الإنجليزية بكلية اللغات والترجمة في جامعة الملك سعود ، حيث قسمت الطالبات إلى مجموعتين: المجموعة الأولى مجموعة ضابطة مؤلفة من ٢٧ طالبة والمجموعة الثانية مجموعة تجريبية مؤلفة من ٣٦ طالبة. أعطت الباحثة كلتا المجموعتين اختبارا قبليا و آخر بعديا قبل بدء التجربة وبعد انتهائها بهدف قياس مقدرة الطالبات في كلتا المجموعتين على تذكر معاني المفردات اللغوية وكتابتها بشكل صحيح إملائيا. درست المجموعة الضابطة بطريقة تقليدية وذلك بالاعتماد على الكتاب المقرر فقط ، بينما درست المجموعة التجريبية باستخدام نفس المقرر بالإضافة إلى تدريبهن على استخدام إستراتيجيات الذاكرة. استمرت الدراسة لمدة أربعة عشر أسبوعا تلقت خلالها طالبات المجموعة التجريبية سبع جلسات تدريبية على استخدام إستراتيجيات الذاكرة.

توصلت الباحثة إلى أن التدريب على استخدام إستراتيجيات الذاكرة أثبت فعاليته في تطوير مقدرة الطالبات على تعلم المفردات اللغوية وتذكر معناها وكذلك في تحسين مقدرتهن على تهجئة وإملاء هذه المفردات. إضافة إلى ذلك أظهرت نتائج الاستبانة التي أعطيت للطالبات في نهاية التجربة أن لديهن اتجاهات إيجابية نحو استخدام إستراتيجيات الذاكرة وأن هذه الإستراتيجيات زادت من دافعيتهن لتعلم المفردات اللغوية وساهمت في التقليل من قلقهن من عدم إتقانها.

Dedication

To my great parents: Moudy Alyahia and Fahad Alzaidi

To my devoted husband: Youssef Alblihid

To my little ones: Hamad, Abdulellah and Fahad

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My special thanks go to the College of Languages and Translation for providing me with classes to apply my experiment and finish my thesis. In addition, I would like to thank my students who were the subjects of this study for their patience and cooperation.

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Last but not least, my sincere appreciation and prayers go to my wonderful family: my beloved parents, my loving grandmother, my patient husband, my dear sons, my amazing sisters and my kind brother. I am so much indebted to them and without their encouragement, this study would not have been successful.

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Chapter 1

Introduction

1.1 Introduction

Learner-centered approaches to language learning do not seem to be teachers' first choice in Saudi Arabia. This is due to the believed difficulties in implementing these approaches in teacher-centered classrooms. From my practical experience as an English teacher, I noticed that learners' main concerns are usually to get good grades and pass examinations whether or not they developed good learning skills. However, Ghazal (2007) indicated that there has been a recent tendency in the world to make foreign language learning more autonomous and learner-centered. One of the main and important learner-centered approaches is to train learners to employ certain learning strategies that will enable them to learn language in a more efficient and autonomous way (Ghazal, 2007, p. 84). Learning strategies were defined by Oxford (1990) as "operations employed by the learner to aid the acquisition, storage, retrieval, and use of information." She extended this definition to include "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations"(p. 8).

The present study investigated memory strategies (MSs) as one type of the direct learning strategies proposed by Oxford (1990). MSs, sometimes referred to as "mnemonics", existed very long time ago. Before the spread of literacy, people used mnemonics to remember certain types of information related to farming, weather and date of birth (Oxford, 1990, p. 38). However, after literacy had become widespread, these techniques were disregarded and considered

"gimmicks". Nowadays, this view has changed and these strategies proved to be "powerful mental tools" (Oxford, 1990, p. 38).

In spite of the fact that a human mind is capable of storing around 100 trillion pieces of information, we cannot have access to this huge storage without employing MSs (Oxford 1990, p. 38). Hence, the present study investigated the effect of employing MSs, particularly "grouping", "placing new words in to a context" and "structured reviewing" on female EFL learners' ability to recall the meaning and correct spelling of vocabulary items. It also addressed the attitudes and perceptions of English as a foreign language (EFL) learners of the College of Languages and Translation (COLT) at King Saud University (KSU) toward these MSs.

1.2. Significance of the Study

The significance of the present study stems from the following points:

1. To the researcher's best knowledge, it is the first experimental study in Saudi Arabia that has attempted to investigate the effect of MSs on female EFL learners' knowledge of vocabulary items.

2. Little research has been devoted to improving student's abilities to spell words.

3. It is hoped that the outcome of this study may offer some effective ways to teach vocabulary.

4. It will hopefully promote the training of MSs in EFL classes.

5. It is hoped that the findings of this study may help learners to transfer the ability of using MSs to learn vocabulary outside the classroom. Consequently, their learning of vocabulary may become more self-directed and self-dependent.

6. Hopefully, the findings of this study will assist EFL learners, teachers and curriculum designers. MSs can help learners memorize glossaries and long lists of words. Teachers can

teach their students to employ MSs when learning vocabulary and curriculum designers can incorporate MS worksheets in their textbooks.

1.3. Statement of the Problem

Many teachers think that vocabulary learning is easy. However, as an English teacher, I noticed that when learning vocabulary, language learners face difficulties in two areas: recalling the meaning of newly learned vocabulary items and in spelling them correctly. Learners have considerable problems remembering the large number of vocabulary items they come across while reading. They sometimes feel that they know the word but they are unable to remember its meaning. According to Lord (1987) (cited in Oxford, 1990) "vocabulary is by far the most sizeable and unmanageable component in the learning of any language, whether a foreign or one's mother tongue" (p. 39). Hence, students need to be trained to use certain memorization strategies that may help them reinforce the words they have learned. Oxford (1990) pointed out that those memorization strategies "enable learners to store verbal material and then retrieve it when needed for communication"(p. 39). However, in spite of the importance of these strategies, research has showed that language learners rarely use them (Oxford, 1990, p. 40).

On the other hand, research showed that Saudi students also have serious problems with English spelling. El-Dakhs and Mitchell (2011) conducted an error analysis study that aimed to identify patterns of spelling errors among Saudi high-school female students. The subjects were asked to write a paragraph on a given topic, and spelling errors were later identified and analyzed. Results of the study showed that patterns of spelling errors were of seven categories: homophones/confusables, misrepresentation of vowel sounds, misrepresentation of consonant sounds, misapplication of spelling rules, silent letters, double letters and mispronunciation (p. 1). A similar study was done by Al-Jarf (2008) (cited in El-Dakhs and Mitchell, 2011), in which she

summed up the sources of Saudi female spelling errors at the phonological and orthographic levels. She asked 36 EFL freshmen students at the College of Languages and Translation, KSU, Riyadh, to complete a listening spelling test which required them to fill out 100 blanks in a dialogue. The results showed that the subjects had serious spelling difficulties, especially at the phonological level. They faced difficulties in hearing and discriminating most of the phonemes in a word, hearing and discriminating vowel phonemes and hearing the final syllable or suffix. However, the orthographic problems included vowel diagraphs, double consonants, silent vowels, consonants and homophones. The researcher concluded that the main source of the spelling errors was the interference of the mother tongue (p. 5).

Cook (1999) indicated that spelling errors are the most common type of mistakes in the written works of English language learners. He identified many problems with English spelling, like problems with idiosyncratic single words, pronunciation-based problems, problems with sound-letter correspondences for vowels and consonants, consonant doubling, <i> and <y> alternation, sound based mistakes, as well as transportation of letters (parag. 3). Hence, the present study comes as an attempt to help students overcome these difficulties with the aim of training students to employ certain MSs in learning vocabulary items and investigating whether this will help to improve their ability to spell them correctly.

1.4. Purpose of the Study

The present study is an attempt to investigate the effectiveness of training female EFL students to employ certain MSs in improving vocabulary learning, particularly their ability to recall the meaning of vocabulary items when needed and their ability to spell them correctly. In

addition, it investigates their attitudes toward these MSs. It is, thus, an attempt to answer the following research questions:

1. Does MS training help to improve EFL learners' ability to recall the meaning of new vocabulary items?

2. What is the effect of MS training on the accuracy of EFL learners' spelling?

3. What are the attitudes of EFL COLT students of KSU toward MSs after being trained to use them?

1.5. Hypotheses of the Study

This study attempts to test the following null hypotheses:

1- There will be no statistically significant differences in the mean scores of the participants who will be trained to use MSs (the experimental group) and those who will not have similar training (the control group) on the vocabulary section of the post-test at $p < 0.05$.

2- There will be no statistically significant differences in the mean scores of the participants in the experimental and control groups on the spelling section of the post-test at $p < 0.05$.

3- Participants in the experimental group will show no positive attitude towards MSs.

1.6. Delimitations of the Study

The present study is limited to female Saudi EFL university students signing up for a reading course offered by COLT, KSU, Riyadh. Another delimitation is related to the size of the sample. It is of a small size as there is only 36 students in the experimental group and 27

students in the control one. Another delimitation is that the study is a quasi-experimental design, rather than being a pure experimental design. Students are assigned to groups by the administration at COLT, not by the researcher. These intact sections are used as either experimental or control group. A fourth delimitation is the short duration of the treatment since it lasts for only 14 weeks.

1.7. Definition of Terms

The following terms that will be frequently used throughout this study are defined as follows:

Associative memory strategies

Techniques such as colors, visual pictures, songs, rhythms or movement that help hook the information together (Richards, 2008, parag. 4)

Determination strategies

Strategies used by learners when discovering the meaning of a new word without consulting others (Schmitt, 1997, p. 205).

Direct learning strategies

Strategies that learners use directly in dealing with a new language and require mental processing of their language (Oxford, 1990, p. 71).

Grouping

It refers to classifying or reclassifying language material into meaningful units, either mentally or in writing, to make the material easier to remember by reducing the number of discrete elements (Oxford, 1990, p. 40).

Memory strategies

They are techniques that help learners store certain information and then retrieve it when needed (Oxford, 1990, p. 38).

Structured reviewing

It refers to reviewing in carefully spaced intervals, at first close together and then more widely spaced apart (Oxford, 1990, p. 42).

The keyword method

It is based on establishing an imaginary link between the new L2 word and a word in the learner's first language that sounds similar (Thompson, 1987, p. 44).

The loci method

It is based on imaging a place like a house or a palace and mentally linking each item to be remembered with a room inside the place (Thompson, 1987, pp. 44, 45).

The peg method

The peg method is based on recalling unrelated items by linking them to some already memorized "pegs" (Thompson, 1987, p. 44).

Chapter 2

Literature Review

2.1. Introduction

The purpose of this section is to review the literature related to language learning strategies in general, and memory strategies in particular. This section is divided into three main parts. The first part explains what language learning strategies (LLSs) and memory strategies (MSs) are. The second part is devoted to the classifications and taxonomies of LLSs and MSs. The third part deals with research studies conducted in these two areas.

First, examining the usefulness of MSs in teaching vocabulary deserves some attention. Thompson (1987) indicated that the importance of mnemonic techniques emerged from the fact that most of language learning depends on memorization and retrieval of information. He commented that "they help individuals learn faster and recall better because they aid the integration of new material into existing cognitive units because they provide retrieval cues … They are adaptable to individual learning differences, and most users report that they enjoy using them" (p. 43).

Heuer (1999) pointed out that in order for the new information to be transformed from short-term memory to long-term memory, it has to be associated with a schema that already exists in memory. This depends on two "variables": the extent to which the new information is related to the schemata and the amount of processing given to the new information (pp. 23, 24). However, he added that if the new information does not "fit" any existing structure or schema in the memory, then we should resort to mnemonic devices to "commit" information to the memory. These devices operate by providing a "simple artificial structure" with which learners

can associate the new information. Hence, the information can be remembered by recalling the mnemonic device which allow you to access the targeted information (p. 26).

Cunningsworth (1995) praised MSs and considered training students to employ them as "a powerful approach" of vocabulary teaching (p. 38).   In the same way, Ghazal (2007) indicated that due to class time limits, it is difficult for teachers to explain many words. Hence, learners should be "equipped" with a number of vocabulary learning strategies to deal with new words on their own and consequently have "access" to a large number of vocabulary (p. 87). Further, Bellezza (1981) pointed out that MSs often enhance the learning and the recall of targeted material (p. 247).

Oxford (1990) defined LLSs as "operations employed by the learner to aid the acquisition, storage, retrieval, and use of information" (p. 8). Later, she extended this definition to include "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situation" (ibid, p. 8). However, Weinstein and Mayer (1986) indicated that LLSs are "behaviors and thoughts" that learners engage in while learning and which influence the learners" "encoding process" (p. 60). According to Chamot (1987), LLSs are "techniques, approaches or deliberate actions that students take in order to facilitate the learning and recall of both linguistic and content area information" (p. 71).

The present study concentrates on MSs as one type of direct learner strategies proposed by Oxford (1990). MSs, sometimes referred to as mnemonic strategies, are defined by Oxford (1990) as techniques that help learners 'store' certain information and then retrieve it when needed (p. 38). Heuer (1999) offered a similar definition for MSs. According to him, they are

"means of organizing or encoding information for the purpose of making it easier to remember" (p. 25). Wang and Thomas (1996) added that MSs help in case of abstract words as they can help learners relate abstract information to something more familiar and make meaningful associations between the pieces of information stored in their memory (p. 104). Besides, Schmitt (1997) defined mnemonics as strategies that involve relating the word with some previously learned knowledge by using some form of imagery or grouping (p. 216). Macaro (2001) pointed out that MSs work by "processing" words or vocabulary items in the "working memory" so that it can be stored and retrieved from the long-term memory. He added that the strategies adopted for retrieving the piece of language will be similar to the way it was stored (p. 118).

2.2 Classifications and Taxonomies

2.2.1. Classifications of Learning Strategies

The 1975 early research depended on "observation" to identify the types of strategies learners tended to employ (Chamot, 2004, p. 15). However, O'Malley and Chamot (1990) described second language learner strategies in light of first language research. They classified learning strategies into four types: cognitive strategies, metacognitive strategies, social strategies, and affective strategies. They described cognitive strategies as "subconscious". According to them, metacognitive strategies are the ones responsible for "the planning", "organizing", and "evaluating" of learning; i.e., they "support" the cognitive strategies (p. 23). They pointed out that social strategies and affective strategies are often considered "a broad grouping" which includes learners' interaction with others and their "control" of feelings towards language learning (p. 23). Examples of these strategies include cooperating with colleagues on a language

task, seeking help from the teacher, discussing your feeling with others and convincing yourself that you are capable of doing a certain language task (p. 23).

Another way of classifying strategies was offered by Rebecca Oxford (1990). She distinguished between "direct strategies" which learners use directly in dealing with a new language, and "indirect strategies" which are used for general management of learning. Direct strategies "directly involve the target language" and require "mental processing" of their language while indirect strategies "do not directly involve the subject matter itself, but are essential to language learning nonetheless" (p. 71). Each of these two broad types of strategies is further divided into three groups.

Direct strategies include memory strategies, cognitive strategies and compensation strategies. Memory strategies are techniques that help learners "store" certain information and then "retrieve" it when needed (Oxford 1990, p. 38) (they will be discussed in detail later). Cognitive strategies are skills in which the target language is manipulated or transformed through repeating, analyzing expressions or summarizing (ibid, p. 43). Oxford outlined four sets of cognitive strategies: practicing, receiving and sending messages, analyzing and reasoning and creating structure for input and output (ibid, p. 44). However, compensation strategies are strategies "needed to overcome any gaps in knowledge of the language" (ibid, p. 71). They are used "to make up" for any deficiency in grammar or vocabulary (ibid, p. 47). Oxford identified ten compensation strategies which fall under two sets: guessing intelligently in listening and reading and overcoming limitations in speaking and writing. Guessing strategies, sometimes described as "inferencing" strategies, include using linguistic and nonlinguistic clues to guess the meaning of new words and expressions. Compensation strategies, on the other hand, help learners overcome limitations in speaking and writing through switching to the mother tongue,

getting help, using mime or gesture, avoiding communication partially or totally, selecting the topic, adjusting or approximating the messages, coining words and using a circumlocution or synonym (ibid, pp. 47, 48).

The second broad type of Oxford's (1990) classification of learner strategies is indirect strategies. These strategies are divided into metacognitive, affective and social strategies. Metacognitive strategies help learners control their "cognition" and "coordinate" their learning through "centering", "arranging", "planning" and "evaluating". They include three strategy groups: centering your learning; arranging and planning your learning; and evaluating your learning (p. 137).

Oxford (1990) defined affective strategies as skills that enable learners to control feelings, motivations and attitudes related to language learning (p. 71). She identified three major sets of affective strategies: lowering your anxiety, encouraging yourself, and taking your emotional temperature. According to Oxford, lowering anxiety can be achieved through using progressive relaxation, deep breathing, or meditation; using music; and using laughter. Encouraging yourself, on the other hand, can be achieved through making positive statements, taking risks wisely and rewarding yourself. However, you can take your emotional temperature through listening to your body, using a checklist, writing a language learning diary, and discussing your feelings with someone else (pp. 140, 141).

According to Oxford (1990), social strategies help learners to "facilitate interaction with others, often in a discourse situation" (p. 71). She outlined three sets of social strategies: asking questions, cooperating with others, and emphasizing with others. Asking questions can be in the

form of asking for clarification, verification or correction. However, cooperative strategies involve cooperating with peers and with proficient users of the new language.

On the other hand, Macaro (2001) pointed out that some researchers doubted the importance of having a clear-cut classification of language strategies. However, the suggested classifications and lists offered by some language learning strategies (LLSs) experts can help researchers compare strategies together and to "investigate" the strategies used by their learners (p. 23). Hence, Macaro suggested a classification based on the concept of a "continuum". This approach can help in a way to overcome the "overlap" that exists between cognitive and metacognitive strategies. Moreover, he pointed out that classifying strategies as cognitive, metacognitive, social or affective prevents the researcher from "conceptualizing" the different representations of these strategies. In Macaro's continuum, we have "subconscious" or "less conscious" and direct strategies at one end, and "conscious" and indirect strategies at the other. Such a continuum is adapted because there is no clear dividing line between what is conscious and what is subconscious. Hence, at one end, we have strategies that have "direct" relation to the learning task and are deployed " in immediate response to teaching instructions or to written or spoken text" (p. 25). At the other end, however, we have those strategies 'to be deployed in preparation for, or subsequent to, a learning task" (p. 25). Learners are here distant from the direct input and have more control over their learning. Macaro described those learners as "consciously pro-active" because they asses and evaluate the direct strategies they use (p. 25). Examples of strategies at the more direct and subconscious end of Macaro's continuum include:

1. Linking words or ideas to visual images as you see them or hear them.

2. Inferring what a phrase means from the immediate surrounding text.

3. Grouping certain lexical items under a mental category.

4. Holding the sound of language just "heard" (the echo) in the working memory in order to begin doing something with it (e.g. making sense of it).

5. Holding the "gist" of what some taped language means in your head as you try to work out details (Macaro, 2001, p. 25).

The following are examples of strategies that might be placed in the middle of the continuum:

1. Deciding if the second language (L2) words look like the first language (L1) words.

2. Repeating words to yourself in class (perhaps when you hear them for the first time).

3. Memorizing a list of vocabulary items by using some sort of system.

4. Answering questions in your head directed at the other people (in the classroom) (Macaro, 2001, p. 25).

At the more indirect end of the continuum, we have strategies like the following:

1. Making mental association when trying to memorize difficult words by writing them on a piece of paper, sticking it on an object and then making an association between the word and the object.

2. Asking the teacher for clarification or to repeat something they did not quite catch.

3. Practicing a dialogue with a friend at home.

4. Listening to a foreign language cassette at home.

5. Calming themselves down when they are finding a task difficult (rather than giving up) (Macaro, 2001, pp. 25, 26).

Figure1. Categories of strategies along a continuum (Macaro, 2001, p. 24)

←————————————————————→	
cognitive	metacognitive/social/affective
subconscious	conscious
direct	indirect
automatized	controlled
difficult to articulate	easier to articulate
non-evaluative	evaluative
primary	support
natural	taught
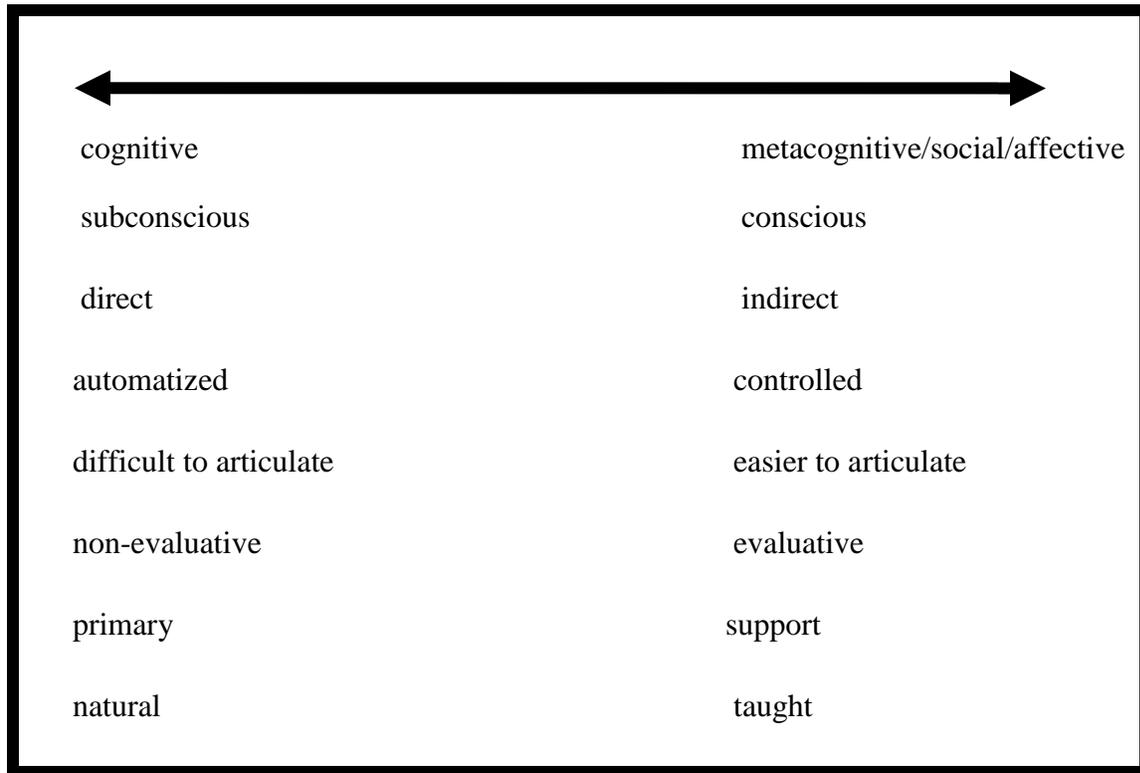
2.2.2. Classifications of Memory Strategies

Oxford (1990) identified four sets of memory strategies: creating mental linkage, applying images and sounds, reviewing well, and employing actions (p. 38). Examples of these strategies are outlined in the following diagram:

Figure 2. Diagram of the memory strategies (Oxford, 1990, p. 39)

A. Creating mental linkages
1. Grouping
2. Associating/ elaborating
3. Placing new words into a context

B. Applying images and sounds
1. Using imagery
2. Semantic mapping
3. Using keywords
4. Representing sounds in memory

Memory Strategies

C. Reviewing well
1. Structured reviewing

D. Employing action
1. Using physical response or sensation
2. Using mechanical techniques
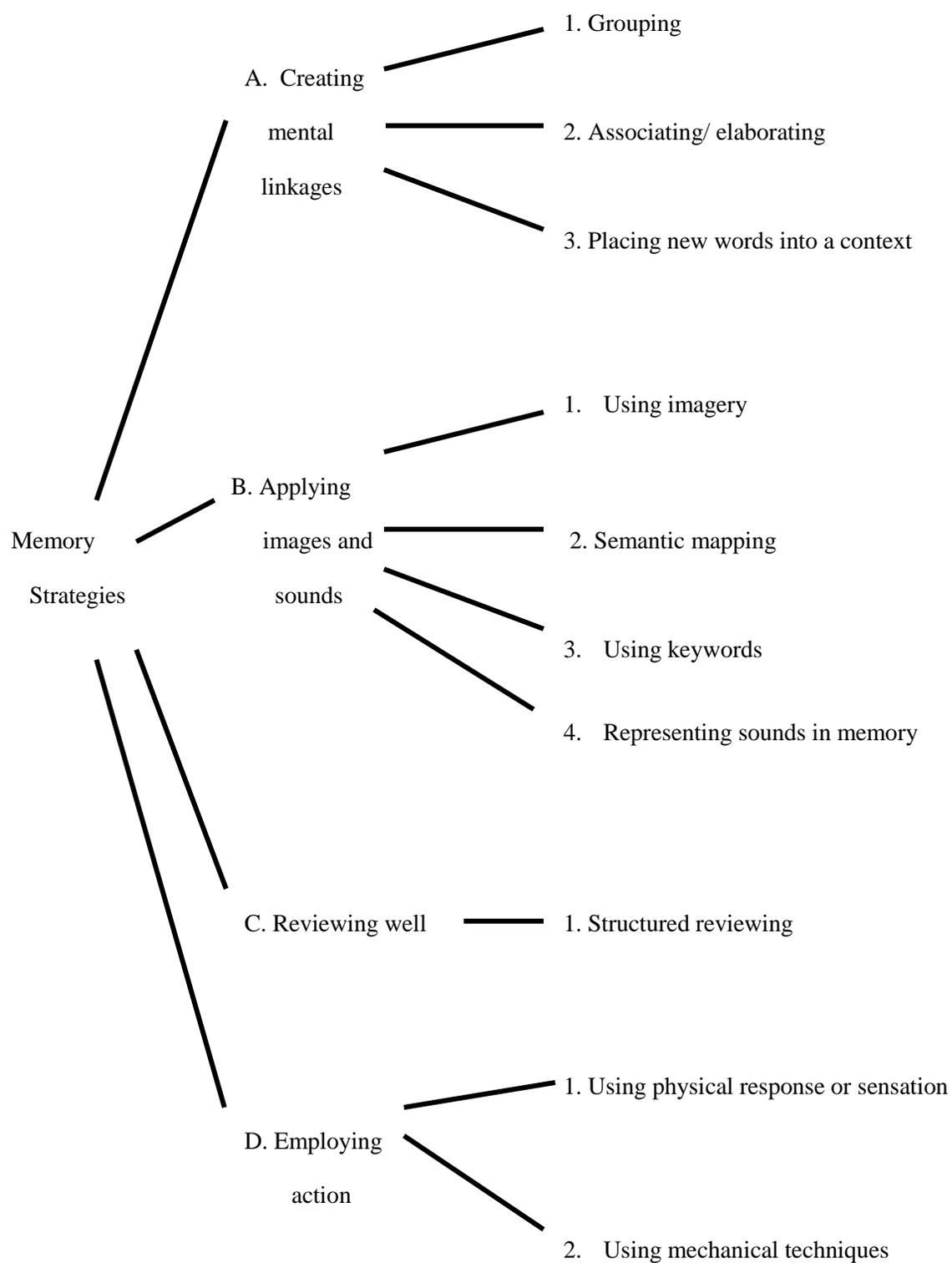
Creating mental linkage can be achieved through the strategies of grouping, association and placing new words into a context. Applying images and sounds is exemplified by using imagery, semantic mapping, using keywords and representing sounds in memory. However, reviewing well can be achieved through the strategy of structured reviewing while employing actions is related to the strategies of using physical response or sensation, and using mechanical techniques (Oxford, 1990, p. 39). Oxford (1990) pointed out that these MSs are related to simple principles like meaningful arrangement of things, making meaningful associations and 'reviewing'. She indicated that this type of strategies help learners overcome the problems they encounter in vocabulary learning (p. 39).

On the other hand, Thompson (1987) identified five sets of mnemonics: linguistic mnemonics, spatial mnemonics, visual mnemonics, the physical response method and verbal elaboration methods. Examples of linguistic mnemonics include: the peg method and the keyword method. The peg method is based on recalling unrelated items by linking them to some already memorized "pegs" (p. 44). These pegs can be rhyming words or digits like the famous rhyme "one is a bun, two is a shoe, three is a tree ... etc." Learners can form a picture of the first word in a targeted list and related it to a "bun." For example, if the first word to be learned is a dog, the learner can form a picture of a dog eating a bun (p. 44). Thompson (1987) recommended that in learning second language vocabulary, learners should avoid using peg words from their first language and they should make the "pairing" entirely in the second language (p. 44).

The keyword method was developed by Atkinson (1975). It is based on establishing an imaginary link between the new L2 word and a word in the learner's first language that sounds similar. For example, the Spanish word *pan*, which means "bread", can be learned by first

making an "acoustic" link with the English word "pan" and then imagining a loaf of bread in a pan (Thompson, 1987, p. 44).

On the other hand, Thompson identified three examples of spatial mnemonics: the loci method, spatial grouping and the finger method. The loci method has been used for thousands of years by Romans to memorize speeches (1987, pp. 44, 45). It is based on imaging a place like a house or a palace and mentally linking each item to be remembered with a room inside the place. To recall the items, one imagines that he/she recites the material or recalls the items as he/she takes a walk from room to room (p. 45). However, spatial grouping refers to "rearranging" vocabulary items to create "patterns" such as a triangle. For example, Thompson cited studies which showed that arranging L1 words in distinctive patterns helped to enhance both immediate and delayed recall of information (Thompson, 1987, p. 45). The third type of spatial mnemonics is the finger method in which learners associate each item to be learned with a finger. Thompson cited studies which showed that this method doubled the digit span of learners after associating numbers with fingers (Thompson, 1987, p. 45).

According to Thompson (1987), visual methods come in two forms: pictures and visualization. He cited studies which indicated that learners who paired L2 vocabulary items with pictures were able to recall better than those who paired them with their L1 equivalents (p. 45). However, in visualization, the vocabulary item or piece of information is "visualized" in the mind instead of using a real picture (Thompson, 1987, p. 45).

As for the physical response method, it refers to physically "enacting" the new information. Thompson pointed out that this method leads to better recall than mere repetition. He mentioned three examples of classroom methods that involve physical activities: The Total

Physical Response method developed by Asher, Rassias' method which uses melodrama in the classroom, and the Silent Way method developed by Gatteno (Thompson, 1987, p. 45).

However, verbal elaboration methods include grouping, the word chain and the narrative chain. According to Thompson, grouping refers to organizing the material in a way that makes it easier to remember. He cited a number of empirical studies which showed that this method resulted in better recall than simply memorizing lists of words (p. 46). The word chain refers to associating each item in a list with the one that precedes or follows it. Delin (1969) (cited in Thompson, 1987) reported that this method is effective with lists of L1 words that need to be remembered in a specific order (pp. 46, 47). As for the narrative chain, sometimes called the story mnemonic, it is based on relating the words in a list together by a story. This method seemed to be highly effective especially with children (p. 47).

Macaro (2001) talked about two clusters of MSs. The first consisted of strategies which are "definite conscious effort" to store language in memory. He summarized them as follows:

1. Practicing words by saying them out loud at home.
2. Learning vocabulary by a system which suits the learner (e.g. look, hide, say, write, check).
3. Making mental associations when trying to memorize difficult words.
4. Turning language into songs, rhymes or mnemonics (p. 119).

The second set of MSs contained strategies used to practice "immediate production" and to store in the long-term memory. They are summarized as follows:

1. Repeating words to oneself when learning them in class.
2. Practicing silently and thinking in head.

3. Making a note of new words (p. 119).

2.3 Previous Studies

Research has demonstrated that there is a relationship between strategy use and success in second and foreign language learning. Interest in learning strategies started as early as the 1970s with research to identify the characteristics of successful language learners. Macaro (2001) pointed out that the earlier studies in the seventies and eighties were mainly attempts to explore the strategies that good language learners adopt. However, later studies have concentrated on specific areas of language skills, memorization and vocabulary (p. 72).

2.3.1. Good Language Learners

Various researches have investigated qualities of good language learners. One of these studies was that of Naiman (1975) (cited in Macaro, 2001). It investigated the strategies used by 34 adult learners reported to be successful learners through recommendations from their university. The study showed that these "highly proficient" learners attributed their success to a number of strategies such as monitoring their performance, treating language as a system, responding positively to learning opportunities and treating language as a means of communication (p. 72).

Moreover, a number of descriptive studies conducted by Michael O'Malley and reported in O'Malley and Chamot (1990) also investigated strategies used by successful ESL and EFL students. The studies showed that successful learners concentrated more on cognitive strategies such as "advance organization", "directed attention", "selective attention", "self management", "self monitoring" and "functional planning" (p. 73). Chamot and Kupper (1989) offered a description of the strategies used by good language learners and showed how they use them "in

combination." They discovered that the evaluation of strategies was the most common feature of successful language learners (p. 13). Besides, Graham (1997) showed that successful language learners think of language learning as "an effortful process." They devoted more energy and time to their language learning than their collogues did. Moreover, they paid more attention to vocabulary and grammar and used various strategies for memorization (p. 151). Tyacke and Mendelsohn's (1986) study also indicated that successful language learners tend to use different learning strategies even if they had a common background (p. 171).

Stern's (1975) study (cited in Oxford and Crookall, 1989) was based on observations which presented a list of characteristics of successful language learners. Among these characteristics are the positive learning strategies that they exhibit. He classified these strategies into four broad types: active planning, academic learning, social learning and affective strategies (p. 405). In the same year, Rubin (1975) also conducted an observational study which showed that good language learners are accurate guessers, have "a strong drive" to communicate, monitor their speech and pay attention to meaning (p. 41).

Reiss (1985) also studied the strategies used by successful university level students using self-report surveys. She concluded that these students used guessing, paid attention to form more than meaning, took advantage of practice opportunities and paid close attention to their speech and the speech of others (p. 511). Similarly, Ramirez (1986) employed a survey to study the strategies used by adolescents studying French in New York State. This study demonstrated that the strategies that helped successful learners to achieve the best results included "asking for clarification or verification," "guessing," and "creating practice opportunities" (p. 131). Hasbun (1988) (cited in Oxford and Crookall, 1989) also investigated strategies used by university foreign language students. He found that good language students reported using more strategies

than poor students (p. 409). More recent studies in the 1990s showed that there is a relationship between strategy use and language proficiency. Anderson (2005) reported a number of studies by Anderson (1991), Dreyer & Oxford (1996), Ehrman & Oxford (1990) and Green & Oxford (1995) which showed that less proficient L2 learners employed less number of strategies (p. 762).

It is obvious that previous research has showed a relationship between strategy use and language achievement. However, paradoxically, Mc Groarty (1987) (cited in Oxford and Crookall, 1989) conducted a survey study which showed that neither social interaction nor individual study strategies showed any relationship with achievement or language proficiency (p. 410). Moreover, the results of two studies by McGroary (1988) (reported in Oxford and Crookall, 1989) indicated that certain strategies were related to high achievement, e.g., "saying answers to oneself", "using English voluntarily in class", "guessing meanings", and "getting the gist before looking up new words." In spite of these positive results, the studies revealed that some social interaction strategies like "starting conversation in order to practice English" were negatively related to achievement (p. 410).

Shehan (1989) (cited in Lessard-Clouston, 1997) pointed out that "there is always the possibility that the 'good' language learning strategies … are also used by bad language learners, but other reasons cause them to be unsuccessful" (parag. 11). In addition, Vann and Abraham (1990) (cited in Lessard-Clouston, 1997) demonstrated that both successful and unsuccessful language learners could use similar language learning strategies. However, they found evidence that unsuccessful learners did not tend to use metacognitive strategies that would enable them to evaluate tasks (parag. 11).

Except for a couple of studies, we notice that most of the work that has been done on learning strategies claimed that there is a strong relationship between strategy use and language proficiency. It is obvious that integrating appropriate learning strategies in language courses may enhance learning and improve the quality of teaching.

2.3.2. Strategy Training and Basic Language Skills

Before talking about memory strategy training, it is important to shed light on the effect of strategy training in general on the improvement of learners' basic language skills. A great deal of research investigated strategies that could improve speaking, listening, reading and writing.

Cohen, Weaven and Li (1997) studied the effect of Strategy-Based Instruction on speaking. Participants were fifty-five university level foreign language learners of French and Norwegian. The study lasted for ten weeks and the participants were asked to report their strategy use on three specific speaking tasks: self-description, story retelling and city description. Results showed that both the experimental and the control groups achieved good results in their oral language proficiency. However, the participants in the experimental group outscored those in the control group on the third task: city description (p. 96).

Cohen and Olsthain (1993) have used a think-aloud procedure through which L2 learners reported on the ways they assess and plan their speech. Fifteen L2 learners were videotaped as they participated in role-play situations with native speakers of English. Results indicated that subjects employed four primary strategies: planning to use specific vocabulary and grammatical structures; thinking in two ways; using a variety of different strategies in searching for language forms; and not paying attention to grammar or pronunciation. This research supported the idea

that learners can be aware of the strategies they use and that this awareness may lead to better language learning (p. 33).

Hosenfield (1984) investigated learning strategies as he compared the strategies used by good readers with those used by less successful ones. He noticed that successful readers reported using a wide range of strategies like skipping inessential words, guessing from context, reading in broad phrases and continuing to read the text even if they did not understand a word or a phrase (p. 231). Sarig (1987) conducted a comparative study in which she identified four broad types of reading strategies: technical aids, e.g. skimming and scanning; clarification and simplification, e.g. recognizing texts by their lexical or syntactic clues; coherence detection, e.g. using prior knowledge of the topic outside the text; and monitoring, e.g. self-evaluating effectiveness of an action (p. 105). Sheorey and Mokhtari (2001) reported their study on the metacognitive reading strategies of L2 learners. They developed a new research instrument called Survey of Reading Strategies (SORS) which was designed to measure the metacognitive reading strategies of L2 readers engaged in reading academic materials. The purpose of the study was to examine the differences in reading strategies between native speakers and non-native speakers of English. Results showed that the ESL learners reported using more strategies than the native speakers of English (p. 431). However, a number of studies have examined whether learners tended to transfer L1 reading strategies when they read a text in L2. For example, a study by Carrell (1989) showed that learners rarely used a matched set of strategies for L1 and L2 (p. 121). Parry (1993) supported this view. She indicated that we do not have a clear idea about how reading skills are transferred from L1 and L2 (p. 148).

Macaro (2001) pointed out that listening strategies should be investigated in tasks that did not involve any interactions. The reason is that it is difficult to elicit listening strategies in

situations where the listener is involved in speaking (p. 99). Henner-Stanchina (1982) trained university-level ESL students to use certain techniques for listening comprehension. Students were asked to listen to oral texts first for global comprehension and then for specific details. They were asked to transcribe the text and to make corrections, as they understood repeating playbacks. The study showed that the strategies of guessing and self-correction helped improve listening comprehension (p. 53).

Another study that investigated listening strategies was conducted by O' Malley et al. (1989). Subjects were ESL students in high schools in the United States of America whose native language was Spanish. They were divided into two groups: effective listeners and ineffective listeners. The research showed that there were significant differences in strategy use between the two groups, as the effective listeners reported using more strategies like world knowledge, personal experiences, self-questioning and inferencing (p. 418).

Bacon (1992) also conducted a study that investigated listening strategies. He interviewed fifty university students of Spanish to examine the effect of strategy use, level of comprehension, confidence and affective response on three independent variables: the type of passage, the order in which learners listen to the passage and the gender of the subjects. She concluded that narrative passages were better comprehended than technical passages; that females used more metacognitive strategies than males did and; that females are more consistent in their use of cognitive strategies. However, there was no significant difference in the level of comprehension between males and females (p. 160).

Moreover, Vandergrift (2002) applied a metacognitive strategy awareness project on 420 children in 17 different classes in Canada. All classes were engaged in three tasks: listening for

what to feed animals, listening to descriptions of five families and matching the descriptions with pictures and listening to answering machine messages and matching activities on the checklist with the name of the person who suggested it. The teachers gave the classes reflective exercises after each task. The results showed that the learners were highly aware of their strategies for listening and they were able to identify the strategies that they used in the tasks. Besides, the study indicated that the learners used the metacognitive strategies of planning, monitoring and evaluating while they were listening (p. 555).

A number of studies investigated the effect of strategy training on speaking and listening simultaneously. Russo and Stewner-Manzanares (1985) (cited in Oxford and Crookall, 1989) conducted a study on Hispanic and Asian soldiers enrolled in an ESL program. They were trained to use certain learning strategies in speaking and listening activities like selective attention, guessing, questioning for clarification, self-evaluation, and functional planning. The results showed ethnic differences in strategy use as Hispanics benefited more from speaking and listening strategy training whereas Asians resisted these strategies. The study also showed that strategy training helped to improve speaking more than listening (p. 412).

Chamot and Kupper (1989) conducted a study on high school students. Teachers were observed as they trained students to use a number of listening comprehension strategies (e.g. selective attention, inferencing) and speaking strategies (e.g. self evaluation, cooperation). Results showed that success of LLS training depended on teacher's interest, development of appropriate instructional techniques, and ability to motivate students to try new strategies (p. 13).

As for writing strategies, Tyacke and Mendelsohn (1986) reported an observational study conducted at the University of Toronto by Amber (1985). He observed a writing class and found

out that the students who achieved the best results were those who employed clarification, monitoring and self-management strategies (p. 174). Furthermore, Cohen and Robbins (1976) have studied errors of Mandarin speakers in ESL writing. The participants were asked to locate errors and identify their LLS- related source and give a reason for them. The study showed the difficulty of collecting learning strategy data and revealed that subjects' reasons for errors differed from what their teachers expected (p. 45).

Wenden (1987) (cited in Oxford and Crookall, 1989) investigated writing strategies used by successful ESL learners. The results showed that these strategies included goal setting, clarification and error avoidance (p. 407). Cohen and Cavalcanti (1988) (cited in Oxford and Crookall, 1989), have conducted a study in which they used interviews, a student checklist and a survey to determine the strategies students used to deal with teachers' feedback on a writing task. Results indicated that the subjects made mental notes of the feedback, rather than recording it or using it to revise their writing (p. 406).

A more recent study by He (2002) focused on strategies used by L2 writers. It used as its participants 38 Taiwanese college-level writers. They were divided into two groups: a mastery orientation group with "intrinsic motivation to improve writing" and a performance orientation group with an "extrinsic motivation to be better than other writers." The aim of this division was to examine the effect of learners' goal orientations on strategy use. The results showed that participants in both groups reported using five types of strategies: planning, mentoring/evaluation, revising and compensating strategies. The mastery group reported using more monitoring/evaluation, revising and compensating strategies. The results also showed that the writers in the mastery group were able to produce better essays than those produced by the writers in the performance orientation group (p. 198). In the same year, You and Joe (2002)

conducted a study that investigated the strategies that college-level writers used in solving problems of incoherence in their essays. The subjects of the study were interviewed and reported three reasons for the incoherence in their essays: failing to apply writing strategies, having a limited number of strategies and being given a limited time for the writing task. The results showed that these writers lacked metacognitive strategies of planning, monitoring and evaluating (p. 599).

Al Murshed (2010) investigated the communication strategies that female Saudi students tend to use in speaking and writing simultaneously. The subjects were 40 advanced and intermediate students majoring in English as a foreign language at King Saud university. To elicit the use of communication strategies, the subjects were given four tasks: interview and picture description at the oral level and composition writing and translation at the written level. The results showed that most of the subjects resort to communication strategies when they face difficulties in communicating the meaning in the target language. Further, it has been found that the subjects tended to use more communication strategies in interviews and in translation and that they employed more communication strategies in written performance than in oral tasks (p. iii).

A close examination of the studies conducted in the area of learning strategies revealed that they could help improve and sharpen the basic four language skills of English as a second language (ESL) and English as a foreign language (EFL) learners. Therefore, teachers are advised to employ them in language skill classes to improve the quality of their teaching and achieve a better learning outcome.

2.3.3. Memory Strategy Training

The previous section showed that strategy training proved to be effective in case of basic language skills. Similarly, strategy training in general and memory strategy training in particular appeared to be helpful in increasing the efficiency of vocabulary learning.

It seems that early research on memory strategies (MSs) concentrated on the keyword method and the peg method. Studies by Atkinson (1975), Atkinson and Raugh (1975), Raugh, Schupbach and Atkinson (1977) and Pressley (1977) (reported in Thompson, 1987) showed that the keyword method helped in improving both "immediate" as well as "delayed" recall of vocabulary items in different foreign languages (p. 44). Moreover, Pressley, Levin and Miller (1981) (cited in Thompson, 1987) indicated that the learners who employed the keyword method to memorize vocabulary items in both first and second language achieved better results than when they used other methods like finding roots, learning synonyms or using a meaningful context (p. 44). He also reported studies that found that this method appears to be more effective when learners generate the keywords by themselves (p. 44). In addition, Bellezza (1981) reported studies that showed that this procedure is helpful for both grade-school students as well as college students (p. 251).

However, the keyword method was criticized by Carter (1998) as it was not helpful in the case of abstract words that could not be represented easily by objects and it was also difficult to find "picturable associations" between words with no "propositional content." Moreover, this method was considered "time-consuming" and it could lead to spelling and pronunciation interference (pp. 194, 195).

As for the peg method, Thompson (1987) reported a study by Paivio and Desrochers (1979) which showed that when English-speaking students studied French vocabulary using French peg words, they managed to remember more words than when they studied the same number of words using rote memorization (p. 44). He also cited a study by Desrochers (1980) which found that the peg method was also effective when used to teach grammatical categories. It led to a better result in teaching French gender to English speaking learners than a traditional method (p. 44).

Beside the keyword method and the peg method, early research on MSs has also investigated a number of different other mnemonics. For example, the loci method has been claimed to be effective in helping learners recall vocabulary items. Thompson (1987) cited a study by Bower (1973) that showed that learners who used this method to memorize lists of L2 vocabulary items were able to remember three times as many words as those who learned the list by rote (p. 45). He also cited a study by Groninger (1971) who stated that subjects who used the loci method to study words in their native language were able to recall twice as many words as those who used rote learning (p. 45). Moreover, Thompson (1987) indicated that the strategies of "grouping" and "organizing material" made it easier to store and retrieve vocabulary in the long-term memory (p. 46). He reported several studies which indicated that recall was improved when learners organized lists of L1 words in categories (Thompson, 1987, p. 45). As for vocabulary learning in L2, O' Malley et al. (1983) (cited in Thompson, 1987) reported that grouping was among the less frequently used strategies by high school ESL students (p. 46). Chamot (1984) (cited in Thompson, 1987) indicated that grouping was used more by high proficiency ESL learners than by beginners (p. 46).

Research on MSs in the 1980s concentrated more on associative MSs. Nyikos (1987) (cited in Oxford and Crookall, 1989) conducted a study on university students using three treatment conditions and a comparison condition. She investigated the use of associative MSs for learning German noun clusters. Subjects in the three treatment conditions were given written instructions and examples for using three different types of MSs, one for each condition. The first group was called "the color- only" group which worked on associating certain colors with grammatical gender of each noun cluster to be learned. The second group was called "the picture-only group" and they were supposed to associate each item with a drawing; the third group, called the "color-plus-picture" group, used a combination strategy involving a color-coded drawing. Students in the control condition received no LLS instruction. The results showed gender differences as men were better than women in the color-plus-picture condition, whereas women outperformed men in the picture-only and the color-only conditions. However, the control condition did not outscore any of the treatment conditions (pp. 412, 413). Moreover, Cohen and Aphek (1980) trained students of Hebrew to retain vocabulary items by making paired mnemonic associations and concluded that the subjects who made associations remembered vocabulary more effectively than those who did not (p. 221).

Later, Brown and Perry (1991) examined whether language learners retain vocabulary better if they were trained to make semantic associations (e.g. linking words to other similar words); or keyword associations (e.g. linking words to visual images). The results showed that the semantic associations were more helpful than the keyword associations. However, the learners who employed these two MSs retained vocabulary better than students who had not received any MS training (p. 655).

Studies in the 1990s and 2000s have concentrated on the relationship between MS training and success in learning vocabulary. A study by Chamot, Barnhardt, El Dinary and Robbins (1996) also involved MS training for learning vocabulary. The subjects did self-report which showed that they found these strategies useful for better vocabulary retaining (p. 175). Sanaoui (1995) (cited in Ghazal, 2007) examined the relationship between using vocabulary strategies and success in learning and retaining vocabulary. The study indicated that L2 vocabulary learners were of two types: those who adopted a structured approach to their learning and those who did not. The learners in the first group did not only rely on what was mentioned in their learning course. but they also tried to create opportunities for learning vocabulary through listening to radio, watching movies, reading and using self-study. They systematically recorded vocabulary notebook and lists. Furthermore, they reviewed what they learned several times a week. On the other hand, the learners who followed the unstructured approach depended totally on course material and they rarely made vocabulary lists, and even when they did, they did not review them and easily lost them. The results of this study showed that the learners who followed the structured approach were more successful in recalling vocabulary items than those who did not (p. 87).

A study by Kato (1996) (cited in Oxford, 2003) also showed that MSs helped to improve L2 proficiency in a course designed to allow learners to memorize large numbers of Kanji characters (p. 14). Further, Krinsky and Krinsky (1994) performed two experimental studies investigating the effects of immediate and long-term serial list learning. The results indicated that the peg-word mnemonic facilitated immediate but not long-term memory (p. 217).

Moreover, Oxford and Ehrman (1995) conducted a study which showed that MSs proved to be effective in improving subjects' proficiency in courses designed for native English

speaking learners of foreign languages (p. 359). A study by Lengksnawati in (2004) investigated the effect of cultural background on strategy use. The results showed that Australian learners of Indonesian as a foreign language used less MSs than Australian learners of English as a foreign language. This showed that learners from different cultural backgrounds use different types of learning strategies (parag. 1).

Hamzah, Kafipour and Abdullah (2009) conducted a study to assess undergraduate EFL learners' vocabulary learning strategies and their relations to the learners' vocabulary size. They developed a questionnaire that covered five types of vocabulary learning strategies: determination, memory, social, cognitive and metacognitive. They have investigated 41 strategies among which only nine showed a significant contribution to vocabulary size. These strategies were: taking notes, studying new words many times, using English language media, talking with native speakers, studying the words with classmates, using physical action when learning, using bilingual dictionary, and verbal repetition. It was found that determination strategies were the most frequently used by the subjects. The findings also showed that the use of vocabulary learning strategies could increase students' vocabulary size and improve vocabulary learning in general (p. 22).

King-Sears, Mercer and Sindelar (1992) indicated that 'the use of mnemonics to learn and remember information holds promise for students with learning and memory problems' (p. 22). They designed a study in which the keyword mnemonics were used with the students with mild handicaps who were supposed to learn and remember definitions of unfamiliar science terms. The researchers compared systematic teaching with the keyword method and results were in favor of the keyword method (ibid, p. 22). Further, Tabatabaei and Hejazi (2011), in a recent study, investigated the key-word method. They examined the effectiveness of the keyword

method on improving the vocabulary of Iranian EFL university students. The researchers conducted a vocabulary pre-test, a vocabulary immediate post-test and a vocabulary delayed post-test. The results showed that females achieved better results than males. Analysis of the attitudinal questionnaire carried out in this study indicated that most of the subjects had positive attitudes towards the use of the keyword as a vocabulary learning strategy. The results also indicated that students' motivation to use the keyword method was aroused and most of them were eager to find suitable associations for vocabulary items (p. 198).

A study by Borkowski and Peck (1986) demonstrated that there is a relationship between giftedness and the use of mnemonic devices. They found that the gifted students were more likely to generate these devices "spontaneously" and could benefit a lot from MS training (p. 182). Similarly, Wang and Thomas (1996) reported studies by Scruggs and Mastropieri, 1988; Scruggs, et al., 1985; and Scruggs, et al., 1986, which showed that gifted students were more likely to transfer the mnemonic devices they were trained to use to other types of material (p. 114).

Al-Nammoura (2011) conducted an experimental study that investigated the effect of vocabulary learning strategies (VLS) on the vocabulary knowledge of Palestinian EFL learners. The participants were divided into two groups: an experimental group (32 students) and a control group (28) students. The study concentrated on five VLS, namely the keyword method, guessing from context, memorization, using dictionaries in class and asking the teacher and classmate for meaning. The results showed that the students of the experimental group who were trained to use VLS outperformed students of the control group who did not receive any VLS instruction (p. 71).

Another study which investigated vocabulary learning strategies was done by

AbdulHaleem (2011). The study focused on the effect of applying paper-based Data-driven learning (DDL) approach on teaching academic vocabulary and in improving the students' ability to derive word meaning from context. The sample of the study consisted of 68 students from the English department at KSU, Saudi Arabia. This experimental study involved an experimental group which received DDL-based treatment and a control group which was taught traditionally without any DDL instruction. DDL materials were based on concordance lines in the Key Words in Context (KWIC) format from selected, free corpora. Results of the study showed that the DDL approach to teaching vocabulary was effective in increasing students' knowledge of academic words taken from the academic word list (AWL) and in improving their ability to use them. It was also found that the use of DDL approach improved students' ability to identify the correct meaning of new vocabulary items from context (p. i).

However, MSs do not always have a positive effect on foreign language proficiency. Purpura's study in 1997 claimed that the use of MSs by test takers had a significant negative effect on their performance in grammar and vocabulary tests (p. 289).

2.3.4. Conclusion

Going through the literature, empirical evidence might show that strategy use in general, and MS training in particular, can result in a better vocabulary learning and retention among foreign and second language learners. MSs have proved to be effective tools in language education as researchers recommended that they should be used instead of traditional teaching. Hence, teachers should be encouraged to employ MS training in ESL and EFL classrooms and MS instruction should be integrated in textbooks and lesson plans. However, it seems that MS

training did not receive much attention in research in Saudi Arabia. The present study attempts to fill the gap. It focused on investigating using the MSs to help improve vocabulary retention and spelling of students, an area that has not received much attention in Saudi Arabia.

Chapter Three

Research Methodology and Procedure

3.1 Introduction

This chapter focuses on the selection of participants, the design of the study, the materials and procedure of MS training, and then continues to describe the instruments used including the pre- and post-tests and the students' attitude questionnaire.

3.2 Population of the Study

The population of the study were Saudi female EFL university students studying at the College of Languages and Translation (COLT), King Saud University (KSU), Riyadh, S.A. The study took place during the second semester of the academic year 1432-1433 A.H. (Spring 2012). The students were in their third semester enrolled in a reading course (521-Najd) offered by COLT. The subjects were all native speakers of Arabic. They all have passed twelve skill courses offered in the first and second levels. This means that the students, prior to their participation in this study, had successfully completed two courses in each language skill and element, which included reading, writing, speaking, listening, vocabulary and grammar at the same college.

3.3 Sample of the Study

The participants were students of two intact sections of Reading 3 (521-Najd) course. With the exception of four students, all students were having the course for the first time. The four students were repeaters; hence they were excluded from the study in order not to affect its results. However, since they were in the experimental group, they answered the questionnaire because the researcher wanted to know their attitudes towards MSs which they have been trained

to use for the first time. The study began with 70 students. However, as some students dropped the course for different reasons, the number was reduced to 63 students. Accordingly, the sample of this study consisted of 63 female students in two, intact sections randomly selected from four sections of the third level at COLT, KSU. Of the two participating groups, one was selected as the control group (n=27) while the other was chosen to be the experimental group (n=36). The control group received traditional instruction that depended on the textbook only (*Mosaic1*) by Wegmann and Knezevic (2008), whereas the experimental group received a combination of the same traditional instruction provided to the control group and MS training. Their median age ranged between 18 and 20; they all had no less than six years of EFL instruction prior to their admission to the English program at COLT. The demographic information obtained from the students' attitude questionnaire showing the general descriptions of the students' variables in the experimental group is reported in Table (1).

Table (1)

The Participants' Demographic Information

Variable	Category	No. of Students	Percent
	3	29	72.5
Level	4	8	20
	5	3	7.5
No. of Years They	6 years	6	15.4
Studied English	7 years	8	20.5
	8 years	8	20.5

	More than 8 years	17	43.6
Kind of School	Government	16	40
	Private	24	60
Taking English Courses	Yes	22	57.9
	No	16	42.1
Place of the English Courses	Inside Saudi Arabia	21	95.5
	Outside Saudi Arabia	1	4.5
Length of the Course	One month	8	36.4
	3 months	9	40.9
	6 months	3	13.6
	More than 6 months	2	9.1

3.4 Research Design

This study used one of the Quasi-experimental research designs known as the nonequivalent control-group design represented as follows:

O1 X O2   O1   O3= pre-tests

--------------------   O2   O4= post-tests

 O3 C O4   X = MS treatment
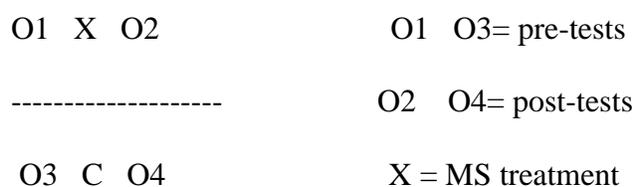
Figure 3. The pretest-posttest nonequivalent-groups design (Best & Kahn, 1986, p. 129).

Compbell and Stanley (1963) indicated that this design requires a pre-test and a post-test for an experimental and a control groups. The groups are not created through random assignment but rather the researcher deals with two intact classes (p. 34).

For the above mentioned design, two groups of level-three English Translation students at COLT were selected to be the control and experimental groups. The experimental group, in addition to the traditional instruction given to the control group, received the treatment, MS training, while the control group was taught in the traditional way of teaching, using the textbook only. The experiment lasted for fourteen weeks from 5-3-1433H (28-1-2012) to 14-6-1433H (5-5-2012). Throughout the semester, the students of the experimental group received seven training sessions. After finishing each chapter of their textbook (*Mosaic1*), the participants of the experimental group were trained to apply three MSs (grouping, placing new words into a context and structured reviewing) on the word list at the end of the chapter.

3.5 Instruments of the Study

The instruments used in this study included pre- and post-tests and a students' attitude questionnaire. They are discussed in details in the following section.

3.5.1 Pre- and Post-tests

To answer the first two research questions and test the first two null hypotheses, a pre-test and a post-test were administrated to both the control and experimental groups. The pre-test was given during the first week of the experiment before starting the MS training to make sure that the two groups were equal with reference to their proficiency in English. Twelve weeks later, the same test was given again as a post-test to measure the effects of the treatment by examining the differences between the participants' scores on the pre-and post-tests. Song (1998) suggested giving the same test during pre-and post-testing to avoid the problem of equating different forms

of pre-and post-tests. He indicated that the twelve-week interval between giving the two tests is considered long enough to avoid any short-memory effect. Moreover, students would not be given the correct answers after the pre-test so that even if they managed to remember a question, they would not know whether their answer on the pre-test was correct or not (p. 43).

The pre- and post-tests were constructed by the researcher and covered the first seven chapters of the textbook (*Mosaic1*) by Wegmann and Knezevic (2008) (see Appendix A). The test consisted of three sections. The first section was concerned with vocabulary and contained 25 multiple choice items. Each item was assigned one point. The students were asked to choose one of four vocabulary items given to complete a sentence with a missing word. This section aimed at examining students' vocabulary knowledge. The second section tested both vocabulary and spelling. It consisted of 10 fill in the gap items. The students were asked to write down a vocabulary item that correctly completed the given sentence. One point was assigned for each gap. The last part was a spelling test. Twenty vocabulary items were used in contexts with some missing letters and the students were asked to fill in the missing letters. One point was assigned for each missing letter.

3.5.1.1 Test Validity

To achieve face validity, the pre-/post-test was shown to four experienced teachers at COLT specializing in TESOL (one is an English native speaker). All of them indicated that the test was suitable for the students' level and suggested some modifications like setting a time limit for each question in the test and changing the order of some alternatives. Their suggestions were considered by the researcher.

As for concurrent validity, the researcher compared results of the pre-test with a vocabulary and spelling test that combines items collected by the researcher from different

standardized tests (see Appendix B). The first part of this standardized test was downloaded from the website www.examenglish.com/PET/pet_vocab.htm which contains different PET vocabulary tests. The second part contained items from an IELTS vocabulary test retrieved from the website www.examenglish.com/vocabulary/academic_word_list_groupl.htm The third part is a spelling test offered by Interlink Language Centers retrieved from http://eslus.com/LESSONS/SPELL/SPELL.HTM. The last part was a spelling test retrieved from the website Daily Writing Tips which offered different tests prepared by a board of specialists www.dailywritingtips.com/spelling-test-1/.

The standardized sub-tests and the pre-test were administrated during the first week of the experiment with the aim of measuring the students' knowledge of vocabulary and spelling. The scores obtained from both sets of tests were correlated using Pearson product-moment correlation statistic; the results showed that there was a relatively strong degree of correlation between the two sets of tests. The Pearson correlation coefficients were (r = 0.654) for vocabulary, (r = 0.497) for spelling and (r = 0.698) for the total score. These correlations were statistically significant at (0.01). Hence, the concurrent validity of the pre- and post-test might be claimed.

3.5.1.2 Test Reliability

The pre- and post-test was divided into two dimensions: vocabulary (35 items) and spelling (30) items. Each item was corrected according to a binary scale (0,1) as each correct answer was given one point and each incorrect answer was given a zero.

The reliability coefficient as measured by Cronbach's Alpha statistic of the 35 items of the first dimension (vocabulary) was (0.680) which is a moderate reliability coefficient. As for spelling, which is considered the second dimension of the test, the reliability coefficient

represented by Cronbach's Alpha was (0.873) which was also a moderate reliability coefficient. However, the reliability coefficient of Cronbach's Alpha of the whole test was (0.891) which was an acceptable reliability coefficient. Hence, the test might be considered reliable and can be used to test the achievement of COLT students in vocabulary and spelling.

3.5.1.3 Internal Consistency of the Test Sections

The internal consistency of the test was calculated by examining Pearson product-moment correlation coefficients between the students' scores on the two dimensions of the test (vocabulary and spelling) and the total score of the test after correcting for part-whole overlap.

Table (2)

Pearson Product Moment Correlation Coefficients for the Participants' Scores on the Two Dimensions of the Test and the Test's Total

Dimension	Pearson's Correlation Coefficient Value
1st Dimension: Vocabulary	0.919**
2nd Dimension: Spelling	0.861**

Note**.** ** $p < .01$

Table (2) showed that the correlation between the students' scores on the vocabulary section and the total score of the test was (0.919) and it was (0.861) for the spelling part. These correlations were strong, positive and statistically significant at the (0.01) level. This indicated that the test had high internal consistency.

3.5.2 Questionnaire

A five-point Likert-type scale survey questionnaire (see Appendix C) was administrated to the students of the experimental group at the end of the experiment. It contained (34) items which aimed at exploring students' attitudes towards MSs. Through these items, the students were asked about their opinion concerning the use of MSs in general, and specific MSs that they have been trained to use in particular. It also investigated to what degree these MSs helped to raise their motivation and reduce their anxiety.

On the five-point Likert scale, the responses of the participants indicated their degree of agreement with each statement. The students' attitude questionnaire was divided into four dimensions. The first contained nine items and addressed students' attitudes towards using MSs in general, while the second contained ten items and concentrated on students' attitudes towards specific MSs. The third dimension contained seven items and explored the relationship between MSs and the students' motivation, whereas the fourth consisted of eight items and aimed to investigate the relationship between MSs and anxiety.

Weijters and Baumgartner (2012) indicated that, in order for the questionnaire to be valid and reliable, it has to have reverse items. Reverse items are defined by Weijters and Baumgartner (2012) as items that have meaning opposite to "relevant standard of comparison" (p. 2). Tourangeous, Rips and Rasinski (2000) (cited in Weijters and Baumgartner, 2012) claimed that reverse items help to improve the validity of the questionnaire by "broadening the belief sample on which responses are based, thus ensuring more coverage of the domain content" (p. 1). Hence, the students' attitude questionnaire used in this study contained seven reverse items distributed among its four dimensions.

3.5.2.1 Questionnaire Validity

To obtain face validity, the questionnaire has been shown to four professors, two specializing in applied linguistics and two in translation. Their suggestions were considered by the researcher. The questionnaire was translated into Arabic, the native language of the participants, to avoid any ambiguity in the wording of the items.

3.5.2.2 Questionnaire Reliability

Cronbach's Alpha statistic was used to ensure the questionnaire's reliability and to test how closely related a set of items are as a group. Cronbach's Alpha coefficient may range from zero (0) to one (1), but reliability coefficients that are higher than (0.70) are usually preferred. The reliability coefficient of the first subscale about students' attitudes towards MSs in general was (0.656), whereas the reliability coefficient of the second subscale about students' attitudes towards specific MSs was (0.735). The thirds subscale about the relationship between MSs and motivation had a reliability coefficient of (0.677), and alpha value of the fourth subscale about the relationship between MSs and anxiety was (0.612). Generally, the Cronbach's Alpha of the whole questionnaire was (0.893) which may show that the questionnaire was of an acceptable level of reliability.

On the other hand, to assess the internal consistency of the questionnaire, correlation coefficients between questionnaire items were calculated using Pearson product-moment correlation statistic. Table (3) shows the correlation coefficients between each subscale item and the total of the items belonging to the same subscale.

Table (3)

Pearson Product Moment Correlation Coefficients Between Each Item of the Questionnaire and Its Subscale

Statement	Pearson's correlation coefficient value
Subscale 1: Students Attitudes Towards MSs	
Statement No. 1	**0.383
Statement No. 2	**0.628
Statement No. 3	**0.592
Statement No. 4	**0.685
Statement No. 5	0.174
Statement No. 6	**0.606
Statement No. 7	**0.654
Statement No. 8	**0.532
Statement No. 9	0.174
Subscale 2: Students Attitudes Towards Specific MSs	
Statement No. 10	0.156
Statement No. 11	**0.589
Statement No. 12	**0.678
Statement No. 13	**0.653
Statement No. 14	**0.673
Statement No. 15	**0.669
Statement No. 16	**0.653
Statement No. 17	*0.400
Statement No. 18	0.317
Statement No. 19	*0.384

Subscale 3: MSs and Motivation	
Statement No. 20	**0.781
Statement No. 21	**0.717
Statement No. 22	0.078
Statement No. 23	0.264
Statement No. 24	*0.400
Statement No. 25	**0.571
Statement No. 26	0.174
Subscale 4: MSs and Anxiety	
Statement No. 27	**0.695
Statement No. 28	**0.784
Statement No. 29	**0.571
Statement No. 30	**0.564
Statement No. 31	**0.813
Statement No. 32	**0.779
Statement No. 33	**0.706
Statement No. 34	**0.642

Note. * $p < .05$, ** $p < .01$

Table (3) shows that all the items in the first subscale were significant at (0.01) level except items No. 5 and 9 which were not significant at (0.05) level. In the second subscale, it might be noticed that items 11, 12, 13, 14, 15 and 16 were significant at (0.01) level whereas items 17 and 19 were significant at (0.05) level. However, items 10 and 18 were not significant at (0.05) level. As for the third subscale, items 20, 21and 25 were all significant at (0.01) level and item 24 was significant at (0.05) level. However, items 22 ,23 and 26 were not significant at (0.05) level. In the fourth subscale, it seems that all the items were significant at (0.01) level.

3.6 Materials and Training Procedure

The present study lasted for fourteen weeks from the 28th of January, 2012 to the 5th of May, 2012. The control group (n=27) received traditional in-class instruction whereas the experimental group (n=36) was exposed to a combination of traditional in-class instruction and seven MS training sessions.

The participants in the experiment were asked to employ MSs on the vocabulary items that occur in the passages during their reading of the textbook *'Mosaic 1'* by Wegmann and Knezevic (2008). This book aimed at improving students' reading comprehension as well as vocabulary knowledge. The teacher covered only seven required chapters from the book, namely "New Challenges," "Teamwork and Competition," "Relationships," "Health and Leisure," "High Tech, Low Tech," "Money Matters" and "Remarkable Individuals." Hence, the students first learned the new vocabulary items in context as they read the assigned passages. The reason for choosing the targeted vocabulary items from this textbook is that it focuses on vocabulary from the Academic Word List which contains the words that students are most likely to encounter in their academic life. After learning these words in context, the students needed to reinforce these vocabulary items, therefore, the research concentrated on training the students to use certain MSs to investigate whether or not MSs can help them recall and correctly spell the vocabulary items that they have learned.

The strategy training procedure used in this study consisted of three of the MSs suggested by Oxford (1990): 'grouping', 'placing new words in to a context' and 'structured reviewing'. Prior to training, the teacher discussed learning strategies and MSs with the experimental group. She defined and explained the importance of these strategies in general, and concentrated on the assigned three MSs. She then explained clearly the training procedure of the three strategies by

modeling them, showing the students the three worksheets that they would use for the training and explaining what they were supposed to do with each one (see Appendices D, E & F). She mentioned that they would use them to work on the vocabulary lists in their textbooks.

After finishing each chapter, the teacher assigned one class for MS training, meaning that the subjects received seven training sessions. In each training session, the students were given three worksheets to work on MSs. They were asked to look at the list of words at the ending page of the chapter and try first to group them in the grouping worksheet (see Appendix D) into meaningful units like their part of speech, topic, similarity, opposition and so on. Then, they were asked to label each group. They were given fifteen minutes to do so. Second, after grouping the words, and by using a different worksheet (see Appendix E), students were asked to place the new vocabulary items into a context. They were asked to write a short paragraph using at least 12 vocabulary items from the list. They were given fifteen minutes to complete this task. Third, the students were asked to review these vocabulary items in a structured way, first after ten minutes, then after one hour, then after one day, then after one week, and finally after two weeks. This means that they revised each word five times. They were asked to revise the meaning and spelling of each word using the structured reviewing timetable that was provided by the teacher at the training sessions. This timetable contained a list of the new vocabulary items that the students came across while reading and they were required to put a check mark next to each item after reviewing it (see Appendix F). To save time, the students were asked to review the words only two times in class and complete reviewing the words structurally at home. The researcher collected the students' timetables every two weeks to make sure that this strategy has been practiced at home.

Chapter Four

Statistical Analysis and Discussion of Results

4.1.   Introduction

The present study was conducted to investigate the effectiveness of training female EFL students to employ certain MSs in improving vocabulary learning, particularly their ability to recall the meaning of vocabulary items when needed and to spell them correctly. In addition, it explored their attitudes toward these MSs. The research focused mainly on trying to answer the following research questions:

1. Does MS training help to improve EFL learners' ability to recall the meaning of newly learned vocabulary items?

2. What is/are the effect(s) of MS training on the accuracy of EFL learners' spelling?

3.   What are the attitudes of EFL students at COLT, KSU, toward MSs after being trained to use them?

To answer these questions, two intact classes of COLT level three students underwent this quasi-experiment and completed a pre-test, a post-test and an attitude questionnaire. Their responses were statistically analyzed. The results of the data analyses are discussed in detail in this chapter.

4.2.   Answering Research Questions

This section deals with the findings related to the three research questions raised in this study.

4.2.1 Answering the First Question and Testing the First Null Hypothesis

To answer the first question of this study (*Does MS training help to improve EFL learners' ability to recall the meaning of newly learned w vocabulary items?*), paired (dependent samples) and independent-sample *t*-tests were used to measure the statistically significant differences, if any, between the following:

(1) the means of the participants in the experimental and control groups on the vocabulary section of the pre-test,

(2) the means of the participants in the control group on the vocabulary section of the pre- and post-tests,

(3) the means of the participants in the experimental group on the vocabulary section of the pre- and post-tests,

and (4) the means of the participants in the experimental and control groups on the vocabulary section of the post-test.

The aim of using this statistic was to find out whether or not the observed differences between the two groups were statistically significant. Comparing the means of the two groups on the pre-test was crucial to determine their initial equivalence with reference to their English language proficiency in general, and knowledge of vocabulary in particular before starting the experiment. Hence, the researcher used the independent-sample *t*-test to examine the equality of the two groups. Results of the vocabulary section of the pre-test showed that there was no statistically significant difference between the two groups.

The analysis in Table (4) revealed that while the mean score of the experimental group on the vocabulary section of the pre-test was (11.11) with a standard deviation (SD) of (5.01), the mean score of the control group on the same test was (10.55) with an SD of (4.41). The *t*-value

was (0.458) and the significance level (2-tailed) was (0.649) which is larger than (0.05). This indicated that there was no statistically significant difference between the two groups with regards to their pre-test results. Hence, we can conclude that the vocabulary knowledge of both groups was equivalent before carrying out the experiment.

Table (4)

Independent-Sample t-Test for the Difference Between the Means of the Experimental and Control Groups on the Vocabulary Section of the Pre-test

Group	N	Mean	SD	*t*	*df*	*p* <
Experimental Group	36	11.11	5.01	0.458	61	0.649
Control Group	27	10.55	4.41			

After ensuring the initial equivalence of the two groups, a paired-sample *t*-test was used to calculate whether or not the observed difference between the means of the control group on their pre-test and post-test results of the vocabulary section was statistically significant. This analysis was carried out in order to determine whether there was an improvement in the control group's ability to recall vocabulary items after the experiment. The results in Table (5) revealed that the control group's mean score on the pre-test was (10.55) with an SD of (4.41) whereas their mean score on the post-test was (15.27) with an SD of (6.08). By comparing these two means, it is clear that the control group's ability to recall vocabulary items had shown some improvement during the period of the experiment. The *t*-value was (4.34) which was statistically significant at $p < 0.000$ (2-tailed). Therefore, it is possible to state that there was a statistically significant difference between the mean scores of the control group on the pre- and the post-tests. Table (5) illustrates this improvement.

Table (5)

Paired-Sample t-Test for the Difference Between the Means of the Participants in the Control Group on the Vocabulary Section of the Pre- and Post-tests

Test type	N	Mean	SD	*t*	*df*	*p* <
Pre-test	27	10.55	4.41	4.304	26	0.000
Post- test	27	15.27	6.08			

A similar procedure was followed in dealing with the pre-test and post-test results of the experimental group. The analysis in Table (6) showed that the experimental group's pre-test mean score was (11.11) with an SD of (5.01) while their post-test mean score was (24.38) with an SD of (6.82). By comparing these scores, it is clear that the experimental group's vocabulary knowledge has shown progress during the period of the experiment. The *t*-value was (13.89) which was statistically significant at $p < 0.000$ (2-tailed). Therefore, we can say that the experimental group has shown a statistically significant improvement in recalling vocabulary items. This improvement is illustrated in Table (6).

Table (6)

Paired-Sample t-Test for the Difference Between the Means of the Participants in the Experimental Group on the Vocabulary Section of the Pre- and Post-tests

Test type	N	Mean	SD	*t*	*df*	*p* <
Pre-test	36	11.11	5.01	13.89	35	0.000
Post-test	36	24.38	6.82			

In order to compare the achievement of both groups after the experiment, an independent-samples *t*-test was used to compare the mean scores of the control group and the experimental

group on the vocabulary section of their post-test. Table (7) shows that the experimental group's mean score was (24.38) with an SD of (6.82) while the control group was (15.27) with an SD of (6.08), and the *t*-value was (5.490) which was statistically significant at $p < 0.000$ (2-tailed). The difference between the two groups' mean scores indicated that the experimental group's improvement in recalling vocabulary items was greater than the control group. The *t*-test analysis showed a statistically significant difference. Hence, it is possible to state that there was a statistically significant difference between the two groups in favor of the experimental group. Table (7) clearly shows this difference.

Table (7)

Independent-Sample t-Test for the Difference Between the Means of the Experimental and Control Groups on the Vocabulary Section of the Post-test

Group	N	Mean	SD	*t*	*df*	*p <*
Experimental Group	36	24.38	6.82	5.490	61	0.000
Control Group	27	15.27	6.08			

Based on the *t*-value shown in Table (7), the first null hypothesis of the study ought to be rejected and the alternative one should be accepted. The first null hypothesis of the study may be restated here as: there will be no statistically significant differences in the mean scores of the participants who will be trained to use MSs (the experimental group) and those who will not have similar training (the control group) on the vocabulary section of the post-test at $p < 0.05$. It is obvious that there is a statistically significant difference in the mean scores of the two groups on the vocabulary section of the post-test in favor of the participants in the experimental group.

The participants who were trained to use MSs outperformed those who were merely taught according to the traditional method.

The participants in both groups, the control and the experimental, have showed statistically significant gains when their performance on the vocabulary section of the pre-test was compared to their performance on the same section of the post-test. Tables (5) and (6) demonstrated that the ability to recall the meaning of newly learned vocabulary items was not limited to the participants of the experimental group. The participants of the control group showed that ability as well. Table (7) showed that the participants of the experimental group outperformed those in the control group on the vocabulary section of the post-test. However, it was necessary to statistically investigate which group, the control or the experimental, had a larger magnitude of gain when their scores on the vocabulary section of the pre-test was compared to their scores on the same section of the post-test. Cohen's *d*, Glass's Δ, and Hedges' g statistics were calculated to investigate the effect size of the gain, as displayed in Table (8).

Table (8)

Effect Size Indices of the Magnitude of the Gain of the Control and Experimental Groups on the Vocabulary Section of the Pre- and Post-tests

Statistic	Control group	Experimental group
Cohen's *d*	0.889	2.217
Glass's Δ	1.070	2.648
Hedges' *g*	0.876	2.193

Considering the statistical indices given in Table (8), the effect size demonstrated that although the ability to recall the meaning of newly learned vocabulary items had improved in both groups, the improvement magnitude of the participants of the experimental group was statistically larger

than that of the participants of the control group. Hence, it may be concluded that integrating MSs training with other methods of teaching vocabulary may lead to more improvement in students' ability to recall the meaning of newly learned vocabulary items than if the traditional methods of instruction are used alone.

4.2.2 Answering the Second Question and Testing the Second Null Hypothesis

To answer the second question of this study (*What is the effect of MS training on the accuracy of EFL learners' spelling?*) paired (dependent samples) and independent-sample *t*-tests were used to measure the statistically significant differences, if any, between the following:

(1) the means of the participants in the experimental and control groups on the spelling section of the pre-test,

(2) the means of the participants in the control group on the spelling section of the pre- and post-tests,

(3) the means of the participants in the experimental group on the spelling section of the pre- and post-tests,

and (4) the means of the participants in the experimental and control groups on the spelling section of the post-test.

This was done to find out whether the differences between the two groups were statistically significant. Comparing the results of the pre-test of the two groups was important to determine their initial equivalence before starting the experiment. The researcher used the independent sample *t*-test to examine the equality of the two groups. Results of the spelling section of the pre-test showed that there was no significant difference between the two groups.

The analysis in Table (9) revealed that while the mean score of the experimental group on the spelling section of the pre-test was (11.22) with a standard deviation (SD) of (4.00), the mean score of the control group on the same test was (12.86) with an SD of (3.91). The t-value was (1.61) which was not statistically significant at $p < 0.05$. This indicated that there was no statistically significant difference between the two groups with regards to their pre-test results. Hence, we can conclude that the ability to spell words of both groups was equivalent before carrying out the experiment.

Table (9)

Independent-Sample t-Test for the Difference Between the Means of the Experimental and Control Groups on the Spelling Section of the Pre-test

Group	N	Mean	SD	t	df	$p <$
Experimental Group	36	11.22	4.00	1.61	61	0.113
Control Group	27	12.86	3.91			

After ensuring the initial equivalence of the two groups, a paired-sample t-test was used to measure the statistical significant difference between the means of the control group on the pre- and post-test. This analysis was carried out in order to determine whether there was an improvement in the control group's ability to spell vocabulary items. The results in Table (9) revealed that the control group started with a mean score of (12.86) with an SD of (3.91) on the pre-test and ended with a mean score of (13.16) with an SD of (4.14) on the post-test. By comparing these scores, it is clear that the control group's ability to spell vocabulary items had shown some improvement during the period of the experiment. The t-value was (2.01) which

was statistically significant at $p < 0.05$. Therefore, it is possible to state that there was a statistically significant difference between the pre-test and the post-test results of the control group on the spelling section. Table (10) illustrates this improvement.

Table (10)

Paired-Sample t-Test for the Difference Between the Means of the Participants in the Control Group on the Spelling Section of the Pre- and Post-tests

Test type	N	Mean	SD	*t*	*df*	*p <*
Pre-test	27	12.86	3.91	2.01	26	0.05
Post- test	27	13.16	4.14			

A similar procedure was used in analyzing the pre-test and post-test results of the experimental group. The analysis in Table (11) showed that the experimental group's pre-test mean score was (11.22) with an SD of (4.00) while their post-test mean score was (20.72) with an SD of (5.91). By comparing these scores, it is clear that the experimental group's ability to spell words has shown some progress during the period of the experiment. The *t*-value was (11.587) which was statistically significant at $p < 0.05$. Therefore, we can say that the experimental group has shown a statistically significant improvement in spelling which might be ascribed to the treatment provided. The means, standard deviations, and t-value of the experimental group on the spelling section of the pre- and post-test are depicted in Table (11).

Table (11)

Paired-Sample t-Test for the Difference Between the Means of the Participants in the Experimental Group on the Spelling Section of the Pre- and Post-tests

Test type	N	Mean	SD	t	df	$p <$
Pre-test	36	11.22	4.00	11.587	35	0.000
Post-test	36	20.72	5.91			

In order to compare the achievement of both groups after the experiment, an independent samples *t*-test was used. The aim was to compare the mean scores of the experimental and control groups on the spelling section of the post-test. Table (12) shows that the experimental group's mean score was (20.72) with an SD of (5.91) while the mean score of the control group was (13.16) with an SD of (4.14), and the *t*-value was (5.958) which was statistically significant at $p < 0.05$. The difference between the two groups' mean scores indicated that the experimental group outperformed the control group on the spelling section. Hence, it is possible to conclude that there was a statistically significant difference between the two groups in favor of the experimental group. Table (12) clearly shows this difference.

Table (12)

Independent-Sample t-Test for the Difference Between the Means of the Experimental and Control Groups on the Spelling Section of the Post-test

Group	N	Mean	SD	t	df	$p <$
Experimental Group	36	20.72	5.91	5.958	61	0.000
Control Group	27	13.16	4.14			

The second null hypothesis of the study stated that there will be no statistically significant differences in the mean scores of the participants in the experimental and control groups on the spelling section of the post-test at $p < 0.05$. Based on the t-value that appeared in Table (12), the second null hypothesis of the study ought to be rejected; the alternative hypothesis should be accepted. It is possible to conclude that there is a statistically significant difference between the mean scores of the two groups on the spelling section of the post-test in favor of the participants in the experimental group. The participants who were trained to use MSs outperformed those who were merely taught according to the traditional method.

As was the case with the performance of the participants of both the control and experimental groups on the vocabulary section, the participants in both of the groups showed statistically significant improvement in their spelling ability. Tables (10) and (11) demonstrated that the ability to spell newly learned vocabulary has improved in both groups. Table (12) showed that although the spelling ability of the participants in both groups had improved, the participants in the experimental group outperformed the control group's participants on the spelling section of the post-test. To measure the magnitude of gain, Cohen's d, Glass's Δ, and Hedges' g statistics were calculated. The effect size indices are given in Table (13).

Table (13)

Effect Size Indices of the Magnitude of the Gain of the Control and Experimental Groups on the Spelling Section of the Pre- and Post-tests

Statistic	Control group	Experimental group
Cohen's d	0.07450376	1.88260785
Glass's Δ	0.07672634	2.37500000
Hedges' g	0.07342399	1.86236476

The statistical indices, given in Table (13), show that the gain magnitude of the experimental group was larger than that of the control group. Again, although the ability of both groups, the control and the experimental, in spelling newly learned vocabulary improved, the improvement of the participants of the experimental group was statistically larger than that of the control group's participants. This echoes the previously stated remark concerning the usefulness of integrating MS training in vocabulary instruction.

4.2.3 Answering the Third Question and Testing the Third Null Hypothesis

To answer the third research question (*What are the attitudes of EFL students at the College of Languages and Translation, KSU, toward MSs after being trained to use them?*), the researcher used a five-point Likert scale questionnaire (Appendix C). The 34-item questionnaire was distributed to the experimental group only at the end of the experiment to investigate their attitudes towards MSs. The questionnaire was divided into four dimensions:

1. Students attitudes towards using MSs in general

2. Students' attitudes towards specific MSs

3. The relationship between MSs and motivation

4. The relationship between MSs and anxiety.

Each questionnaire item consisted of a five-point rating scale and calculated as follows: 5= Strongly agree, 4= Agree, 3= Neutral, 2= Disagree and 1= Strongly disagree. Students' responses to each item have been calculated and converted into percentages. To make it easier to analyze the means of the scores, the lowest coded number (1) was subtracted from the highest one (5) in this way 5-1=4. The result range (4) was divided by the number of categories (5). The result was 0.80 which represented the length of each category in the scale. The levels of the average mean score and their interpretation are presented in Table (14).

Table (14)

Levels of the Average Mean Scores and Their Interpretation

Levels of the average mean scores	Interpretation
Strongly agree	4.21 to 5.00
Agree	3.41 to 4.20
Neutral	2.61 to 3.40
Disagree	1.81 to 2.60
Strongly disagree	1- 1.80

The first dimension of the questionnaire consisted of nine items with the aim to explore students' attitudes towards using MSs in general. Statements No. 5 and No. 9 were reverse items. Table (15) displays the number of responses for each item, the percentage and descriptive statistics (the mean scores out of five and standard deviations).

Table (15)

Frequency Distribution of the Study Sample According to Their Responses to the Questionnaire's Items (The First Dimension)

Statements	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean	SD	Rank
	No	%	No	%	No	%	No	%	No	%			
1.MSs make learning vocabulary easier.	22	55	18	45	-	-	-	-	-	-	4.55	0.50	1
2.MSs have positively changed my attitude	11	27.5	28	70	1	2.5	-	-	-	-	4.25	0.49	4

											Mean	SD	Rank
towards learning vocabulary.													
3. Upon using MSs, I have become more self-dependant while learning new vocabulary.	12	30	16	40	10	25	2	5	-	-	3.95	0.87	6
4. MSs can be time-saving.	17	42.5	17	42.5	5	12.5	1	25	-	-	4.25	0.77	4
5. There are no differences between the use of MSs and other methods in learning vocabulary.	2	5	-	-	9	22.5	24	60	5	12.5	2.25	0.87	7
6. MSs helped me recognize the meaning of new words when I hear them in conversations.	19	47.5	17	42.5	1	2.5	2	5	1	2.5	4.27	0.93	3
7. MSs helped me understand reading texts in a better way.	19	47.5	17	42.5	3	7.5	-	-	1	2.5	4.33	0.82	2
8.MSs improved my	17	42.5	14	35	9	22.5	-	-	-	-	4.20	0.79	5

writing skills.													
9. I still face difficulties in understanding written texts even after using MSs.	2	5	-	-	9	22.5	24	60	5	12.5	2.25	0.87	7
Mean Average						4.257 (**revere items were excluded**)							

The table above shows that the first statement, *MSs make learning vocabulary easier*, had (4.55) as its mean score and ranked first on the first dimension. This shows that the participants in this study strongly agreed with this statement.

Both Statement No. 2, *MSs have positively changed my attitude towards learning vocabulary*, and Statement No. 4, *MSs can be time-saving*, ranked fourth as their mean score was (4.25). This indicates that students strongly agreed with these statements.

The third statement, *Upon using MSs, I have become more self-dependant while learning new vocabulary*, had the sixth highest mean score (3.95) indicating that the subjects agreed with this statement.

However, Statement No. 5, *There are no differences between the use of MSs and other methods in learning vocabulary*, is a reverse item as it has the opposite meaning of the first statement. The mean score of this statement is (2.25) and ranked seventh on the subscale meaning that students disagreed with this statement.

The sixth statement, *MSs helped me recognize the meaning of new words when I hear them in conversations*, scored as the third highest mean score (4.27) which showed students' favorable attitude towards this statement.

As for Statement No. 7, *MSs helped me understand reading texts in a better way*, the mean score was (4.33) and thus the statement ranked second which revealed that students strongly agreed with it.

Statement No. 8 aimed at finding out if MSs helped the participants to improve their writing skills. This statement ranked fifth with the mean score (4.20) which means that there was an agreement with this statement. However, Statement No. 9, *I still face difficulties in understanding written texts even after using MSs*, was a reverse item to Statement No. 7. It ranked seventh with the mean score (2.25) which means that the students disagreed with it.

By excluding the means of the two reverse items, Table (13) shows the mean average of the whole dimension which was (4.257). This showed that the participants' attitude towards using MSs was positive. However, in order to calculate the percentage of the participants who have positive attitude towards MSs in general, the number of statements which showed strong agreement were added and divided by the number of statement of the subscale, multiplied by 100. The same thing was done with the statements that were responded to with "agree" and "neutral". As a result, if we exclude reverse items, we notice that 85% of the subjects strongly agreed that MSs in general were helpful to their learning since statements No. 1, 2, 4, 6, 7, and 8 had means that ranged from (4.21) to (5.00) and 14% of the subjects showed agreement because only one statement had a mean equals to (3.95). This clearly indicated that the participants' attitude towards MSs in general was positive as they strongly agreed with most of the statements of this dimension.

The second dimension of the questionnaire consisted of ten items meant to investigate the participants' attitudes towards specific MSs. Statement No. 18 was a reverse item in this

dimension.   The means and standard deviations of the participants' responses are tabulated in Table (16).

Table (16)

Frequency Distribution of the Study Sample According to Their Responses to the Questionnaire's items (The Second Dimension)

Statements	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean	SD	Rank
	No	%	No	%	No	%	No	%	No	%			
10. I enjoy grouping words.	5	12.5	18	45	8	20	7	17.5	2	5	3.42	1.08	7
11. I memorize words in an easier way when I group them.	7	17.5	16	40	7	17.5	7	17.5	3	7.5	3.42	1.19	7
12. Grouping words helps me spell them correctly.	9	22.5	18	45	8	20	5	12.5	-	-	3.77	0.94	5
13. Putting new words in context makes it easier for me to recall their meanings.	16	40	21	52.5	2	5	-	-	1	2.5	4.27	0.78	1
14. Putting new words in context makes	14	35	18	45	6	15	2	5	-	-	4.10	0.84	3

it easier for me to spell them.													
15. I revise the new words regularly on time using the structured reviewing timetable.	8	20	22	55	6	15	3	7.5	1	2.5	3.82	0.93	4
16. I find it easier to recall the meaning of vocabulary items when I revise them regularly.	16	40	21	52.5	2	5	-	-	1	2.5	4.27	0.78	1
17. I find it easier to spell words when I revise them regularly.	13	32.5	25	62.5	1	2.5	1	2.5	-	-	4.25	0.63	2
18. I still face difficulties in recalling the meaning of new words even after putting them in meaningful sentences.	1	2.5	13	32.5	11	27.5	11	27.5	4	10	2.90	1.05	8

| 19. It is enough to revise the new words five time to be able to memorize them and recall their meaning. | 6 | 15 | 19 | 47.5 | 12 | 30 | 3 | 7.5 | - | - | 3.70 | 0.82 | 6 |

| Mean Average | 3.891 (**revere items were excluded**) |

Table (16) showed that both Statement No. 10, *I enjoy grouping words*, and Statement No. 11, *I memorize words in an easier way when I group them*, ranked seventh in this dimension because both had a mean score of (3.42) and thus we come to know that the respondents agreed with these two statements. Statement No. 12 ranked the fifth in this dimension with the mean of (3.77) which showed that the participants believed that grouping words helped them to spell words correctly.

Both Statement No. 13, *Putting new words in context makes it easier for me to recall their meanings*, and Statement No. 16, *I find it easier to recall the meaning of vocabulary items when I revise them regularly*, had the highest mean in the subscale (4.27) which indicated that the students strongly agreed with them.

Similarly, Statement No. 14, *Putting new words in context makes it easier for me to spell them*, had the third highest rank in the subscale with the mean score (4.10) which showed the positive attitude of the students towards this statement.

Statement No. 15, *I revise the new words regularly on time using the structured reviewing timetable*, ranked fourth in the subscale with the mean score (3.82). Hence, one can say that the students agreed with this statement.

Statement No. 17, *I find it easier to spell words when I revise them regularly*, ranked second in the subscale since it had a mean score of (4.25) which clearly indicated that the participants strongly agreed with this statement.

However, Statement No. 18, *I still face difficulties in recalling the meaning of new words even after putting them in meaningful sentences*, is a reverse item in this subscale. It has the opposite meaning of Statement No. 13. It had the lowest mean in the subscale (2.90). Hence, we may conclude that students had a neutral attitude towards this statement.

Statement No. 19, *It is enough to revise the new words five time to be able to memorize them and recall their meaning,* ranked sixth in the subscale with the mean score (3.70) which showed that the subjects agreed on this statement.

Table (16) shows that the average mean for this subscale, with the exclusion of reverse items, was (3.891) indicating that the students had a positive attitude towards the specific MSs that they have been trained to use, as the majority of them agreed with most of the statements. However, to figure out the percentage of participants showing positive attitudes towards the specific MSs that they have been trained to use, a similar procedure of calculation used with the previous dimension was applied here. Results revealed that if we exclude the reverse items, 33% of the subjects showed strong agreement because Statements No. 13, 16 and 17 had mean scores between (4.21) and (5.00). Yet, 67% of the participants showed agreement to the rest of the

statements. As a result, it would be concluded that the participants exhibited positive attitudes towards the specific MSs they have been trained to employ.

The third dimension consisted of seven items set to investigate to what extent MSs could help to raise students' motivation. Items No. 25 and No. 26 were reverse items in this dimension. Table (17) shows the number of responses for each item, the percentage, the mean score and the standard deviation.

Table (17)

Frequency Distribution of the Study Sample According to Their Responses to the Questionnaire's Items (The Third Dimension)

Statements	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean	SD	Rank
	No	%	No	%	No	%	No	%	No	%			
20. Grouping words encourages me to learn more English vocabulary.	10	25	14	35	11	27.5	3	7.5	2	5	3.68	1.09	5
21. Putting new words in context makes me want to learn more English vocabulary.	12	30	16	40	7	17.5	4	10	1	2.5	3.85	1.05	4
22. In the future, I would like to revise	19	47.5	9	22.5	10	25	2	5	-	-	4.13	0.96	3

Statement										Mean	SD	Rank
all the new words regularly using a timetable.												
23. I would like to apply MSs when learning vocabulary in other courses.	23	57.5	15	37.5	2	5	-	-	-	-	4.53	0.59	1
24. I feel that MSs will help me in my future career as a translator.	13	32.5	25	62.5	1	2.5	1	2.5	-	-	4.25	0.63	2
25. MSs are boring and not useful.	-	-	2	5	10	25	19	4.7	9	22.5	2.13	0.82	7
26. Using a timetable to revise words is not a helpful way to learn vocabulary.	2	5	-	-	9	22.5	24	60	5	12.5	2.25	0.87	6
Mean Average									4.088 (**revere items were excluded**)			

Table (17) shows that Statement No. 20, *Grouping words encourages me to learn more English vocabulary*, ranked fifth in this subscale with the mean score (3.68) which indicated the subjects agreed with this statement.

Statement No. 21, *Putting new words in context makes me want to learn more English vocabulary*, ranked fourth in the subscale with the mean score (3.85) which showed that the subjects had a positive attitude towards this statement.

Statement No. 22, *In the future, I would like to revise all the new words regularly using a timetable*, ranked third in this subscale with the mean score (4.13) and hence we may conclude that the subjects agreed with this statement.

Statement No. 23, *I would like to apply MSs when learning vocabulary in other courses*, had the highest mean score in this subscale (4.53) which indicated the participants' strong agreement with this statement.

Statement No. 24, *I feel that MSs will help me in my future career as a translator*, ranked second in the subscale with the mean score (4.25) which clearly showed the positive attitude of the participants towards this statement.

Statement No. 25, *MSs are boring and not useful*, is a reverse item. It ranked seventh in this subscale and it had the lowest mean score (2.13) which showed the participants' disagreement with this statement. Statement No. 26, *Using a timetable to revise words is not a helpful way to learn vocabulary*, is also a reverse item. It ranked sixth in this subscale with the mean score (2.25) which indicated that the subjects had a negative attitude towards this statement.

After excluding the means of the reverse items, the whole subscale had a mean score of (4.088,) as shown in Table (17). It seems that the students in the experimental group agreed with all the statements of the third subscale except for the last two reverse items. This indicated that the participants think that MSs could help them in raising their motivation in learning vocabulary.

As for the participants who showed positive, neutral or negative attitudes, the same procedure of calculation applied on the previous subscales was applied to this subscale. Results showed that if we exclude the reverse items, 40% of the participants strongly agreed with the statements because statements No. 23 and 24 had mean scores between (4.21) and (5.00). Yet, 60% of the participants agreed with the rest of the statements.

The last dimension consisted of eight statements concerned with the relationship between MSs and anxiety. Statements No. 28 and No. 29 were reverse items. The means and standard deviations of the participants' responses are tabulated in Table (18).

Table (18)

Frequency Distribution of the Study Sample According to Their Responses to the Questionnaire's Items (The Fourth Dimension)

Statements	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean	SD	Rank
	No	%	No	%	No	%	No	%	No	%			
27. I became more confident in my ability to spell words After using MSs.	5	12.5	9	22.5	14	35	9	22.5	3	7.5	3.10	1.12	6
28. I get nervous and confused when I cannot recall words even after using	3	7.5	13	32.5	5	12.5	14	35	5	12.5	2.88	1.22	7

MSs.

Statement											Mean	SD	Rank
29. Sometimes I feel that I know the word but cannot remember its meaning even after using MSs.	-	-	2	5	10	25	19	47.5	9	22.5	2.13	0.82	8
30. MSs make me less afraid of making spelling mistakes.	6	15	20	50	10	25	4	10	-	-	3.70	0.85	3
31.My confidence in my ability to recall words has developed after using MSs.	5	12.5	23	57.5	9	22.5	3	7.5	-	-	3.75	0.77	2
32. MSs make writing less embarrassing for me.	3	7.5	20	50	12	30	5	12.5	-	-	3.52	0.81	4
33.Upon using MSs, I became more confident in my ability to use the new words when I speak English.	8	20	23	57.5	7	17.5	2	5	-	-	3.93	0.76	1

34. Courses of reading, including exams became less embarrassing for me after using MSs.	7	17.5	8	20	15	37.5	9	22.5	1	2.5	3.28	1.08	5

Mean Average	3.547 (**revere items were excluded**)

Table (18) above shows that Statement No. 27, *I became more confident in my ability to spell words after using MSs*, ranked sixth in the subscale with the mean score (3.10) which indicated the participants' neutral attitude towards this statement.

Statement No. 28, *I get nervous and confused when I cannot recall words even after using MSs*, ranked seventh in this subscale with the mean score (2.88) which showed that the students were neutral in their judgment on this statement. It is a reverse item as it has the opposite meaning of statement No. 31.

Statement No. 29, *Sometimes I feel that I know the word but cannot remember its meaning even after using MSs*, is also a reverse item as it has the opposite meaning of statement No. 33. It ranked eighth in this subscale with the mean score (2.13) which showed that the students disagreed with it.

Statement No. 30, *MSs make me less afraid of making spelling mistakes*, ranked third in this subscale with the mean score (3.70) which showed that the subjects agreed on this statement.

Statement No. 31, *My confidence in my ability to recall words has developed after using MSs*, had the second highest mean score (3.75) which clearly showed strong agreement of the participants with this statement.

Statement No. 32, *MSs make writing less embarrassing for me*, ranked fourth in this subscale with the mean score (3.52) which showed that the participants had a positive attitude towards it.

Statement No. 33, *Upon using MSs, I became more confident in my ability to use the new words when I speak English*, had the highest mean score (3.93) which showed that the participants agreed with it.

Statement No. 34, *Courses of reading, including exams, became less embarrassing for me after using MSs*, ranked fifth in this subscale with the mean score (3.28) which showed that participants' attitude was neutral towards this statement.

Table (18) displays the mean average of the fourth subscale after the mean scores of reverse items were excluded. It was (3.547) which showed that the participants agreed that MSs can reduce their anxiety of recalling and spelling vocabulary items. However, to decide on the percentages of the respondents showing positive, neutral and negative attitudes, the same procedure of calculation used in the previous subscales was utilized here. The results revealed that 67% of the subjects agreed that MSs can reduce their anxiety of learning vocabulary because Statements No. 30, 31, 32 and 33 had mean scores between (4.21) and (5.00). Nevertheless, 33% of the subjects showed neutral attitudes since Statements No. 27and 34 had mean scores (3.10) and (3.28) respectively. Hence, except for the reverse items which were excluded from this calculation, it seems that the participants agreed with most of the statements of this subscale.

This clearly showed that MSs may help to reduce the participants' anxiety of learning vocabulary.

Based on the above-mentioned analyses, the third null hypothesis of the study should be rejected; the alternative one ought to be accepted. The null hypothesis stated that participants in the experimental group will show no positive attitude towards MSs. However, it is clear that the participants in the experimental group had a positive attitude towards the use of MSs as an integrated method of vocabulary teaching.

Chapter Five

Summary, Implications and Suggestions for Further Studies

5.1. Summary

This study aimed at investigating whether the use of MSs was effective in improving students' ability to recall and spell newly learned vocabulary items. The researcher used three types of MSs (grouping, placing new words in to a context and structured reviewing) with level three COLT students at KSU. In addition, the study contained a questionnaire that explored students' attitudes towards MSs.

The researcher used a quasi-experimental design known as the nonequivalent-control-group design to carry out the experiment. The participating subjects were of two groups: a control group and an experimental group. The control group (n=27) received traditional instruction that depended on the textbook only ((*Mosaic1*) by Wegmann and Knezevic (2008)) without any MS training; the experimental group (n=36) received a combination of traditional instruction and MS training. The experiment lasted for fourteen weeks through which the participants received seven MS training sessions.

To answer the study's questions and test its null hypotheses, quantitative procedures were used to collect data. These include a pre-test and a post-test set to examine the students' ability to recall and spell vocabulary items before and after the experiment. Besides, an attitude questionnaire was administrated at the end of the experiment to explore the students' attitudes towards MSs.

A number of *t*-test statistical procedures and descriptive analyses were used to analyze the results of the study. The results of the vocabulary and spelling sections of the pre-test

showed that there was no statistically significant difference between the two groups at the beginning of the study and they were comparable with reference to their ability to correctly spell English words and knowledge of English vocabulary. However, the analyses of the students' scores on the post-test showed that the experimental group outperformed the control group on the two sections of the post-test, namely vocabulary knowledge and spelling.

The results based on the frequency distribution of the participants' responses to the attitude questionnaire showed that most of the participants responded positively when asked about their attitudes towards MSs in general, and towards the specific MSs that they have been trained to use. Similarly, the participants' responses to items related to the relationship between MSs and motivation and between MSs and anxiety showed that most of the participants' realized the positive effect that MSs had on raising their motivation and reducing their anxiety of learning vocabulary.

5.2. Implications of the Study

The administration and results of the present study imply a number of observations. The implications are related to both the use of MSs and the teaching of vocabulary in general.

Accurate recalling and correct spelling of a large number of vocabulary items might be a very frustrating task for language learners. Teachers need to help their students overcome their frustration by training them to use certain techniques that facilitate their learning and raise their self-confidence. MSs are one of the techniques that vocabulary teachers need to consider. For example, organizing and grouping words in small units make them appear easier to learn as students can clearly figure out the similarities and differences between them. Similarly, revising words structurally during regular periods help students to learn them spontaneously without

exerting much effort. In addition, putting new words in meaningful sentences may help learners to remember them for a longer period of time and may help in preventing easy forgetting.

Obviously, MSs offer an effective way to stimulate learners to learn more independently and not to rely totally on the teacher as the only source of knowledge. They make students more motivated and more eager to learn and memorize more new words. Hence, MSs can work effectively if used to study technical terms and long glossaries that COLT students come across when studying the different fields of translation. They can be an effective revision tool and definitely save class time.

English language specialists may find the findings of this study useful. Likewise, ESL/EFL teachers could draw their students' attentions to MSs. This might be done as follows: the teacher could begin by explaining these MSs to their students and then train them to appropriately use them. Textbook writers may include MSs in textbooks developed to teach vocabulary. This may take different forms. Various MSs may be included in each chapter. They might also supplement the textbooks' exercises and activities.

5.3. Suggestions for Further Research

1. The present study is conducted on level three female students of COLT at KSU, Riyadh with a sample of 63 students. Other studies can be done with a larger sample in different levels.

2. The subjects of this study were specialized in translation (from English into Arabic and vice versa). Other studies can be done using participants who are studying English for specific purposes. Then, the application of the study can be expanded to include students studying vocabulary terms in the fields of medicine, law, science ...etc.

3. Some MSs (grouping, placing new words into a context and structured reviewing) were assessed in this study. Other studies can be conducted to explore the effect of other MSs (e.g. using imagery, using keywords and representing sounds in memory) on vocabulary learning.

4. A comparative study can be conducted to explore the types of MSs that learners of English as a foreign language tend to use and the types of MSs that learners of Arabic as a foreign language prefer to use.

5. This study was conducted using female participants only. Other studies may deal with male participants studying at the same college. Moreover, other studies may include gender as a variable and compare the results of male and female participants.

6. It would be rewarding if a future study lasts for a longer period of time to evaluate long term effect of MSs.

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Appendix A
The Pre- and Post-test

Name: ……………………………………. Group: ……….. Score: ….

I. Vocabulary (20 minutes)

Choose the letter of the correct answer to complete each sentence below.
(1 point each)

1- Americans are ---------------------. They travel whenever they get the chance.
   a. harmless
   b. restless
   c hopeless
   d. homeless

2- Ali is ----------------------- in debt. He has trouble paying his bills.
   a. knee deep
   b. free standing
   c. trouble-free
   d. high-hearted

3- In the USA, there is no social ---------------- in doing one's daily chores.
   a. phobia
   b.   media
   c. stigma
   d.   charisma

4- You should be careful before buying a -------------------- product. It might be cheap but
   not of a good quality.
   a. valuable
   b. precious
   c. high-end
   d. low-end

5- The climate in the United States is ------------------. There is always annual variation in
   temperature.
   a. tropical
   b. oceanic
   c. continental
   d. equatorial

6- Through technology and -------------------, scientists found ways to get better results with less work.
    a. acceptation
    b. accusation
    c. innovation
    d. complication

7- It seems that the -------------------- of the town do not like tourists.
    a. inhabitants
    b. foreigners
    c. sightseers
    d. vacationers

8- Saudi Arabia ranks as the largest ------------------- of petroleum.
    a. importer
    b. exporter
    c. counter
    d. broker

9- Beans, lentils and other --------------------- are a good source of protein.
    a. poultries
    b. dairies
    c. cereals
    d. legumes

10- Kiwi, oranges and raisins are rich in -----------------------.
    a. cholesterol
    b. fat
    c. fiber
    d. sodium

11- Foods such as wheat, rice, oats and cornmeal are considered ---------------------.
    a. grains
    b. syrups
    c. minerals
    d. herbs

12- As nations move from poverty into --------------------, they start to eat unhealthy food.
   a. security
   b. prosperity
   c. scarcity
   d. necessity

13- Scientists suspect that the carbon dioxide that a car produces contributes to-----------
   a. water scarcity
   b. mal-nutrition
   c. soil erosion
   d. global warming

14- To succeed in business, you have to understand the ---------------------- of people.
   a. mentality
   b. maturity
   c. hesitation
   d. tranquility

15- I was shocked when the bill was brought, for the prices were higher than I had ----------.
   a. inclined
   b. displayed
   c. anticipated
   d. startled

16. am looking for a dependable car that also fits my budget. So, it must be -----------------.
   a. affordable
   b. luxurious
   c. costly
   d. upscale

17- Confucius' ideas about personal morality -------------------- Chinese culture for more than two thousand years.
   a. deleted
   b. permeated
   c. contradicted
   d. abandoned

18- The manager -------------------- because of the financial problems of the company.
   a. registered
   b. accepted
   c. resigned
   d. expected

19- I cannot forget her -------------------- attitude. She was really kind.
   a. benevolent
   b. beneficial
   c. inhuman
   d. inadequate

20- The world must stand with Syrian people against --------------------.
   a. justice
   b. tyranny
   c. prosperity
   d. affluence

21- Mary cannot -------------------- her anger and she always feels out of control.
   a. launch
   b. articulate
   c. defend
   d. suppress

22- German people would not forget the -------------------- of the First World War.
   a. civilization
   b. atrocity
   c. welfare
   d. morality

23- War and the preparation for war are the two greatest ------------------ to human progress.
   a. obstacles
   b. suppliers
   c. defenders
   d. facilities

24- The little boy ------------------ the death of his parents.
    a. flattered
    b. evacuated
    c. lamented
    d. celebrated

25- This store sells spare computer -------------------.
    a. locomotives
    b. components
    c. factors
    d. ingredients

Complete the following sentences. (1 point each)   (10 minutes)

1- A player who defends the goal in football games is -------------------------------.

2- Working couples who are wealthy enough have a ---------------------- to take care of their

    children at their own home.

3- An ---------------------------- family refers to children, parents, grandparents and other

    relatives.

4- In the 1950s and 1960s, it was taken for granted that a husband would be a ----------------

    and the wife would be a ----------------------- mom.

5- Registration in this program ----------------------- a passport and a financial guarantee.

6- Any vehicle is a -------------------------- when it combines two or more sources of power.

7- ---------------------- people in the Amazon ask for compensation for having their

    photographs taken by foreigners.

8- A ------------------------- is a sequence of rulers who are considered members of the same

    family.

9- Many people do not have time for ----------------- activities such as hobbies, sports or
    movies.

II. Orthography

Fill in the missing letters. (1point each)   (10 minutes)

1- Fernandez was earning $ 150,000 a year as an **ex_cutive** in Spain for Johnson & Johnson

  when he decided to start his pizza **ch_in.**

2- School children in Cambodia are seeing their country's famous **la_dmarks** for the first time.

3- **Wides_read** industrial development would still leave Africa, Asia and Latin America a

  generation behind Europe and North America.

4- The community in the Amazon began its **ec_tourism** project in 1992 in order to protect

  natural resources.

5- Galabru, a **me_ical** doctor, played an important **r_le** in opening **negoti_tions** that led to

  ending the Cambodian **civ_l** war.

6- Most working women prefer **fl_x-time** work or job **sh_ring** better than full time jobs.

7- Stock prices fell in the morning but rallied in a dramatic afternoon **tu_naround.**

8- The role of the married women in the USA has changed **rad_cally** since the 1950s.

9- Outward **displ_y** of emotions is not part of the Canadian **st_le.**

10- Most Confucian books were burned; but some copies survived the **h_locaust**.

11- LG's **reven_es** jumped 18% last year.

12- American think that their **brev_ty** is not a **p_rsonal** insult, though to those accustomed to

  formal phrases, Americans seem **bl_nt.**

Appendix B
Vocabulary and Spelling Standardized Tests

Name:………………………………………. Group:………….. Score: ----------

I.   Vocabulary
**A. Choose the letter of the correct answer to complete each sentence below.
(1 point each)**

1. My mother's or father's sister is my _____.
   a. cousin
   b. niece
   c. aunt

2. I receive about 20 text _____ every day.
   a. letters
   b. mails
   c. messages

3. The opposite of 'hungry' is _____.
   a. famished
   b. thirsty
   c. full

4. There is an excellent art _____ in the town.
   a. station
   b. gallery
   c. factory

5. Have you got any _____ paper for the present?
   a. wrap
   b. wrapper
   c. wrapping

6. There is often a traffic _____ at rush hour.
   a. jam
   b. congestion
   c. queue

7. He writes articles. He is a/an _____ .
   a. journalist
   b. architect
   c. artist

8. Can you put the plates in the_____?
   a. washing machine
   b. dishwasher
   c. cooker

9. My niece is my sister's _____.
   a. nephew
   b. daughter
   c. son

10. What did you _____ for breakfast?
    a. go
    b. have
    c. leave

11. The opposite of 'forwards' is _____.
    a. behind
    b. backwards
    c. in front

12. John doesn't have a job. He's _____.
    a. unemployed
    b. non-employed
    c. under-employed

13. She's about 50. She's _____.
    a. middle-ages
    b. middle-aged
    c. medium-aged

14. Who is your favorite _____?
    a. singer
    b. song
    c. show

15. They hardly _____ come and see us.
    a. ever
    b. never
    c. usually

16. What a grey day! It's very _____.
    a. cloudy
    b. sunny
    c. cloudless

17. This book is great. It's very _____.
    a. useless
    b. usefully
    c. useful

18. It's the _____ time he has lost his phone.
    a. two
    b. second
    c. twice

19. Will you _____ the match on TV tomorrow night?
    a. watch
    b. look
    c. see

20. What _____ have you got?
    a. examinations
    b. certification
    c. qualification

21. He is short-sighted. He wears _____.
    a. spectators
    b. binoculars
    c. glasses

22. Her apartment is on the _____ floor.
    a. thirteenth
    b. lowest
    c. thirteen

23. We study past events in _____.
    a. sociology
    b. mathematics
    c. history

24. Do you like _____ films?
    a. horror
    b. rock 'n roll
    c. boring

25. He eats fast food every day. It's very _____.
    a. fat
    b. healthy
    c. unhealthy

B. Choose the best definition for each word.   (1point each)

1- significant (adjective)
a. single; separate
b. that can be used or obtained
c. important in effect or meaning
d. detailed, precised and exact

2- source (noun)
a. an important question that is in dispute and must be settled
b. special activity or purpose of a person or thing
c. a part of an area of activity
d. the place where something begins

3- concept (noun)
a. the management of the resources of a community, country, etc.
b. careful study or investigation, especially in order to discover new facts or information
c. writings preceding or following passage quoted
d. idea underlying something; general notion

4- assess (verb)
a. set up on a firm or permanent basis
b. accept as true before there is proof
c. To include as a necessary circumstance, condition, or consequence
d. decide or fix the amount of something

5- labour (noun)
a. physical or mental work
b. plan of action, statement of ideas, etc.
c. proper or customary function
d. facts or information used in deciding or discussing something

6- export (verb)
a. to ship (commodities) to other countries or places for sale, exchange, etc.
b. give a verbal or written answer
c. obtain something from something; get something from something
d. show, prove etc. who or what somebody/something is; recognize somebody/something

7- constitute (verb)

a. come into being as an event or a process; happen

b. make up or form (a whole); be the components of

c. separate into its parts in order to study its nature or structure

d. state precisely the meaning of

8- process (noun)

a. series of actions or operations performed in order to do, make or achieve something

b. extent or measurement of a surface

c. management of money

d. length or portion of time

9- approach (verb)

a. explain (something which is not easily understandable

b. be different in size, volume, strength, etc.

c. To have need of, need

d. come near or nearer to in space or time

10- principle (noun)

a. way in which something is put together, organized, built, etc.

b. set of reasoned ideas intended to explain facts or events

c. basic general truth that underlies something

d. set of symbols showing the elements that a substance is make of

11- relevant (adjective)

a. connected with what is being discussed, what is happening, what is being done

b. that can or may come into existence; possible

c. easily heard, seen, felt or understood; defined

d. suitable; right and proper

12- invest (verb)

a. hurt (somebody); harm

b. get something; come to own or process something

c. move something/somebody from one place to another

d. use (money) to buy shares, property, etc, in order to earn interest or bring profit

13- final (adjective)
a. following something as a result or an effect
b. free from or not exposed to danger or harm; safe
c. coming before in time or order
d. of the end; coming last

14- maintain (verb)
a. calculate something with a computer
b. To give support or aid to; help
c. look carefully at all of (something/somebody), especially from a distance
d. cause something to continue; keep something in existence at the same level, standard, etc.

15- impact (noun)
a. the effect or influence that an event has on someone or something
b. society or organization for a special purpose
c. person's behavior
d. the people living in one place

16- consume (verb)
a. choose something or someone, especially as being the best or most suitable
b. consider something as equal or equivalent (to something else)
c. set up
d. gain by one's own ability, efforts or behavior

17- conclude (verb)
a. come or bring to an end
b. become different; change in character, position, size, shape, etc.
c. become aware of; notice; observe
d. build, put or fit together

18- journal (noun)
a. particular part or feature of something being considered
b. passing of belief or customs from one generation to the next, especially without writing
c. refined understanding and appreciation of art, literature, etc.
d. newspaper or periodical, especially one that is serious and deals with a specialized subject

19- feature (noun)

a. permission to delay payment for goods and services until after they have been received

b. drawing or outline from which something may be made

c. place where a building, town, etc. was, is or will be situated

d. a prominent or conspicuous part or characteristic

20- sector (noun)

a. physical or mental work

b. a procedure, technique, or way of doing something

c. a part of an area of activity

d. set of reasoned ideas intended to explain facts or events

II.   Spelling

A. Put (√) beside the words that are spelled correctly.   (1point each)

1- ___ necessary   ___necessery

2- ___difficulty   ___dificulty

3- ___prettier   ___prettyer

4- ___writting   ___writing

5- ___which   ___wich

6- ___tried   ___tryed

7- ___plaied   ___played

8- ___biger   ___bigger

9- ___welcomming   ___welcoming

10- ___adress   ___address

11- ___vacuum   ___vaccuum

12- ___guidance   ___guidence

13- ___village   ___villege

14- ___burglar   ___burgelar

B. Choose the word that is spelled correctly to complete the following sentences.   (1 point each)

1. **The car lost one of ___ wheels.**
    a) it
    b) it's
    c) its
    d) its'

2. **Her speech was wonderful. She received many _____.**
    a) complements
    b) compliments
    c) complimentis
    d) cumpliments

3. **The same problem happened _____.**
    a) ever day
    b) everyday
    c) every days
    d) every day

4. **John remained _____ for the rest of the lesson.**
    a) quite
    b) quiet
    c) queit
    d) quit

5. **The men forgot _____ meals yesterday.**
    a) there
    b) the're
    c) their
    d) they're

6. **He prefers to wear _____ clothing when exercising.**
    a) loose
    b) lose
    c) louse
    d) losse

7. Everything is going to be _____.
   a) alright
   b) allright
   c) aright
   d) all right

8. It didn't turn out the way we wanted, _____.
   a) though
   b) tough
   c) through
   d) thought

9. Please, _____ my excuses!
   a) except
   b) accept
   c) acept
   d) excerpt

10. My car is faster _____ his motorcycle.
   a) the
   b) then
   c) thin
   d) than

11. This event is inevitably going to _____ the elections.
   a) affect
   b) effect
   c) alfect
   d) afect

12. _____ you use it or not, you will need to pay.
   a) whether
   b) wether
   c) weather
   d) whethre

13. Check the _____ if you want to be sure of the date.
   a) calender
   b) calendar
   c) callendar
   d) calandar

14. Their company used to offer _____ services on that field.

    a) professionel

    b) profesional

    c) professional

    d) proffessional

15. He prefers to wear _____ clothing when exercising.

    a) loose

    b) lose

    c) louse

    d) losse

16. Our problem was _____.

    a) persistant

    b) persistent

    c) presistent

    d) presistant

Appendix C

Students' Attitude Questionnaire

<div dir="rtl">

عزيزتي الطالبة

الغرض من هذه الاستبانة هو التعرف على آراء وإتجاهات طالبات كلية اللغات والترجمة تجاه استخدام

إستراتيجيات الذاكرة ومدى فعالية هذه الإستراتيجيات في زيادة حصيلتهن من المفردات اللغوية. لذا أرجو

منك التفضل بتعبئة هذه الاستبانة بكل تمهل وموضوعية. رأيك سيكون محل التقدير والأهتمام.

شاكرة لك تعاونك

</div>

أرجوا الأجابة على الأسئلة التالية قبل البدء بتعبئة الاستبانة:

المستوى الدراسي في الكلية ------------------------

العمر:

☐ من ١٨-٢١ سنة   ☐ من ٢٢-٢٤ سنة   ☐ فوق ٢٤ سنة

عدد سنوات دراستك للغة الأنجليزية:

☐ ٦سنوات   ☐ ٧سنوات   ☐ ٨سنوات   ☐ أكثر من ٨ سنوات

أين درستِ المرحلة الثانوية؟

☐في مدرسة حكومية   ☐ في مدرسة خاصة

هل سبق وأن التحقتِ بدورات لتعلم اللغة الأنجليزية؟

☐ نعم   ☐ لا

إذا كانت الأجابة نعم، أين كانت تلك الدورات ؟

☐ داخل المملكة   ☐ خارج المملكة

كم كانت مدة دراستك لتلك الدورات؟

☐ شهر واحد   ☐ ثلاثة أشهر   ☐ ستة أشهر   ☐أكثر من ستة أشهر

Please rate each statement by marking the box below the number according to the following scale:

1 = Strongly Disagree لا أوافق إطلاقا   **2= Disagree** لا أوافق   **3 = Neutral** محايد

4 = Agree أوافق   **5 = Strongly Agree** أوافق بشدة

Statement	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
Students' Attitude Towards Using Memory Strategies (MSs)					
1- MSs make learning vocabulary easier. سهلت لي إستراتيجيات الذاكرة تعلم المفردات اللغوية.					
2- MSs have positively changed my attitude towards learning vocabulary. غيرت إستراتيجيات الذاكرة اتجاهاتي نحو تعلم المفردات اللغوية بشكل ايجابي.					
3- Upon using MSs, I have become more self-dependant while learning new vocabulary. أصبحت أكثر اعتمادا على نفسي في تعلم المفردات اللغوية بعد تطبيقي لإستراتيجيات الذاكرة.					
4- MSs can be time-saving. إستراتيجيات الذاكرة تساعد في توفير الوقت.					
5- There are no differences between the use of MSs and other methods in learning vocabulary. لا أرى فرق هام بين إستخدام إستراتيجيات الذاكرة وبين الطرق الأخرى لتعلم المفردات اللغوية.					
6- MSs helped me recognize the meaning of new words when I hear them in conversations. ساعدتني إستراتيجيات الذاكرة على التعرف على معاني المفردات الجديدة عندما أسمعها في المحادثة.					
7- MSs helped me understand reading texts in a better way. ساعدتني إستراتيجيات الذاكرة على فهم نصوص القراءة بشكل أفضل.					
8- MSs improved my writing skills. ساهمت إستراتيجيات الذاكرة في تطوير مقدرتي على الكتابة.					

9- I still face difficulties in understanding written texts even after using MSs. لازلت أواجه بعض الصعوبات في فهم النصوص المكتوبة حتى بعد تطبيقي لإستراتيجيات الذاكرة.					

Students' Attitude Towards Specific MSs					
10- I enjoy grouping words. كان تصنيف المفردات اللغوية إلى مجموعات ممتعا.					
11- I memorize words in an easier way when I group them. أستطيع حفظ الكلمات بشكل أفضل عندما أصنفها إلى مجموعات.					
12- Grouping words helps me spell them correctly. ساعدتني إستراتيجية تصنيف المفردات اللغوية إلى مجموعات على تهجئة هذه المفردات وكتابتها بشكل إملائي صحيح.					
13- Putting new words in context makes it easier for me to recall their meanings. ساهمت إستراتيجية وضع المفردات اللغوية في جمل مفيدة في جعل تذكر هذه المفردات أسهل بالنسبة لي.					
14- Putting new words in context makes it easier for me to spell them. زادت إستراتيجية وضع المفردات اللغوية في جمل مفيدة من قدرتي على تهجئة هذه الكلمات وكتابتها بشكل إملائي صحيح.					
15- I revise the new words regularly on time using the structured reviewing timetable. أقوم بمراجعة المفردات الجديدة بشكل منتظم في الوقت المحدد باستخدام الجدول المخصص لذلك.					
16- I find it easier to recall the meaning of vocabulary items when I revise them regularly. مراجعة المفردات اللغوية بشكل منتظم جعلني أتذكر معناها بشكل أفضل.					
17- I find it easier to spell words when I revise them regularly. مراجعة المفردات اللغوية بشكل منتظم سهل علي تهجئتها وكتابتها بشكل إملائي صحيح.					
18- I still face difficulties in recalling the meaning of new words even after putting them in meaningful sentences. لازلت أواجه صعوبة في تذكر معاني المفردات اللغوية حتى بعد أن قمت بوضعها في جمل مفيدة.					

19- It is enough to revise the new words five times to be able to memorize them and recall their meaning. كانت مراجعة المفردات الجديدة خمس مرات كافية لكي أحفظها وأتذكر معناها.					
Memory Strategies (MSs) and Motivation					
20- Grouping words encourages me to learn more English vocabulary. ساهمت إستراتيجية تصنيف المفردات اللغوية الى مجموعات في تحفيزي لتعلم مفردات لغوية أكثر.					
21- Putting new words in context makes me want to learn more English vocabulary. إستراتيجية وضع المفردات في جمل مفيدة جعلتني أرغب في تعلم مفردات أكثر.					
22- In the future, I would like to revise all the new words regularly using a timetable. سوف أقوم بمراجعة المفردات اللغوية التي أتعلمها في المستقبل باستخدام جدول المراجعة المنتظمة.					
23- I would like to apply MSs when learning vocabulary in other courses. أرغب في أن أطبق إستراتيجيات الذاكرة في تعلم المفردات اللغوية الجديدة التي في المقررات الأخرى.					
24- I feel that MSs will help me in my future career as a translator. أعتقد بأن إستراتيجيات الذاكرة ستفيدني في وظيفتي المستقبلية كمترجمة.					
25- MSs are boring and not useful. إستراتيجيات الذاكرة التي تدربت عليها كانت مملة وغير مفيدة.					
26- Using a timetable to revise words is not a helpful way to learn vocabulary. استخدام جدول لمراجعة المفردات اللغويات لا يساعد كثيرا على تعلمها.					
Memory Strategies (MSs) and Anxiety					
27- I became more confident in my ability to spell words after using MSs. أصبحت أكثر ثقة في مقدرتي على تهجئة الكلمات وكتابتها بشكل إملائي صحيح بعد تطبيقي لإستراتيجيات الذاكرة.					
28- I get nervous and confused when I cannot recall words even after using MSs. أشعر بالحرج عندما لا أستطيع تذكر بعض المفردات حتى بعد تطبيقي لإستراتيجيات الذاكرة.					

29- Sometimes I feel that I know the word but cannot remember its meaning even after using MSs. عندما أسمع بعض المفردات أحس بأنه سبق وأن تعلمتها ولكني غير قادرة على تذكر معناها حتى بعد تطبيقي لإستراتيجيات الذاكرة.					
30- MSs make me less afraid of making spelling mistakes. ساهمت إستراتيجيات الذاكرة في تقليل خوفي من الوقوع في الأخطاء الإملائية.					
31- My confidence in my ability to recall words has developed after using MSs. ساهمت إستراتيجيات الذاكرة في زيادة ثقتي بمقدرتي على تذكر المفردات اللغوية.					
32- MSs make writing less embarrassing for me. ساهمت إستراتيجيات الذاكرة في جعلي أقل قلقا عندما أكتب.					
33- Upon using MSs, I became more confident in my ability to use the new words when I speak English. زادت ثقتي في مقدرتي على استخدام المفردات الجديدة عندما أتحدث اللغة الإنجليزية بعد تطبيقي لإستراتيجيات الذاكرة.					
34- Courses of reading including exams become less embarrassing for me after using MSs. لم تعد مقررات القراءة واختباراتها تسبب لي قلقا بعد تطبيقي لإستراتيجيات الذاكرة.					

Appendix D

Grouping Worksheet (Chapter One)

Name: --

Group the words in the list on page 29 of your textbook into meaningful units like their part of speech, similarity, opposition etc.

Appendix E

Placing New Words in to a Context Worksheet (Chapter One)

Use the words in the list on page 29 of your textbook to write a short paragraph:

Appendix F

Structured Reviewing (Chapter One)

Dear students:

Please put a check mark (√) after reviewing each vocabulary item:

Vocabulary Items	After ten minutes	After one hour	After one day	After one week	After two weeks
attitude					
brevity					
chores					
display					
environment					
formality					
gardener					
heritage					
humidity					
imagination					
informality					
inhabitants					
lawmen					
moderation					
movement					
newcomer					
responsibility					
scheme					
settlement					
stigma					

Vocabulary Items	After ten minutes	After one hour	After one day	After one week	After two weeks
style					
symbol					
uprising					
vastness					
assume					
contrast					
refuse					
acceptable					
blunt					
comfortable					
continental					
desirable					
endless					
household					
leisure					
menial					
mountainous					
mysterious					
observant					
occasional					
outgoing					
personal					
powerful					
restless					
thoroughly					