Sudan University of Science &Technology

College of Graduate Studies

College of Education

Effect of Using Semantic Maps Strategy on the Development of Vocabulary Learning for Sudanese Secondary Schools' Students

(A Case Study of 3rd Year Students in Khartoum State Localities)

أثر إستخدام إستراتيجية خرائط دلالات الألفاظ على تطوير تعلم المفردات اللغوية لطلاب المدارس الثانوية فى السودان

(دراســة حالة طــلاب السنة الثالثة فى محليات ولايــة الخــرطوم)

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(الاستهـــلال)

قال الله تعالى :

(ر ب أشرح لي صدري ﴿25﴾ ويسر لي امري﴿26﴾ واحلل عقدة من لساني﴿27﴾ يفقهوا قولي ﴿28)

(صدق الله العظيم)
سورة طه ، الايات (26- 25)

Quran's Verses:

25" my lord expand my breast",

26" Ease my task for me",

27" And remove the impediment from my speech",

28" So they may understand what I say".

Holy Quran

Surat Taha, Verses (25 -28)

Dedication

This work is dedicated to:

My parents, God bless them

To

My wife and kids

To

My brothers and sisters

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Abstract

This study aimed at investigating effect of using semantic maps strategy in the development of Secondary School Students' English vocabulary learning. This study was applied on (some) Secondary Schools of Khartoum State Localities. The sample of this study comprised (160) 3rd year Secondary School Students of both genders selected randomly as well as (100) English language teachers of both genders. The Analytical and experimental methods have been (used P.V) in selection for testing hypotheses which were basically comprised of two groups; while the data were collected through tests conducted on students for measuring how effective it is on students learning English language vocabulary as a foreign language compared to the traditional method. Also the data were collected through questionnaire conducted for teacher's perspective about its effectiveness in vocabulary learning. The SPSS program was (used P.V) for data analysis, the study reached the following findings**:** Semantic maps was a good teaching technique and for reviewing vocabulary lessons; it is more systematic and well organized and clear as words with the same parts of speech are grouped together. Moreover, it was found effective in developing vocabulary learning in English language among Secondary School Students and the effect is sustaining words in Students' short-term & long-term memories. The researcher has found that the diction of semantic maps strategy was also an effective technique in developing different parts of speech among Secondary Students and that effect continues for long-term. Besides it was effective in developing verbs more than the learning of nouns and adjectives. Semantic maps can help students remember the words in English language for a long-time contrary to the traditional methods in which remembrance may be shorter because it depends on the list of vocabulary if compared with the semantic maps strategy in secondary schools. The study recommends the following**:** The official Educational authorities should use and activate it in Secondary Schools in teaching English language and include it in curricula. The academicians and researchers are to expand scientific researches on using it as one of teaching methods of English language as a foreign language.

Abstract

(Arabic Version)

المستخلـص

هدفت هذه الدراسة الى معرفة أثر إستخدام إستراتيجية خرائط دلالات الالفاظ على تطوير الطلاب لتعلم مفردات اللغة الانجليزية كلغة أجنبية. تم تطبيق هذه الدراسة فى بعض المدارس الثانوية من محليات ولاية الخرطوم ، تكونت عينة الدراسة من (**مئة وستين**) طالب و طالبة فى المستوى الثالث تم إختيارهم عشوائيا و أيضاً (**مئة**) من معلمى اللغة الانجليزية من الجنسين . إستخدم الباحث الطريقة التحليلية و أيضاً الطريقة التجريبية لاختبار الفرضيات التى تتكون من (مجموعتين) بشكل أساسى وقد تم جمع البيانات من خلال أختبارات إجريت للطلاب لقياس مدى فعالية أثر إستراتيجية خرائط دلالات الالفاظ على تعلم الطلاب لمفردات اللغة الانجليزية كلغة أجنبية مقارنة بالطريقة التقليدية إيضاً إستخدم الباحث إستبانة للمعلمين لجمع البيانات عن وجهات نظرهم حول فعالية أستخدام إستراتيجية خرائط دلالات الالفاظ لتعلم المفردات اللغوية ، إستخدم الباحث البرنامج الاحصائى (**SPSS**) لتحليل البيانات . وتوصلت الدراسة لعدة نتائج أهمها **:** إن خرائط الدلالة تعتبر تقنية جيدة لتدريس و عرض دروس مفردات اللغة الانجليزية ، تعتبر خرائط دلالات الالفاظ الطريقة الاكثر منهجية و تنظيماً ووضوحاً حيث أنه يمكن تجميع مفردات اللغة الانجليزية حسب أجزاء الكلام و تشير النتائج بفعالية إستراتيجية خارطة دلالات الالفاظ لتعلم مفردات اللغة الانجليزية لدى الطلاب حيث يستمر تاثيرها فى الذاكرة القريبة المدى ومن ثم الذاكرة البعيدة المدى لاطول فترة ممكنة ، وجد الباحث أن أسلوب خرائط الدلالة فعالة فى تطوير أجزاء الكلام لدى طلاب المدارس الثانوية و أثاره تستمر لفترة طويلة ، أن إستراتيجيات خرائط الدلالة فعالة فى تطوير و تعلم مهارة تصريف الافعال و مهارة لتعلم معرفة الاسماء و الصفات ، إن خرائط الدلالة تساعد الطلاب على بقاء تذكر الكلمات و الاشياء باللغة الانجليزية لفترة أطول على عكس الطرق التقليدية التى ربما كان التذكر أقصر لانه يعتمد على قائمة المفردات أذا قورنت مع إستراتيجية خرائط الدلالة فى المدارس الثانوية .

أوصت الدراســة بالاتــى **:** على الجهات التعليمية الرسمية إستخدام و تفعيل إستراتيجية خرائط دلالات الالفاظ فى المدارس الثانوية فى تدريس اللغة الانجليزية و أدراجها فى المناهج ، على الاكاديميين و الباحثيين التوســع فى الابحاث العلمية حول إستخدام خرائط دلالات الالفاظ كأحد طرق التدريس اللغـة الانجليزية كلغــة أجـنبية .

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Chapter One

Introduction

Introduction

1.0 Overview

This chapter provides description of theoretical framework of the study with special focus on, a general overview of the study, statement of the Problem, significance, objectives, importance, questions, hypotheses, Methodology, statistical analysis, definitions of terms, list of abbreviation and summary.

Until the mid- 1980s vocabulary was not considered as an important part of second language in teaching and learning (Maiguashca, 1993 and Meara 1981 cited in Kojic- Sabo and LighBown, 1999). People did not think that the vocabulary knowledge had a direct relationship with learners as second language proficiency, and not much effort was put into research into the teaching and learning of vocabulary. It was by the 1990s that vocabulary "assumed its rightful place as a fundamentally important aspect of language development,"(Nunan, 1999:103). It has been found that students need to have basic knowledge of a vocabulary to improve language proficiency.

In language learners with rich vocabulary knowledge are likely to improve language proficiency (Rinsland, 2008). As a result of this, lexical knowledge currently plays an important role in language of teaching and learning as well as applied linguistics.

Knowing the importance of vocabulary, both teacher and students need to put a lot of effort into teaching and learning of the language. They believed that "acquiring a large and varied vocabulary is essential for communicative competence and one of the central tasks for second language learns" (McCrositie 2007:246).

At the early stage of teaching and learning the vocabulary improvement, research was done on how individual words should be a taught and learnt (Schmitt 2000). Teachers also focused on the teaching for example recalling. (Nunan, 1999), with the growing importance of autonomous learning, Schmitt

(1997) suggested that the vocabulary shall not be taught only; students should also participate in their vocabulary learning. Teaching should focus on the teaching strategies for improving vocabulary learning strategies than on the learning of individual vocabulary items. From then on, the focus has to be shifted to the teaching and learning of vocabulary improved strategies.

Teachers started to incorporate strategy instruction into their teaching, while students have tried to learn and use various strategies to learning vocabulary.

1.1 Statement of the Problem

The problem will be investigating effect of using Semantic Maps strategy on the Development of Vocabulary Learning for Sudanese Secondary Schools' Students. It examined to what extent semantic maps strategy can help the students on their English Language vocabulary development performance.

1.2 Significance of the Study

This study is investigating the effects of semantic maps strategy in the development of vocabulary learning. It is hoped that results of the research will supply comprehensive understanding into the techniques; therefore, it will encourage certain use of semantic maps for vocabulary teaching and learning in secondary schools. Over the years, studies has been carried out to see how word should be presented with respect to semantic map relations, i.e. interrelated lexical meaning to help learners learn the meaning of vocabulary more efficiently and effectively.

1.3 Objectives of the Study

The objectives of the study are as follows**:**

1. To identify whether semantics maps helps the student to acquire vocabulary effectively.
2. To determine if there is difference in learning different parts of speech (verbs, Nouns, Adjective) through semantic maps.
3. To determine the extent to which semantic maps affect student's word memorization.
4. To identify teachers perspective about teaching vocabulary through semantic maps.

1.4 Importance of the Study

The importance of vocabulary in English as a second language (ESL) or English as a foreign (EFL) learning process has been widely recognized. Much of the research indicates that enlarging language vocabulary has been one of the objectives of many EFL learners. When learning English, Students of EFL/ESL also try to improve their vocabulary knowledge. However, a student has to cope with many difficulties in learning vocabulary, especially in memorizing and recalling the word meaning. Low vocabulary proficiency makes an obstacle for them in acquiring language knowledge and participating in the activities in class. It is frustrating when they discover that they cannot communicate effectively, because they do not know enough words they need. Students usually forget the words they leant to use words communicatively. They cannot get words into long-term memory and recall them when necessary. Although they spend most of their time learning vocabulary, the result is disappointing and one of the reasons for students low vocabulary retention and retrieval can be addressed as their learning habits; their learning habits such as writing down words on a piece of paper, learning words by heart, heavily depending on word lists in textbook, passively waiting for

teachers explanation for new words lists in textbook, passively waiting for teachers explanation for new words seem to be ineffective and make them bored with learning vocabulary. In order to memorize new items, students often use rote memorization techniques. As they reported, they used to write down the words for several times, to speak aloud the words and to make sentences with words. They admitted that they fail to recall most of the words they had learnt before as there were no clues. It can be seen that student's bad memory is due to lack of appropriate vocabulary memorizing strategies.

They are not provided with different vocabulary leaning techniques and are not encouraged to use them. They also have no chance to work with words in a deeper process. This is a pity, because working with words can be enjoyable and satisfying for learners.

The questions posed to teachers of English are how to help students memorize words effectively and how to motivate them in vocabulary lessons. The teacher can encourage their students to systematically record vocabulary that they taught in class. They also provide them with strategies to transfer this record into their long-term memory so that each item is added to the repertoire of words and phrases that they can understand and use when necessary.

There is a wide variety of previous research into the effect of semantic mapping on memorizing vocabulary, Word and Anita, (1998) and other. The above research indicated the positive effects of semantic mapping on students memorize vocabulary. In Sudan the English teachers seldom use semantic mapping in teaching vocabulary. Besides, there was not yet empirical study on the use of semantic mapping in vocabulary teaching for learning there.

1.5 Questions of the Study

In order to investigate the effect of semantic maps vocabulary learning, this research will attempt to answer the following question:

1. To what extent semantic maps help the students to learn vocabulary effectively?
2. To what extent there any significant difference in learning different parts of speech (verbs, Nouns, Adjective) through semantic maps?
3. To how extent semantic maps affect students word memorization?
4. To what extent are the teachers' attitudes towards teaching vocabulary through semantic maps?

1.6 The research Hypotheses

This study sort to investigate and test the following hypotheses:

1. Semantic maps have great effect in helping students to learn vocabulary.
2. There is significant difference in learning different parts of speech (verbs, Nouns, Adjective) through semantic maps.
3. Students memorize words easily when presented through semantic maps.
4. Teachers have positive attitude towards the use of semantic maps method in vocabulary teaching.

1.7 Research Methodology

In this study the descriptive experimental methods will be adopted and data will be collected through tests conducted on students in addition questionnaire conducted on Teachers. The study will follow the descriptive analytical approach in which data are presented statistically and the result will be described according to the conclusions which are reached. The subjects chosen to conduct this study were chosen randomly (probability sampling). The

sample of this study comprised of 160 3rd year secondary school students of both genders selected randomly as well as 100 English Language Teachers of both genders.

This study was limited English language teachers and 3rd year Secondary Students from the Ministry of Education, particularly governmental schools in Khartoum State Localities.

To confirm the validity & reliability of the data collected. The same questionnaire will be distributed to the same sample of the study and the results will be compared with the previous ones. To ensure content validity, the researcher will discuss the problem with English Language teachers who have had experience in using semantic maps strategy through developing vocabulary learning at Secondary schools in Sudan and then distribute the questionnaire to three referees from colleges of Education and Arts (Sudan Universities) for evaluation to ensure its appropriateness.

The data of this study will be fed into computer so as to be analyzed using the Statistical Packages for Social Sciences program (SPSS).

1.8 Statistical Analysis

Statistical analysis will be used to analyze the data collected by the researcher using different techniques to answer the questions of the study:

a. Means, Standard deviations and percentages.
b. Independent T-tests.
c. One way ANOVA- Cranach Alpha formula to determine the reliability coefficient of the questionnaire.

1.9 The Definitions of Terms:

The researcher gave full definition of some terminologies that are very necessary as following:

a. Semantics

Semantics is the technical terms used refer to the study of meaning and, since meaning is a part of language also is a part of linguistics Semantic did not catch on for some time. One of the most famous books on semantics is the meaning of meaning by C, K, Ogden & I.A, Richards, First published was in 1923.

b. Semantic maps

The terms semantic maps has been used to refer to several notions, one of which is the building up of "diagrammatic map showing the relationship between vocabularies suggested by the teacher suggested by the learners and found in a reading text" (Nation, 1990:125)

c. Vocabulary

Vocabulary is defined as a word in a specific language or free standing items of language that have meaning (McCarthy, 1990)

1.10 List of Abbreviations (Acronyms):

EFLL: English as Foreign Language Learners

ESP: English for Specific Purposes

EAP: English for Academic Purposes

LTM: Long-term Memory

STM: Short-term Memory

SD: Standard Deviation

SPSS: Statistical Package for the Social Sciences

VLS: Vocabulary Learning Strategy

LLS: Language Learning Strategy

MLD: Monolingual Dictionary

BLD: Bilingual Dictionary

ANOVA: Analysis of Variance

CLT: Communicative Language Teaching

1.11 Summary of the Chapter

In this chapter a detailed description of the theoretical framework has been provided with same focus on the definition of the research problem and the research methodology.

Chapter Two

Literature Review

Chapter Two

Literature Review

2.0 Introduction

This chapter is divided into two main parts**:** Part (One) is devoted to the theoretical framework on the use background on the concept of semantic maps. It is includes, semantics, vocabulary, and word. Part (Two) deals with the previous related studies conducted in this area.

2.1 Part (One): Theoretical Framework

2.1.1 The Concept of Semantic Maps

Broomley, (1992:218) explains that a semantic maps or web is a graphic representation of categories of information and their relationship to each other

While Rubin, (1993:79) states that Semantic mapping is a technique for organizing information it helps to give structure or order. It helps people to see the relationship among concepts, and it shows the various ways that information can be organized and categories.

Williams, C. R. (1994: 184) argued that semantic mapping enables students not only to visualize relationships, but to categorize them as well. As a direct teaching strategy that includes brainstorming and teacher-led discussions, it provides opportunities for schema development and verification of content when used as a pre-reading activity. It is also referred to as a web or concept map. The teacher can introduce semantic maps to the class in different appearances. They can be shown as circles, squares, or ovals with connecting lines. The students read an assigned text. Through class discussion, the teacher writes the main idea of the text in the middle of the top circle. The students share the supporting details of the main idea and place them in circles that are connected to the main

idea by lines. This activity can also be used by students in cooperative groups or individually.

Heimlish, J. & Pittelman, S. V (1986:276) explained that a semantic map is one type of graphic organizer. It helps students visually organize and graphically show the relationship between one piece of information and another. This strategy has been identified by researchers as an excellent technique for increasing activity; semantic mapping can be used to activate prior knowledge and to introduce key vocabulary words. As post reading activity, words, categories, and new concepts can be added to the original maps enhance understanding.

Furthermore, gunning, (1992:162) more clearly defines that mapping or webbing is a way of organizing information graphically according to categories. It can be used for concepts, vocabulary, topics and topics and background it also may be used as a study device to track the plot and character development of a story or as a prewriting exercise.

In relation to vocabulary development, the instructional sequence of semantic mapping is as follows**:**

(1) Select a word central to the topic, (2) Display the target word. Put the word in a circle in the middle of the board, (3) Invite the student's to generate as many words as possible that relate to the target word. Ask student's to brainstorm and think of the ideas that come to their head when they think of the word. Record the words on a chart or not the blackboard, (4) have the student's write the generated words in categories.

After all the brainstorming has taken place, discuss how the information could be placed into categories, (5) Have the student's label the categories, label and add extra information to each category, (6) From this list, construct a map, (7) Lead the class in a discussion that focuses on identifying meanings and uses of words, clarifying ideas, highlighting major conclusion, identifying

key elements expanding ideas and summarizing information (Masters, Mori &Mori: 1993)cited in Fatima 2004) semantic mapping may be presented in a variety of ways. Johnson and Pearson (1984) cited in Gunning (1992: 164) state that the procedures for presenting semantic mapping are as follows:

1. Introduce the concept, term or topic to be mapped write the key word for it on the chalkboard, overhead transparency or chart paper; 2. Brainstorm. Ask student's to tell what other words come to mind when think of the word;. Encourage them to volunteer as many words as they can. This may be done orally or student's may write their list and share them; 4. Group the words by category, discussing why cetin ones go together. If the new words that you planned to teach are not suggested, present them and discuss them. Encourage students to supply category names; 5. Create the class map and put it on a large sheet of paper so that the class can refer to it and add it; 6. One the map has been finished, discuss it. Encourage the student's to add items to already established categories or to suggest new words related to the topic or key word, add these to the chart

2.2 Definitions of Semantic Mapping

First, a formal definition can be given about the concept of semantic mapping which is defined as a visual representation of knowledge or a picture of conceptual relationship (Antonacci, 1991:25) *"a graphic arrangement showing the major ideas and relationships is in text or among word meaning"* Sinatra et al, (1984: 76) *"a categorical structuring of information in graph form"*. Johnson et al (1986:68).

It is a visual strategy which shows the major ideas of a certain topic and how they are related (Raymond C. Jones, 2006). In this study, word mapping, concept mapping and story mapping are used in teaching reading to display the interrelationships among ideas, words and the components of the story.

"Semantic mapping generally refers to brainstorming associations which a word has and then diagramming the results" (Sokmen, 1997:250) Johnson, Pittelman & Heimlich describe it as "categorical of information in graphic form" (1986:779).

Developments in *"lexical semantics"* have prompted the development of the *"semantic field theory", "semantic networks" or "semantic grids*" strategies which organize words in terms if interrelate lexical meanings. The *"semantic field"* theory suggests that the lexical content of a language is best treated not as a "mere aggregation of independent words" but as a collection of interrelating networks or relations between words (Stubbs, cited in Amer, 2002). It is noteworthy that words may be grouped together (related to each other) according to different criteria. Animals, for example, may be grouped in terms of physical features; they may be grouped in terms of nonphysical features such as pet, wild, food, etc. (Gairns and Redman, 1986).Semantic elaboration consists of a series of techniques as semantic feature analysis, ordering, pictorial schemata and semantic mapping (Ellis, 1995; Sokmen, 1997).

Semantic mapping and semantic analysis draw learner prior knowledge and use discussion to elicit information about word meaning. Semantic feature analysis is similar mapping. With the exception that it uses argil rather than a map graph display following examples will illustrate the two techniques.

Types of Transport	One Wheeled	Two Wheeled	Four Wheeled	Foot Powered	Motor powered	On land	In the water	In the air
Bicycle	-	+	-	+	**?**	+	-	-
Car	-	-	+	-	+	+	-	-
Boat	-	-	-	**?**	+	-	+	-
Plane	-	-	-	-	+	-	-	+
uni-cycle	+	-	-	+	-	+	-	-
Motorbike	-	+	-	-	+	+	-	-

("+" for positive examples; "-" for negative examples, "?" it's which may be true in certain circumstance)

Figure (1): semantic feature analysis for *"means of transport"* (Neisel, 2000)

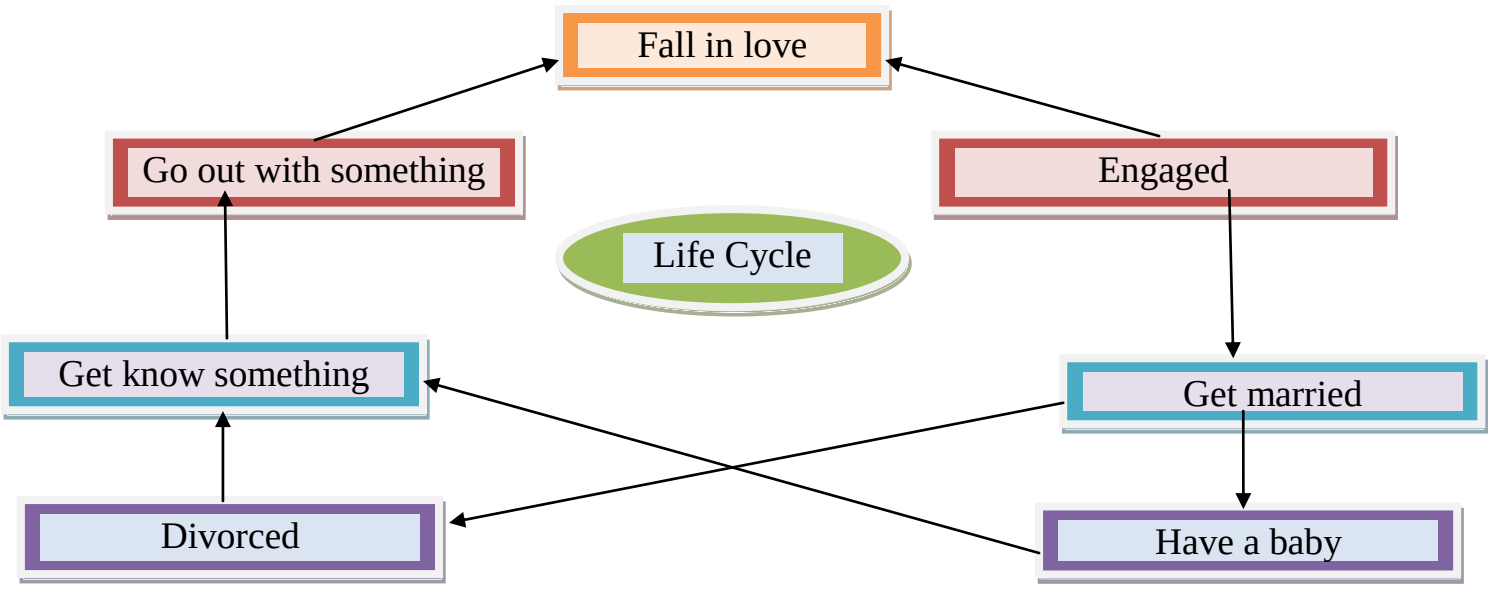


Figure (2): semantic mapping for *"human life circle"* (Gairns &Redman, 1986)

Semantic elaboration focuses on word meaning association attached on words. Words appear to be organized into semantically related sets in mind and thus the associations attached to a word will affect the way that it is stored in the brain, furthermore, knowing arrange of association for a word helps understand its full

meaning and helps recall the word form or its meaning in appropriate context (Nation,2001).

Semantic mapping generally refers to brainstorming associations which a word has and then diagramming the results (Sokmen, 1997). John, Pittelman and Heimlich (1986) described semantic mapping as *"categorical structuring of information in graphic form"*. Semantic mapping is one of word association techniques. It is defined as a technique to make arrangement of words into a diagram, which has a key concept at the centre or at the top, and related words and concepts linked to the key concept by means of lines or arrows (Gairns and Redman, 1986).

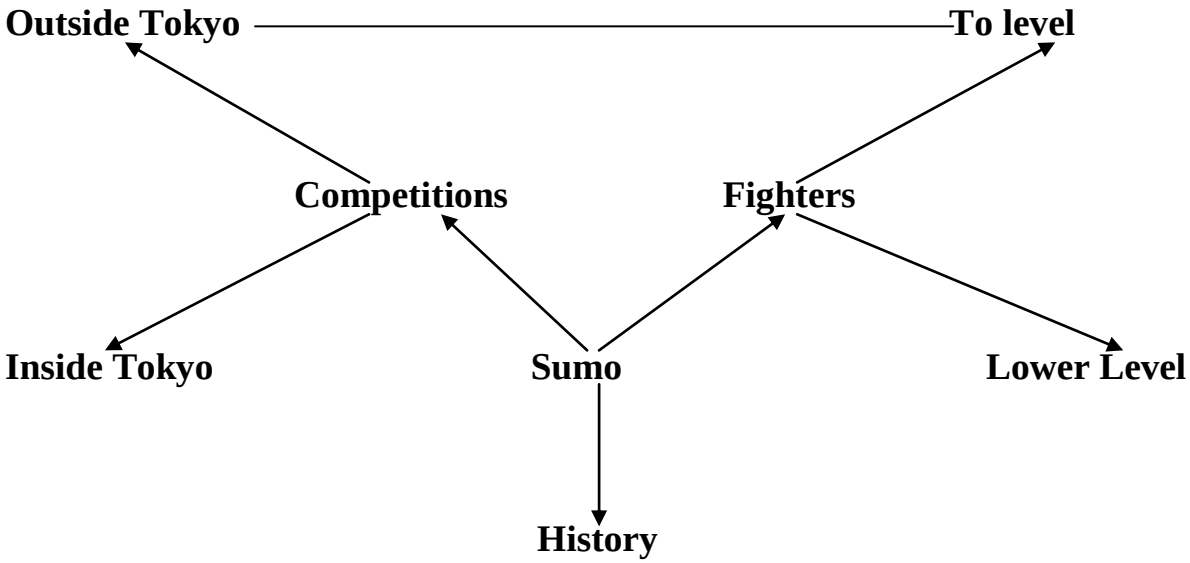


Figure (3): Semantic mapping for the word "Sumo"

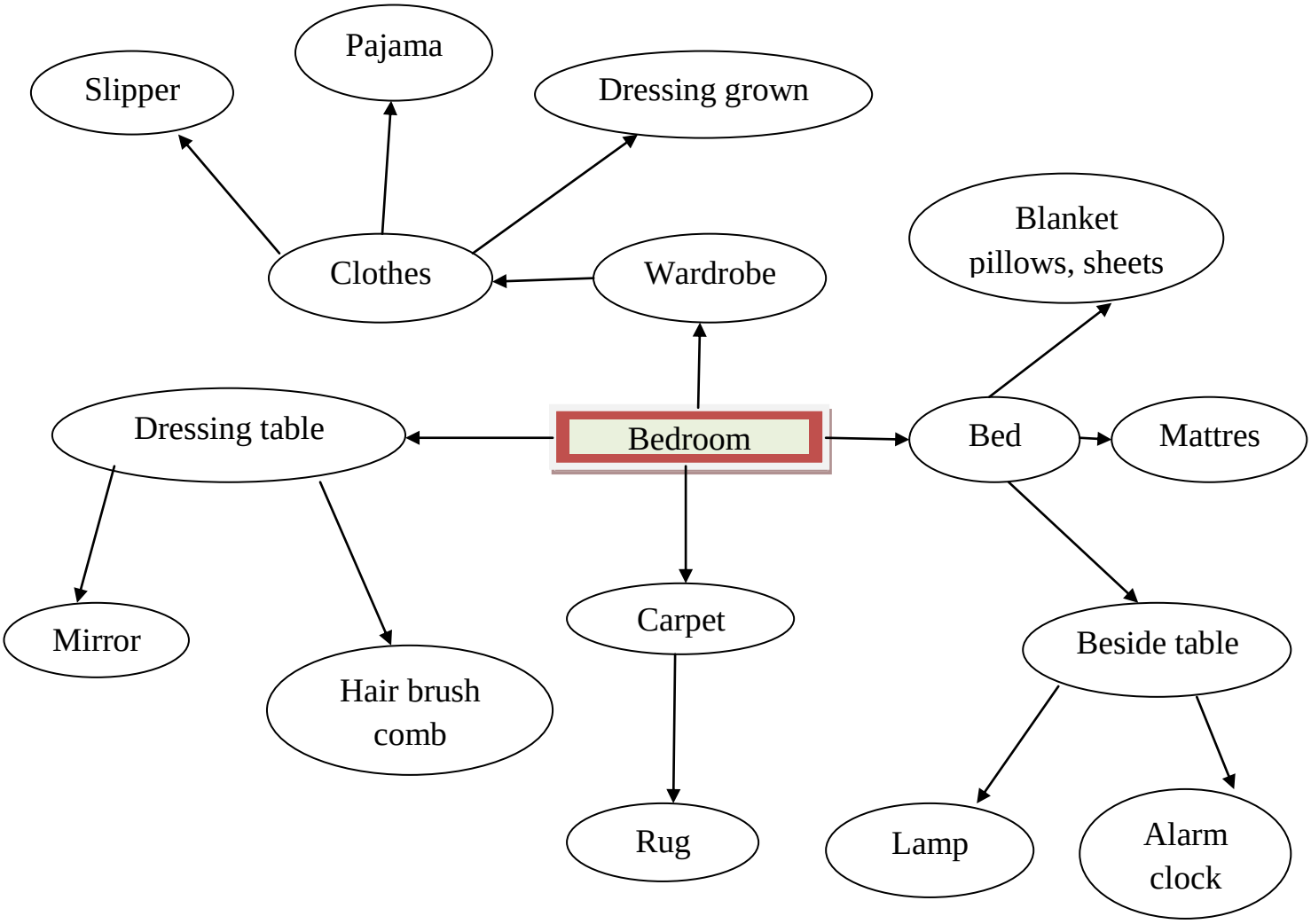


Figure (4): Semantic Map for Items in bedroom (Gairns and Redman, 1986)

To give words they thought of when they heard the word *"Unfaithfulness"*, low intermediate ESL student's generated 16 words or phrases. After clustering words, which went together, they mapped the relationship between these words as followed:

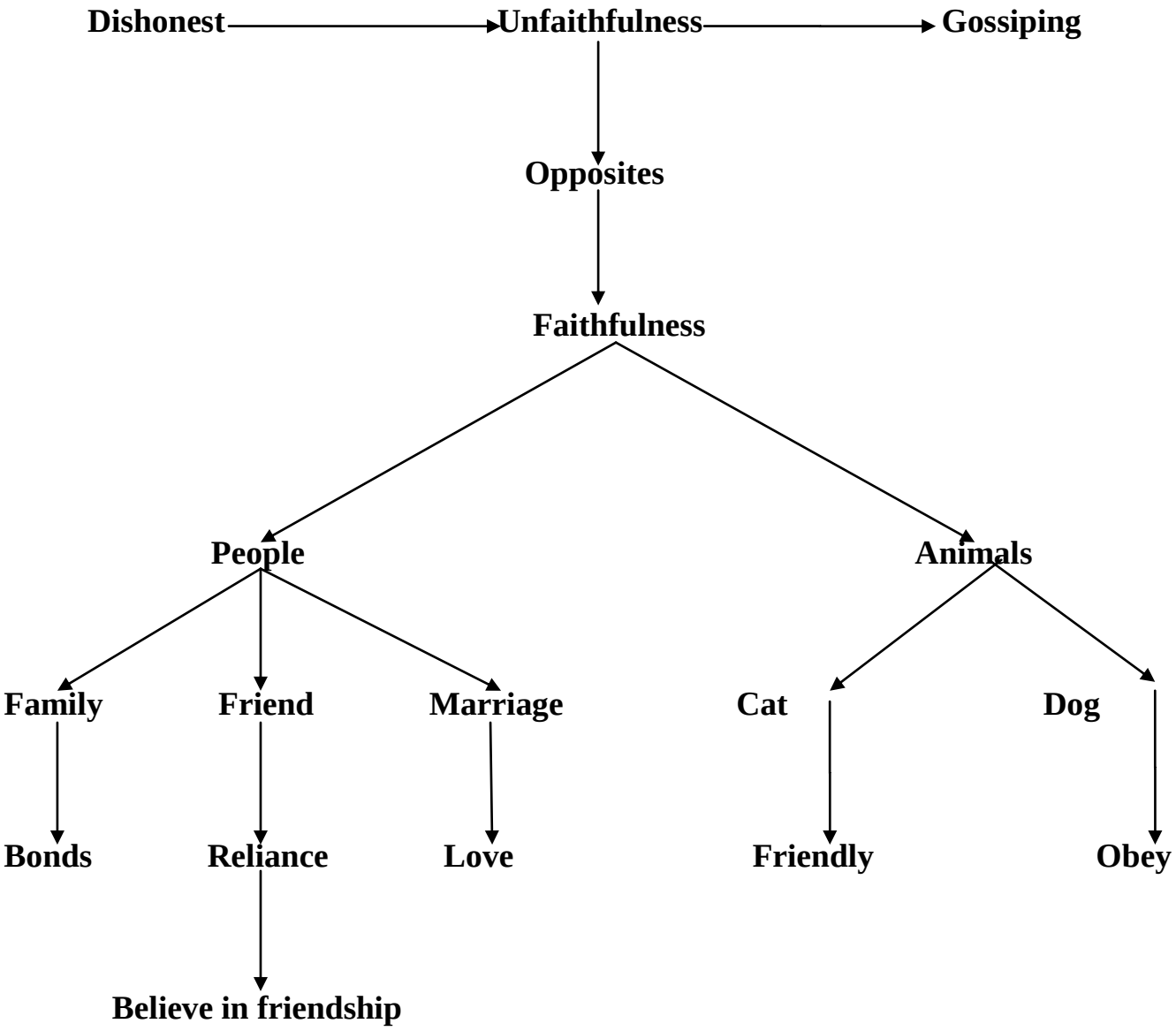


Figure (5): Semantic mapping for word *"Unfaithfulness"* (Sokmen, 1997:250)

Furthermore, Nation (2001) saw the interaction between the teacher and his learners when using semantic mapping. He stated that semantic mapping involves the teacher and learners working together to build up on the blackboard a visual framework of connections between ideas (p, 129). This technique helps students remember the stock of vocabulary they have learnt related to the subjects.

Nation, (2001) pointed out in his study that there could be several starting points of semantic mapping. It can involve the recall of previously read story, a recent or current event, a film, a unit of study or simply learner's general knowledge of atopic. He also cited Stah and Vaneil's opinions that the discussion occurring during the building up of the semantic map that makes the activity contribute to vocabulary learning and the skill is important in the way that the teacher enters into a dialogue with learners, encourages them and supports their participation in the dialogue.

In the present study, vocabulary will be introduced by using semantic mapping. The results of constructing a semantic map can be seen as the map from the topic

2.3 Semantic Mapping Features

Various terms have been used in the literature to refer to the term semantic mapping .In language, learning the term semantic mapping is usually used to refer to" brainstorming associations which a word has and then diagramming the results".(Evely Hatch & Cherryl. B, 1995:387). The concept of semantic mapping in this study, however, differs from this definition. It refers to the identification of whether given semantic features are inside or outside the semantic boundary of a word.

Semantic mapping is also a useful strategy that can be introduced to learners at any level of proficiency. It involves drawing a drawing a diagram of the relationships between words according to their use in a particular text. Semantic mapping has the effect of bringing relationships in a text to consciousness for the purpose of deepening the understanding of a text and creating associative networks for words. It is best introduced as a collaborative effort between the teacher and the class. Such a diagram "visually shows how ideas fit together. This strategy incorporates a variety of memory strategies like grouping, using imagery, associating and elaborating and it is important for improving both memory and comprehension of new vocabulary items". (Rebecca, L.1990:62).

Semantic mapping is a strategy that can be used in all disciplines to demonstrate the relationships between ideas. It is an activity that helps bring into consciousness relationships among words in a text and help deepen understanding by creating associative new works for words, (Marianne, C, .M.2001:288).When teaching vocabulary explicitly, it can be used as a tool for students to discover the relationships between vocabulary words. As semantic mapping builds o prior knowledge, and is an active form of learning, it can be a very effective teaching tool.

In general, teachers need to decide what framework and strategies they should choose to focus o based on their student's needs, learning styles, proficiency level as well as the task's requirements. Thus, frameworks are not fixed and can vary from context to context.

In addition, semantic mapping activity enables learners to see connection between words. This is often a used device in helping to remember new words; (Paul Nation, 1994:124). Semantic elaboration facilitates the creation of links and semantic networks, as well as deep level of processing. One of procedures based on semantic elaboration is semantic mapping, which serves as a visual reminder of likes between words; these techniques are also suitable for presenting and revising collocations. (Visnja, P.T, .2008:22). Semantic mapping generally refers to brainstorming associations which a word has and then diagramming the results, (Norbert, S, & Michael's, 1997:250). Teaching a concept to others when the pupil brainstorming will increase student retention of information greatly. Be sure to discuss the ideas in the map at length. By discussing them as well as writing them down, the teachers are catering to different learning styles, and ensuring that all students are increasing their knowledge of vocabulary. A semantic map is any graphic devices that illustrates the range of meaning of word or words either within one language or between two (or more) languages, (David, R.Z, 1983:35).

Recently, semantic mapping is one the new approaches; it is a process for constructing visual displays of categories and their relationships. That is it a categorical structuring of information in graphic form. It is an "individualized" content approach which allows students to relate new words to their own experiences and prior knowledge. Semantic maps can be formed from individual or group contributions or through teacher directed or independent activities. As an instructional strategy, semantic mapping involves a variety of basic memory and comprehension techniques (such as making associations, grouping, and using visual memory of the semantic map) that incorporate relating old knowledge to new,(*http:www.longwood,530)*.

From these definitions given above, semantic mapping is a visual strategy for vocabulary expansion and extension of knowledge by displaying in categories words related to one another. Semantic mapping is an adaptation of concept definition mapping but builds o students' prior knowledge or schema. While it draws on prior knowledge it recognizes important components and shows the relationships among the components. Through semantic mapping the students attract to use their imagination to find the connection between word which helps them to retain their schemata of English vocabulary, remember the new given-words from their teacher and they can get the new word by themselves when they fill in semantic map. Semantic mapping is an attractive strategy which make the students interested in and creative, because learning through semantic mapping is different from the traditional vocabulary learning, it have to use some media such as picture, shape and color.

2.4 History of Semantic Mapping

According to Hanf, (1971) was the first to develop the mapping procedure; it was originally designed to improve the teaching of study skills. However the nation of semantic mapping predates Hanf's publication.

In 1963, Ausubel asserted that when individuals are presented with not be explicitly understood until they are linked in a meaningful way to pre existing concepts. In other words Ausubel claimed that background information was a necessary prerequisite to the addition of new concepts and vocabulary.

Similarly reading theories have linked the process of reading comprehension to the building of bridges between the new and the unknown (Pearson and Johnson, 1978). Since the 1970s, a number of schema researchers have demonstrated that learning background knowledge of text structure helps to build comprehension (Carrell, 1984). Certainlly, one of the major benefits of semantic mapping is that is helps to build schema; however, this is only one of many possible benefits of using semantic mapping activities in reading classrooms.

During the 1980, there was an explosion in research related to semantic mapping that greatly increased our knowledge of the broad applications of mapping strategies (Carrel et al, 1984).

Recently, semantic mapping has been used in a variety of ways, including the following:

It has been used as a technique for increasing vocabulary and improving reading comprehension (Carrel et al, 1971), as framework for identifying the structural organization of texts. (Sinata et al, 1986) as a link between reading and writing instruction and as an assessment techniques (Flavell and Markman, 1992)

There are a number of ways to create word maps Widomski (1988) promote a combination of semantic mapping and directed reading activities to enable readers to make use of schemata so that they might achieve a fuller understanding of a text. Widomski (1988) says her word webs always consists of the following parts; a core question (Which could be the main idea of the text, for example), the

stand supports/ supporting details (the graphic representation of connections or lines drawn between words and phrases on a semantic map).

Semantic mapping a activities are carried out during the pre-reading phase of a lesson to activate learners schemata and to introduce them to key vocabulary from the text. As a pre-reading activity, instructors can use core questions to enhance the comprehension of vocabulary.

Heimlich and Pittelman also encourage post reading mapping. During the post com add new words, concepts and even categories to their pre-reading maps.

The final phase of map construction comes when the learners are asked to recall the details of a text and to discuss and graph new information in to their pre existing maps.

Finally, Flavell and Markman, (1992) contend that semantic mapping is useful for evaluating student gains in understanding throughout the learning cycle. They go on to state that the identification of misunderstanding early on allows teachers to redirect student's misconceptions. Flavell and Markman assert that, as only reveal student perceptions but also relate misunderstanding of core ideas.

2.5 Semantic Mapping Strategy

According to Masters et al, (1993:34) states that the use of semantic mapping strategy.

They define mapping technique as being *"used to motivate and involve students in the thinking, reading and writing aspects. It enhances vocabulary development by helping students to link new information with previous experience"*. Joes (2006:96) defines semantic as "a visual strategy which shows the major ideas of certain topic and how they are related".

"Semantic is the study of meaning of words phrases and sentences; in semantic analysis there is always an attempt to focus on what the words

conventionally mean." Yule (2006:100). This technical approach is concerned with objective or general meaning and avoids trying to account for subjective meaning or local meaning, linguistic semantic deals with the conventional meaning conveyed by the use of words, phrases and sentences of language.

2.6 The Importance of Semantic Mapping Strategy

According to Jones, (2006:57). *"mentioned that semantic mapping can be a helpful reference for students to use in clarifying confusing points as they are reading".* Once students are familiar with the nature of the semantic maps they can create their own during reading or post reading activity. Williams,(1994:60) said that semantic mapping enable students not only to visualize relationships, but to categorize them as well as a direct teaching strategy that includes brainstorming and teacher lead discussion, semantic mapping provides opportunities for schema development and enhancement as well as prediction hypothesizing and verification of content when used as a pre reading activity. It is also referred to as a web or concept map.

The teacher can introduce semantic mapping to the class in different appearances. They can be shown as circles, squares or ovals with connecting lines. The students read an assigned text.

Through class discussion the teacher writes the main idea of the text in the middle of the top circles that are connected to the main idea by lines. This activity can also be used in cooperative groups individually.

Harvey et al, (2000:105) *"added that semantic mapping strategies are valuable instructional tools unlike many tools that just have one purpose; semantic mapping is flexible and endless in application".* One common trait found among semantic strategy is that they show the order and completeness of a student through process-strengths and weakness of understanding become clear evident.

Many semantic maps show different aspects of an issue. Semantic maps use short words or phrases, which one ideal for many types of learners, including English language readers with intermediate proficiency.

Thomas, (1999:76) explains that semantic mapping is a strategy. It assumes that there are multiple relations between a concept and the knowledge that is associated with the concept.

Thus for any concept there are many types of associations:

a. Association of class the order of the concept falls into.
b. Association of property; the attributes that define the concept.

He said that the major purpose of semantic maps is to allow students to organize their prior knowledge into these formal relations and this to provide themselves basis for understanding what they are about to read and study.

Comprehension can be thought of as elaboration of prior knowledge.

Heimlich and et al, (1986:89) explained that a semantic map is one type of graphic organizer. It helps students visually organize and graphically show the relationship between one piece of information and another.

This strategy has been identified by researchers as an excellent, effective technique for increasing vocabulary and improving reading comprehension.

As a pre-reading activity semantic mapping can be used to activate prior knowledge and introduce key vocabulary. As a post reading activity words are categorized and new concepts can be added to the original maps to enhance understanding.

2.7 Strategies of Vocabulary Learning:

2.7.1 Sense Relation

Basically, vocabularies of a language are not isolated entities. They are naturally related to each other in different systems. (Morgan and Rinvolucri, 1986 and 2003) believe that vocabulary learning is a matter of realizing this relationship. A large number of words in any language share significantly different types of semantic relationships, and the mental lexicon are believed to function not in the form of word lists but as networks of these relationships. Due to this, vocabulary teaching in terms of these meaning relations is maintained to promote the storage, memory and retrieval of words for actual use. The typical relationships of words discussed below are: synonymy, antonym and hyponymy.

2.7.2 Synonymy

According to Gairns and Redman (1986), McCarthy (1990), and Carter and McCarthy, (1988).Synonymy is sameness of meaning between two or more words of the same grammatical category. Particularly as to Gairns and Redman, synonymy is a fast and effective technique of explaining the meaning of new words. Carter and McCarthy also argue that teachers and students employ synonymy as a convenient means of communicating the meaning of words because the words are highly interchangeable.

Synonymy as a teaching technique may enhance effective communication and prevents communication breakdown for the fact that it provides rich source of vocabulary to talk about specific issues. In the real situation, when a student fails to remember the required word during communication, either communication ceases to proceed or he/she strives for continuing the speech by paraphrasing, which Wallace (1982:9) refers to it as 'repair strategy', in a relatively understandable manner. But unable to retrieve the right word will put the learner in a state of stress and confusion. As it was noted in chapter one, Wallace (1982) expressed this inability to remember words one needs to communicate his/her feelings as the most threatening experience to the learner.

Therefore, the argument is that the teaching of vocabulary has to be oriented in the way it enables the learner to have a rich and automatic access of words during actual communication (the road to fluency).

One of the ways, perhaps the most common one, to help this immediate memory of words, Schmitt (2000:132), is grouping words together based on meaning similarity. The underlining principle is that the previously learned vocabulary item which is already part of the learner's mental lexicon will serve as a hook to the fresh word so that it will not be forgotten. Newly learned words lacking this connection, however, are prone to forgetting.

In spite of the prime importance of organizing lexical items based on sameness of meaning (synonymy) has some limitations and a caution has to be made against. It is certain that pairs or group of words such as: begin/start, below /beneath/ underneath, toilet/ lavatory, to mention some, are good examples for synonymy. However, linguists like Carter and McCarthy (1988) believe that absolute interchangeability of two synonymous words is rare. For example, when it is right to say: 'The baby began /started crying', it is unacceptable to say: 'I couldn't begin my car; battery is low'. The implication is that two words with the same meaning cannot be interchangeably used in every context. Hence, students too should be aware of this limitation.

2.7.3 Antonym

Antonym, defined as oppositeness of words, is another way of organizing vocabulary items. The meaning of words in addition to sameness of meaning Can be determined by other words with opposite sense, in this regard, Nation (2001), argues that words can be organized in to a specific lexical category by the semantic relation of antonym.

It has to be stressed that the objective of treating words under any organizing principle is to promote the learners' understanding of meaning and memory of words better and easier. The study of isolated lists of words puts the learner into a more mechanical and artificial situation where memory is hardly easy. However,

when pairs of words such as: hot/cold, tall/short, sweet/sour,/sad/happy, thin/fat, etc. are presented, the learner would be benefited in that an attempt to recall one side will result in the memorization of the other.

In dealing with pairs of words with opposite meaning, there must be a good deal of attention to the point of degrees of oppositeness. In this connection, linguists studied four classes of antonym: gradable, upgradable, conversances and directionality (see Carter and McCarty 1988:4-23).

Gradable antonyms (e.g. hot/cold and big /small) are characterized by having intermediate terms in between and in fact outside the given pairs such as cool/warm and tiny/huge respectively. Therefore, oppositeness can be relative and context dependent from this point of view. However, unreadable antonyms, also called complementariness, truly represent oppositeness in that no middle ground is exhibited. For example, antonyms like dead /alive, male/ female, man/woman reflect that if one is true the other is absolutely false; they are mutually exclusive. Conversances', on the other hand, refers to the two way relationship between words as in parent/child, husband/wife, buy /sell, etc. There is a reciprocal or reversible relationship in such antonyms. The last type of oppositeness, directionality, exists between in pairs such as: up/down, arrive/depart, come/go, take/ bring in which case a sort of direction is embedded.

In short, the ability to realize and determine the degree of oppositeness between words would help the learner to be more concerned in investigating sense relation.

2.7.4 Hyponymy

In addition to the sense of sameness and oppositeness, words can be studied in terms of the relationship of inclusion. Some specific words (e.g. green, blue and red) can be viewed in relation to other general term, color or still more general one, painting (Ur 1996). The idea is that part of the meaning of specific words is contained by the general term, technically called super ordinate word.

McCarthy (1990), states that many course book writers directly or indirectly use this frame work as a strategy of organizing vocabulary items for details).

These techniques discussed under sense relationship of words (synonymy, antonym and hyponymy) are only some of the strategies by which the meaning of one word is explained in terms of other words. Although other types of sense relations exist (e.g. polysemy = the relationship of a word to many different meanings, metonymy =whole-part relation), synonymy, antonyms and hyponymy are by far the most frequently used ones by teachers and textbook writers (McCarthy 1990, Nation 2001). The last vocabulary teaching technique, perhaps a more advanced from of sense relation, we need to see is vocabulary network.

2.8 Definition and Collocation Techniques

Definition and collocation are both essential techniques of vocabulary teaching. Definition is the commonest way of communicating meaning during speaking and writing. A study of sixteen Biology and Chemistry lectures by Flowerdew, (1992), cited in Nation (2001), reflected that about twenty definitions per lecture were made. This study shows that definition is a major technique of conveying the meaning of words and terminologies not only in language classes but also in other disciplines too. French (1983:46) also stated that: "Defining words by means of other words is a technique needed by teachers." To meet its purpose genuinely, however, researchers such as Ellis (1995), Chaudron (1982), and Mckeown (1993) in Nation (2001), recommended that definition has to be specific, direct, unambiguous and simple. Definition composed of words and phrases as difficult as the target vocabulary item to be defined may be counterproductive. It is, therefore, a technique that requires skills and expertise of teachers.

While definition is concerned with establishing a single word's meaning, collocation takes definition for granted and is concerned with the words that typically appear together with the target vocabulary. Words are not randomly put together to form strings and phrases. There is always a choice of one lexical item

over the other in terms of its collectability. McCarthy, (1990:13) explains the importance of collocation as: "The relationship of collocation is fundamental in the study of vocabulary; it is a marriage contract between words, and some words are more firmly married to each other than others." When our focus is on definition, for example, we may explain the word 'dream' as: 'A dream is like a film in your head that you have sometimes when you are a sleep'. When learners hear such definition, their main purpose is to decode the stream of words and match an L1 equivalent translation to the word being defined. But they are less likely to notice and retain collocating verb 'have' and collocating adjectives ‘bad, recurrent, sweet’, etc.

Hence, the inclusion of collocation enables learners to make use of the word dream and say: ‘I had a dream about …; I had a bad /recurrent dream or sweet dreams!’ Therefore, it can be concluded that definition followed by collocation provides meaning and how the word is used in productive skills (writing and speaking).

2.9 Vocabulary Network

The principle of vocabulary network, also known as word web, word map, mind map, word association, explains that beyond sameness, oppositeness and inclusion of meanings of words, there is an intricate and complex interconnection or network among group of words. McCarthy (1990) writes that semantic relationship in terms of synonymy and antonym tends to simplify the complex nature of the mental lexicon.

According to Schmitt, (2000) words are not stored in the mind in isolated pattern, but in an organized and systematic manner. That organization is conveniently explained as association or network. The mental lexicon, how words are stored in the mind, is metaphorically described as "a dictionary, a thesaurus, an encyclopedia, a library, a computer" all of which refer to a principled organization of facts (McCarthy, 1990:34).

In making use of vocabulary network technique, Harmer (1990:165) suggests that a word item, for example, "HOUSE" is selected and given in a box at the centre of a sheet of paper and students are encouraged to build a network of arrows connecting it to many possible words that have semantic association in any way. See a more complicated network for the word 'BEDROOM' in Gairns and Redman, (1986:97). Below is given a simple example of word network (Ur, 1996:69):

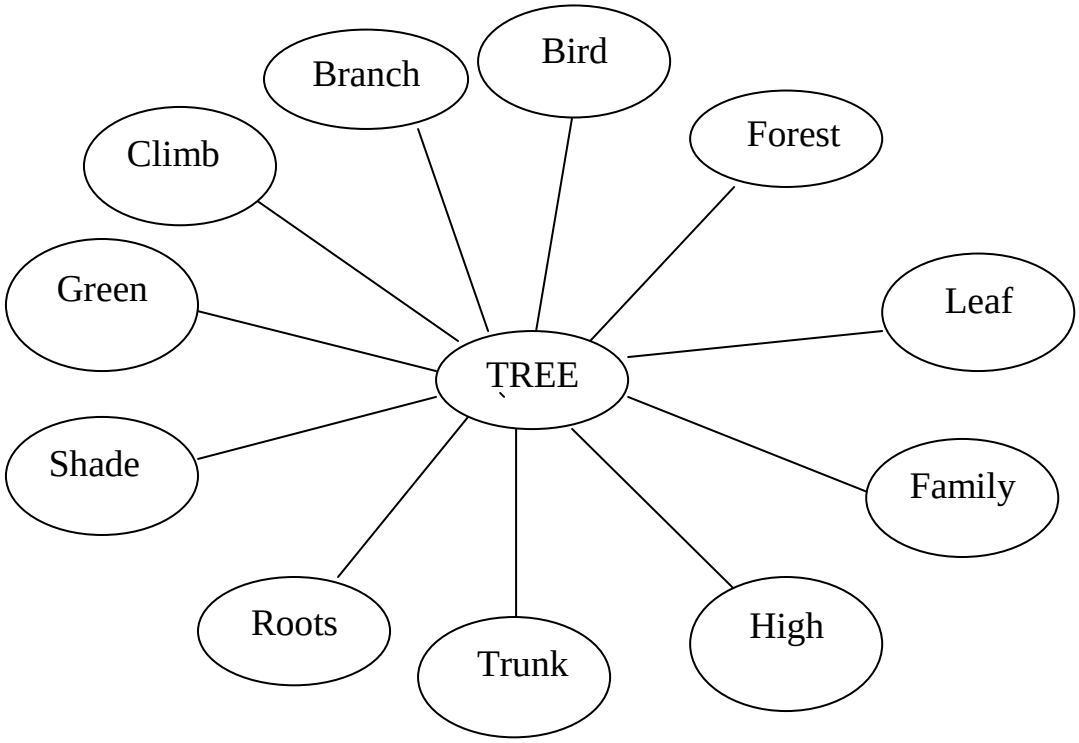


Figure (6): Diagram showing word association /Vocabulary Network

The vocabulary network technique is believed to function as a convincing framework of organizing lexical items. Carter and McCarthy (1988:441) sate: "knowing a word means knowing its place in a network or associations with other words in a language." In a study of vocabulary learning strategies, Ellis (1994: 553) generally concluded that "any attempt to form an association involving the target word aided retention."

2.10 Procedure of Using Semantic Mapping

The framework of semantic mapping includes: the concept of word, two category examples, and other examples. This is a very interactive process and should be modeled by the teacher first. The steps involved in semantic mapping are: write the concept word on the board, explain the steps involved and have students think of as many words as they can for the concept word, write the list on the board or overhead and have students copy it, and finally in groups have students put the words into categories, (http//www.longwood.530).

According to Nation, below are the steps to use semantic mapping in teaching vocabulary: (I.S.P Nation, 2008:95).

a. The teacher writes the topic of piece of writing in a short from in the middle of the board, for example Energy.
b. The learners then suggest ideas that they have about energy and the teachers notes the most important words and phrases from these ideas on board radiating out from the topic. If ideas are slow in coming the teacher can give some guiding questions, such as *what are the different kinds of energy? What energy sources do we use when we drive a car?*
c. After a reasonable number of words and phrases are on the board and these covers the main ideas, the teacher and learners then suggest how these ideas could be sequence in a piece of writing.
d. If the teacher wants to make sure that the words or phrases are actually remembered, the teacher tells the learners to look at the board for a minute and then cleans the board. The learners then come up one by one reconstruct what was on the board, or tell the teacher what to write and where.

Other steps are: (*http://www.php*).

a. The teacher decides on a topic for instruction and the new words that are important to be taught. The topic or concept is briefly introduced,

and a key word is written on the chalkboard, overhead transparency, or chart paper.

b. Students are asked to think of other words that come to mind when they read the key word. It is also appropriate for the students to write down a list of these words to be shared with the class.
c. The students share their recorded words. If any of the teacher's "new words" are not suggested, the teacher presents them for discussion.
d. After the list of words is completed, the words are grouped by category. Students discuss why certain words go together. Category names are assigned.
e. A class map of the words is created by putting the information on a large sheep of paper. The map is discussed. At this time, students are encouraged to add items to the categories or even to suggest new categories.
f. As other new words that relate to the topic are discovered through the reading of the text, additions are made to the map.

   For attention, in the beginning the teacher may choose to down not only the key word to be considered but also some categories. As the students become more adept at using this strategy, the categories will be determined by the class.

   Based on some sources about how the way to teach semantic mapping above, the writer conclude if the steps of using semantic mapping in teaching vocabulary is like this, for example in teaching about *transportation* we might divide transportation at the air, land, and water in a diagram like in the picture below. Then we might display the target words: *trolley, van, canoe, aircraft, blimp, and glider. Next,* begin instruction by having students brainstorm words related to the concept of transportation in air, land, and water. When they brainstorm, make them list their words on their worksheet and

make sure the target words are included. During the brainstorm session, announce to the students that they can discuss it to other friends in order they can get the right words in each categories. Finally, write what the words they have got on a whiteboard and at last the diagram may have filled below:

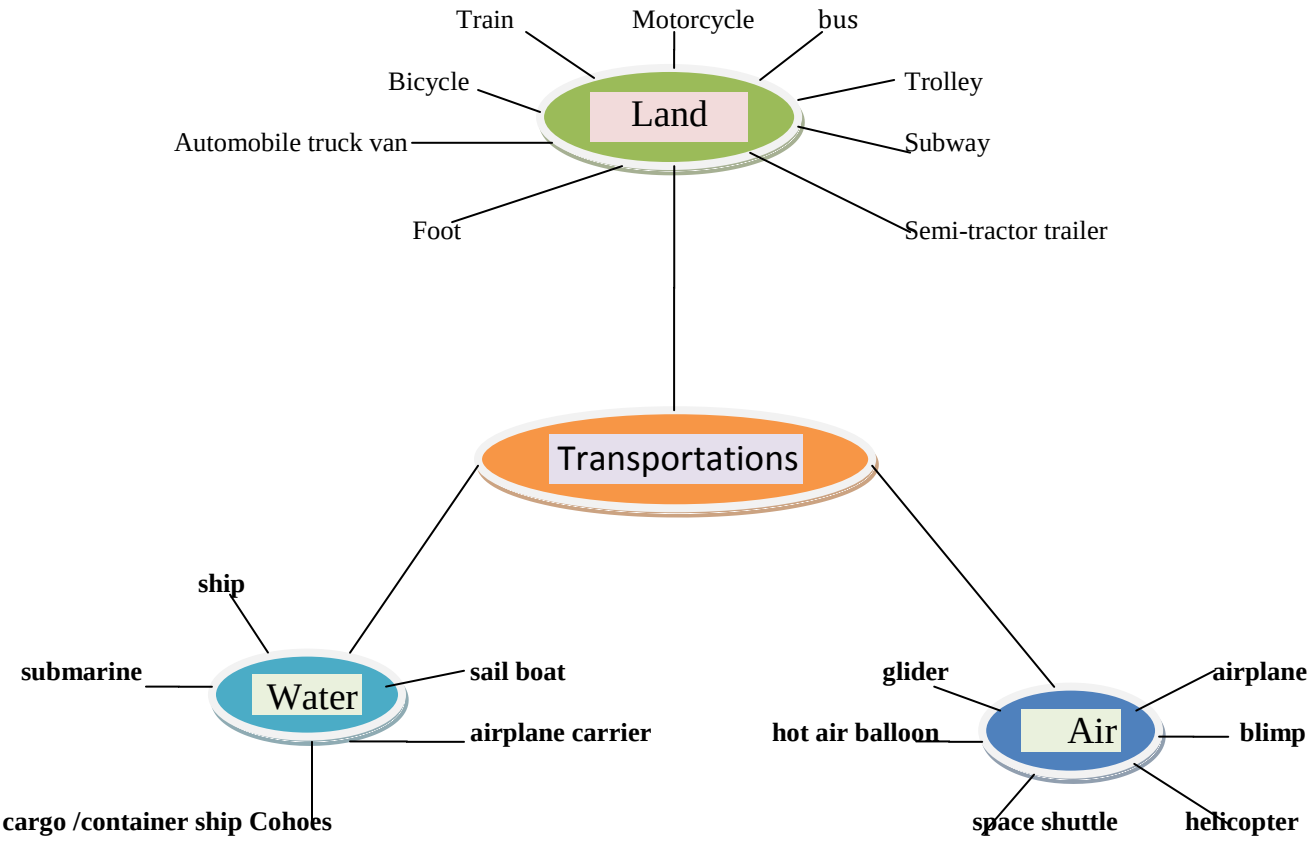
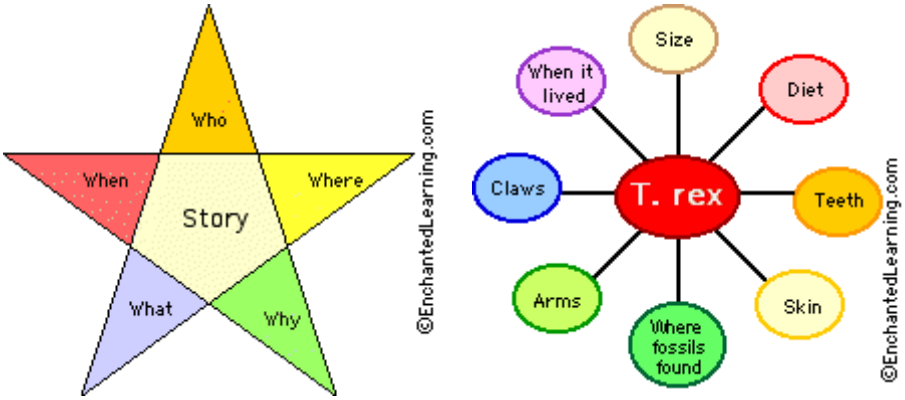


Figure (7): Semantics Mapping of Transportation

2.11 Forms of Semantic Mapping

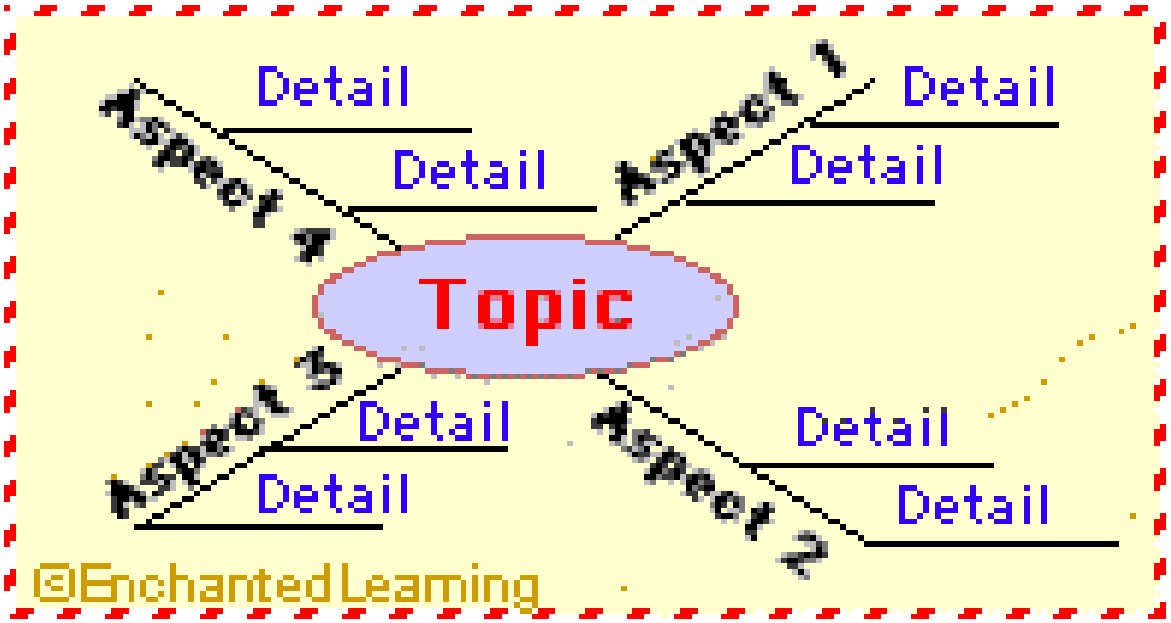
There are several form of semantic map that the found from enchanted learning.com: (*http://www.enchantedlearning.com*).

1. **Star Diagram**



Star diagrams are a type of graphic organizer that condense and organize data about multiple traits, fact, or attributes associated a single topic. Star diagrams are useful for basic brainstorming about a topic or simply listing all the major traits related to a theme.

2. **Spider Diagram**

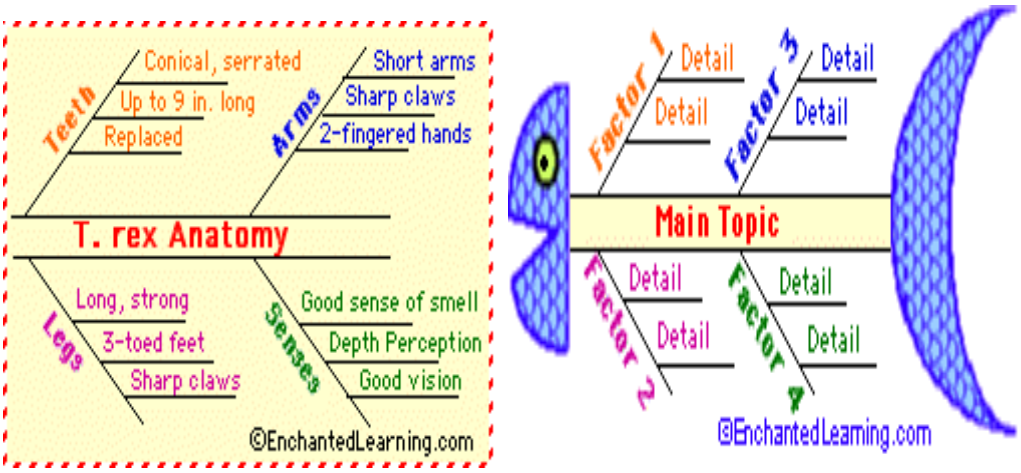


A spider map (sometime called a semantic map) is a type of graphic organizer that is used to investigate and enumerate various aspects of a single theme or topic, helping the student to organize their thoughts. It looks a bit like a spider's web, hence its name.

The process of creating a spider diagram helps the student focus on the topic, requires the student to review what they already know in order to organize that knowledge, and helps the student to monitor their growing comprehension of that topic. It also helps point out the areas where the student must investigate more (where the web is hard to fill out).

If the topic at hand involves investigating attributes associated with a single topic, and then obtaining more details on each of these ideas, use a spider diagram as your graphic organizer. The spider diagram is like a star graphic organizer with another level of detail.

3. Fishbone Diagram

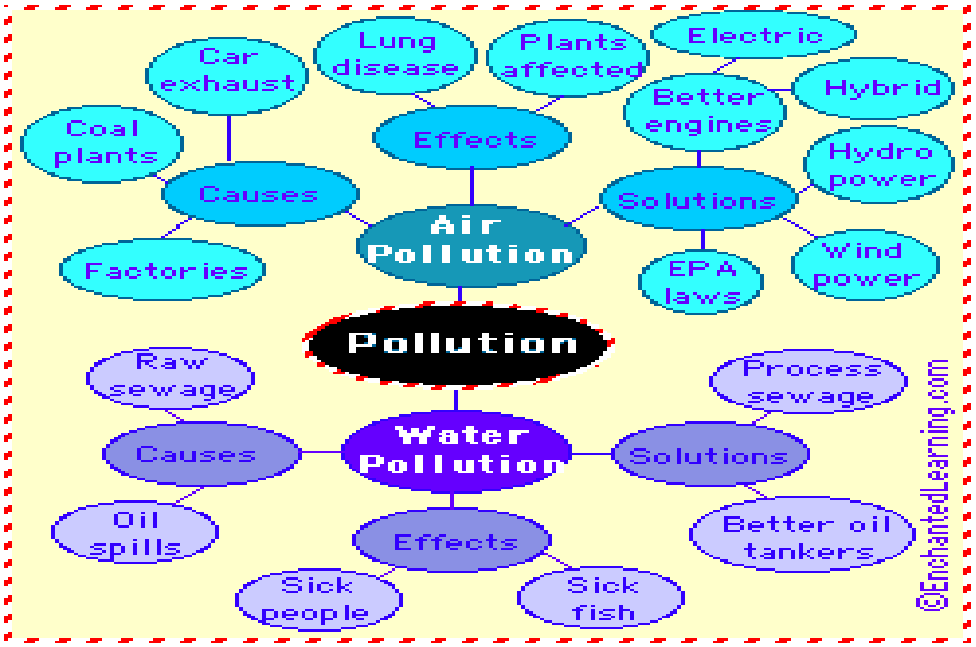


A fishbone map (sometimes called a herringbone map) is a type of graphic organizer that is used to explore the many aspects or effects of a complex topic, helping the student to organize their thoughts in a simple, visual way. The use of color helps make a fishbone diagram as your graphic organizer. The fishbone diagram is like a spider map, but it works for more complex topics- topics that require more details to be enumerated.

The process of creating fishbone diagram helps the student focus on the topic, requires the student to review what they already know in order to organize that knowledge, and helps the student to monitor their growing comprehension of the

topic. It also helps point out the areas where the student must investigate more (where the fishbone is difficult to fill out).

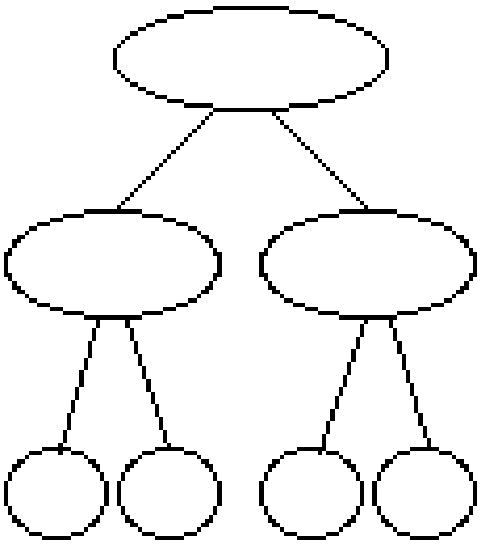
4- Cluster/Cloud Diagram



Cluster diagrams (also called cloud diagrams) are a type of non- linear graphic organizer that can help to systematize the generation of ideas based upon a central topic. Using this type of diagram, the student can more easily brainstorm a theme, associate about an idea, or explore a new subject.

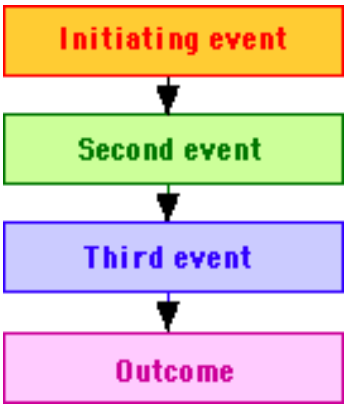
To create cluster diagram, the student first thinks of as many terms or ideas relating to the stimulus topic as possible (and then writes the second-level ideas in circles attached to the main topic) –this first step is like creating a star diagram. Then the student explores each of these new second-level ideas in turn, and for each, finds as many related ideas as possible (and ads these third-level terms to the diagram around the idea). If more detail is desired, the previous step can be repeated for each of the third-level ideas (or more).

5- Tree Diagrams



Tree Diagrams are a type of graphic organizer that shows how items are related to one another. The tree's trunk represents the main topic, and the branches represent relevant facts, factors, influences, traits, people, or outcomes.

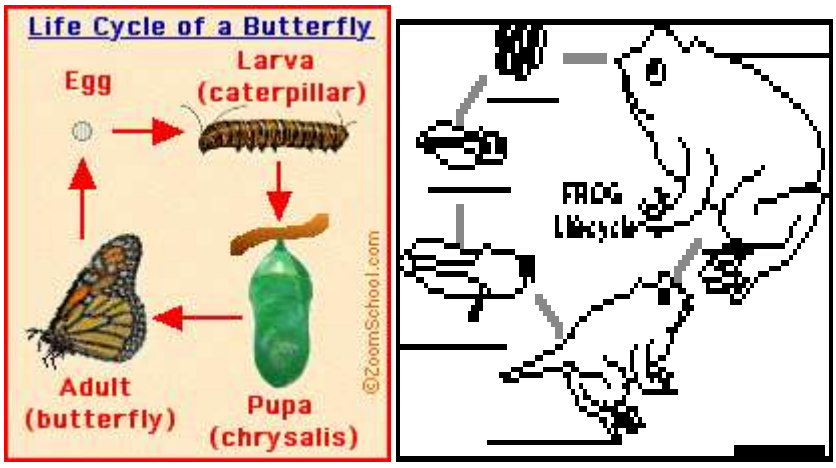
6- Chain Diagrams



Chain diagram, also called sequence of events diagram, are a type of graphic organizer that describe the stages or steps in a process. The student must be able to identify the first step in the process, all of the resulting stages in the procedure as they unfold, and the outcome (the final stage). In this process, the student realizes how one step leads to the next in the process, and eventually, to the

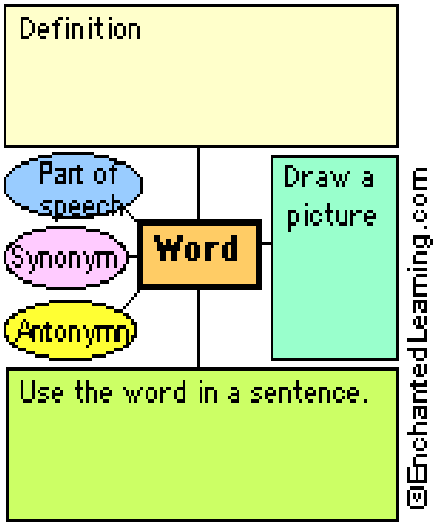
outcome. Chain diagrams are useful in examining linear cause-and – effect process and other process that unfold sequentially.

7- Cycle Diagrams



Cycle Diagrams are a type of graphic organizer that shows how items are related to one another in a repeating cycle. Use a cycle diagram when there is no beginning and no end to a repeating process. In making a cycle diagram, the student must identify the main events in the cycle, how they interact, and how the cycle repeats.

8- Vocabulary Map Graphic Organizer



Vocabulary maps are graphic organizer that can be useful in helping a student learn new vocabulary words.

For each new vocabulary words, the student writes the words, its definition, it's part of speech (noun, verb, adjective, adverb, etc.), a synonym, an antonym, draw a picture that illustrates the meaning of the word, and writes a meaningful sentence using the word.

2.12 The Mind Maps Methods

Most of the vocabulary learning approaches are linear. They consist of writing down words and phrases or making endless vocabulary lists. Also both approaches used in the research are of a linear kind. Even though the linear vocabulary organization surely helps to a certain extent, the human mind does not work like this. The human mind works on more levels, engaging many dimensions. Using mind maps gives the learners a chance to organize the vocabulary in a unique and creative way and therefore to learn it more easily. As the mind maps follow the way the human mind processes, it may also help in vocabulary learning.

Mind maps were popularized by Tony Buzan (2003); however, the concepts of semantic “networking” and “concept maps” were used even earlier (Jonassen, Carr, Yueh, 1998). Mind maps are based on the visual representation of a certain topic or an idea. The advantage of mind maps is the ability to develop an idea on more levels, being able to add something here and there without any need to rewrite the whole concept. It helps to develop ideas logically and with the use of colors and images it makes the information more transparent. There is also a possibility to connect various pieces of information on different levels and therefore to visualize related ideas, which would not be possible in linear notes. Therefore, mind maps can be used for note making during lectures or at meetings, public speech planning, decision making, problem solving or in this case, for vocabulary organization.

According to Buzan, (2003) the human brain remembers items that are at the beginning of the learning period, called "the primacy effect" and items at the end of the learning process, called "the regency effect". Then it remembers the items

that are connected to some words or patterns already stored in the mind. Finally, the human brain remembers items that are of a particular interest to the learner, or items that are in some way outstanding or unique. The primacy and decency effects cannot be avoided or strengthened, however, the connection among vocabulary already known and the new words can make a great difference in the learning process. Also making difficult words or phrases unique and more noticeable can make learning of the particular item easier. "Mind maps combine notes taken from the external environment (lectures, books, journals and the media) with notes made from the internal environment (decision making, analysis and creative thought)" (Buzan, 2003:140). The process of creating the mind map is simple and can be done very easily. Mind mapping has only few characteristics, apart from them; there is plenty of space for creativity.

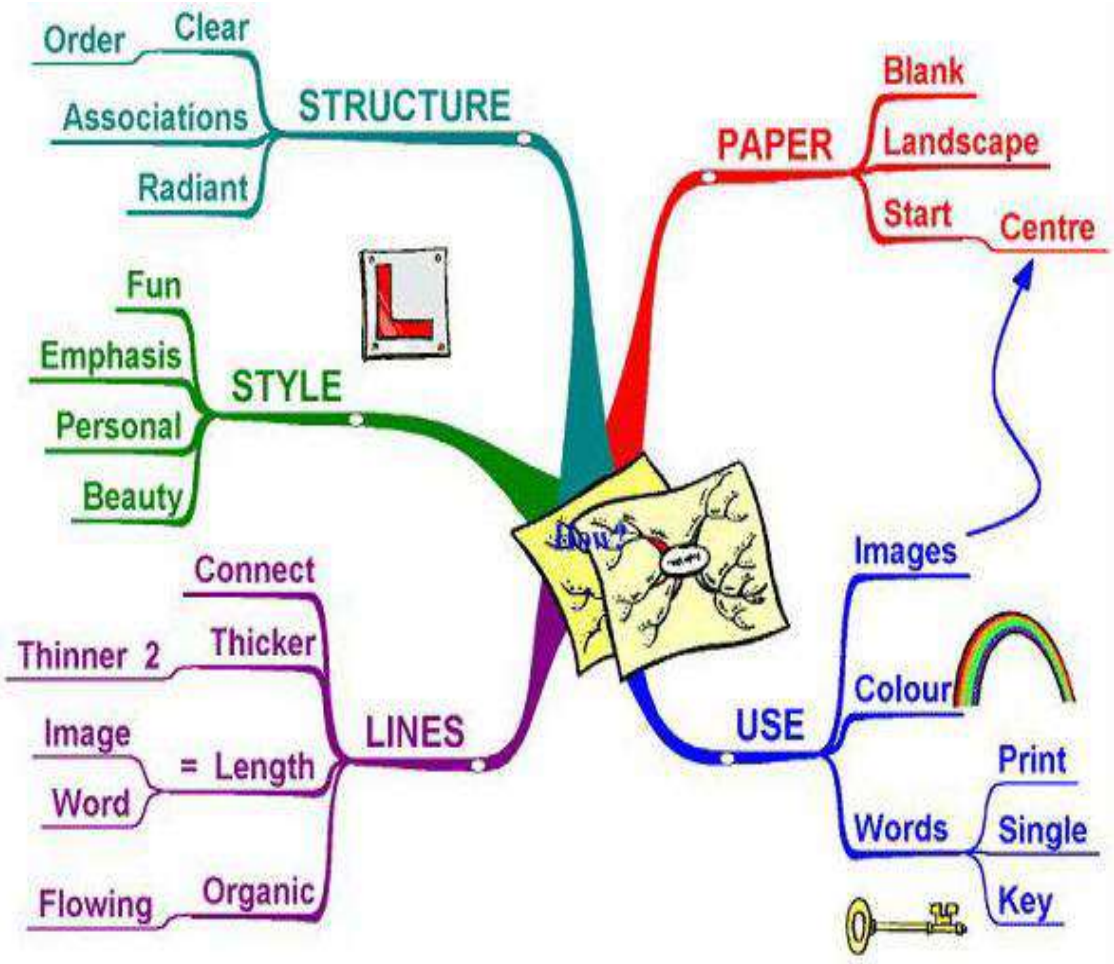


Figure (8): a mind map about how to make a mind map, http)

In the centre of a paper there is usually an image representing the subject, however, also a key word for a chosen topic can be used. The main themes come from the central picture through main branches. All the other themes are connected to the main themes or to each other. As it is visible in the picture above, thanks to the usage of colors and images the mind map is better organized and therefore, it is easier to follow the flow of ideas. It is important to use mainly key words, not the whole sentences or long phrases, so the mind maps stays tidy and well-ordered.

> *"The Mind Map harnesses the full range of cortical skills – word, image, number, logic, rhythm, color and spatial awareness – in a single, uniquely powerful technique. In doing so, it gives you the freedom to roam the infinite expanse of your brain". (Buzan, 2003:84)*

In language learning process, mind maps can be used in many ways, particularly the ability to add some new word which was not included in the learning materials; however, the learner finds it very useful.

In order to organize given vocabulary, the learners can create their own mind map with given vocabulary and then study from their personalized learning materials. Also the process of the creating of mind maps is very important, because even at this point, the learners are thinking about the links between the words and phrases and are already learning something. Learners can organize the vocabulary according to various semantic fields or grammatical features. The students engaged in the research were given these mind map samples, so they could get some inspiration and do not lose time while coming up only with the structure. Also the students were encouraged to include Czech equivalents to English words, phrases or images where necessary, so they could study more easily from the mind map.

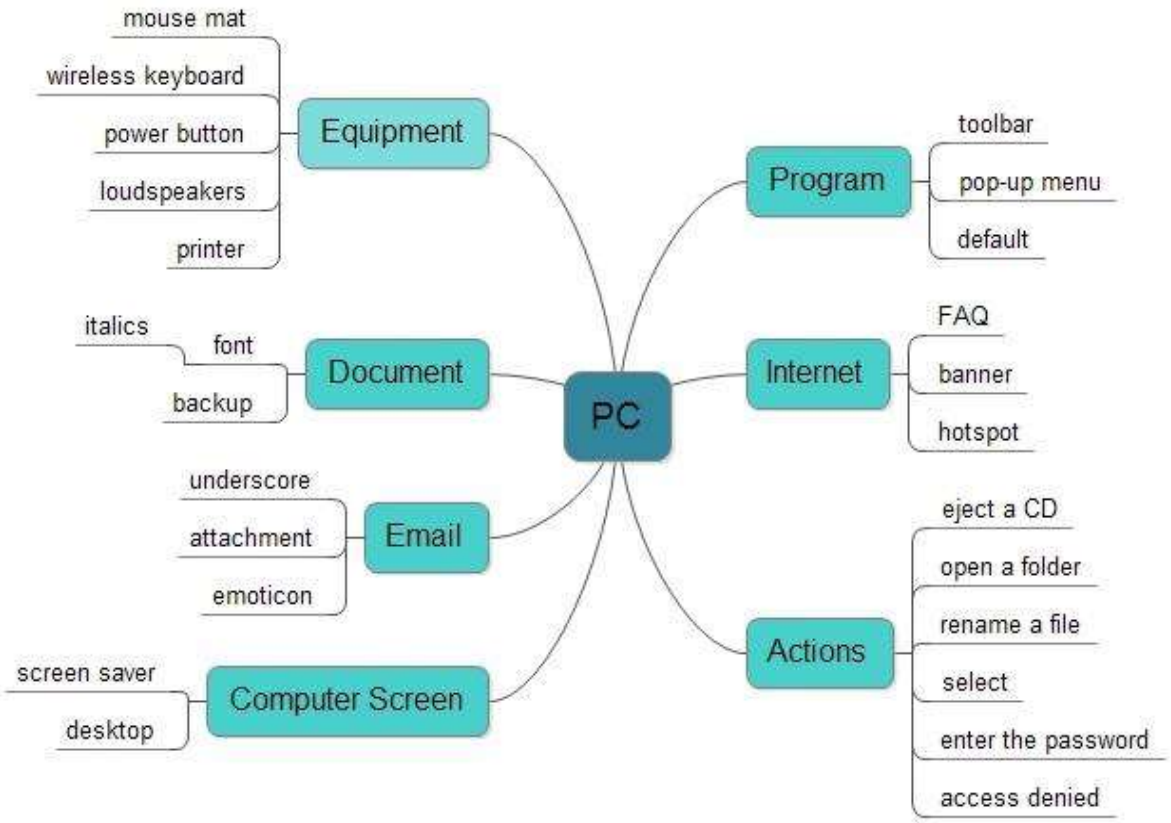


Figure (9): a mind map for PC (Computer) (Nouns), Http://1.bp.blogspot.coml.)

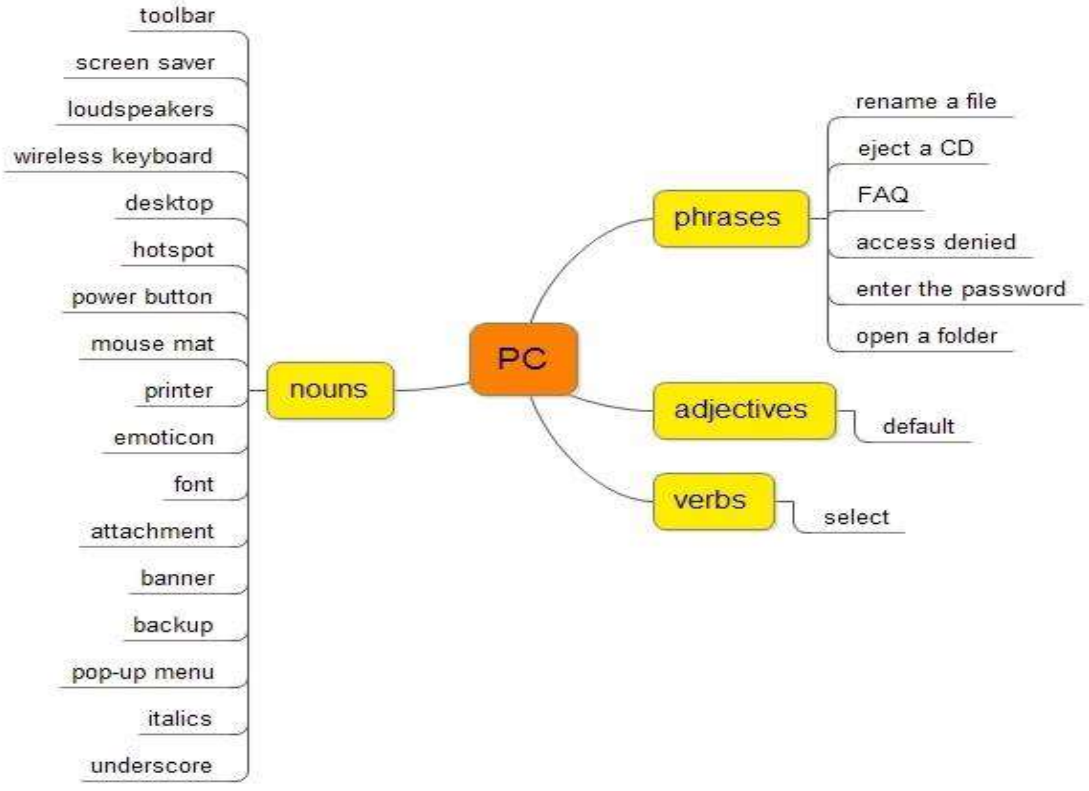


Figure (10): (PC) mind map (organized according to grammatical features, **Http://1.bp.blogspot.coml...)**

2.13 Description of Semantic Mapping

"Semantic mapping generally refers to brainstorming associations which a word has and then diagramming the results." (Sokmen. 1997: 250), Johnson, Pittelman and Heimlich describe it as "categorical structuring of information in graphic form" (1986: 779).

Generally, SM has been used in the following ways: 1) for general vocabulary development, 2) for pre and Post reading, 3) for the teaching of a study skill, 4) for a link between reading and writing instruction, and 5) for an assessment technique.

As an important strategy of vocabulary instruction, SM is generalized as

Follows:

a. Write a key word or topic related to classroom work on a sheet of paper, the blackboard, or a transparent slide.
b. Encourage the students to think of as many words as they can that are related to the selected key word or topic.
c. Guide the students to list the words by categories.
d. Have students label the categories.
e. Discuss the relationships between these words.

(Adapted from Johnson & Pearson, 1984)

2.14 Advantages and Disadvantages of Semantic Mapping

The typical characteristics of semantic mapping lie in its effectiveness in visually integrating new words with the old and promoting a deep level of semantic processing. Both empirical and theoretical studies have justified these advantages. When Korbon (1984, as cited in Heimlich & Pittelman, 1986) observed suburban sixth graders of different cultural groups, she confirmed that students do exploit their unique experiences as a means of developing vocabulary. So her findings support the usefulness of SM. Margosein, Pascarella and Pflaum

(1982) and Vogt (1983) all confirm in their case studies that SM has a greater impact on vocabulary acquisition than does the context clue approach or the traditional dictionary-definition-plus-example approach, because semantic mapping SM motivates the students to connect their prior knowledge to new words and to see the lexical or conceptual relationships among words. Here Hague and Machala's theory can explain why semantic mapping SM was effective in the empirical research. Hague and Machala's think that "meaningful exercises or classroom activities which promote formation of associations and therefore build up students' semantic networks are effective for long-term retention" (Hague, 1987; Machalias, 1991; as cited in Sokmen, 1997: 249). In addition, because semantic mapping SM emphasizes tapping prior knowledge, it corresponds to *Schema theory's* principle that "new learning occurs either when adding to or adjusting already existing knowledge structures"

(Stoller & Grabe, 1993:33), as can be seen, the empirical and theoretical research has convinced us of SM's advantages in terms of facilitating vocabulary learning visually and directly.

Nonetheless, some anecdotal evidence in classrooms reminds us of the disadvantages of semantic mapping (SM). For example, when students are asked to think of words related to the key word or topic, they often generate too many new words or less frequent words. The overuse induces learning overload, especially for the students at lower language levels. As Stoller and Grabe (1993: 34) point out "the potential overuse of semantic mapping(SM) must be avoided in L2 contexts where students may be easily overloaded". Secondly, semantic mapping(SM) functions to introduce words in a certain category, so the words in the map are always semantically or syntactically similar. Students often confuse them. For example, some students take cabbage for carrot, or British for Britain. The worst performance takes place if the linked words or representations include both similar and different features, such as in the case of synonyms and

antonyms. Thus teaching a pair of words like *prevents* and *protects*, *open* and *shut* makes learning more difficult.

Higa, (1963) explains this phenomenon with his *interference theory*. He finds that the difficulty is caused by the similarity between the two items strengthening their association and the differences interfering with each other. The possibility for interference and confusion occurs when both of the words in the same lesson are new for the learners. At the same time, "the degree of interference increases with the degree to which the interfering material becomes more similar to the material already learned" (Waring, 1997: 263).Tinkham (1993) and Waring (1997) in their empirical studies both confirm the strong interference effect on the vocabulary learning. In order to avoid the interference effect, they recommend that students should be presented with new words unrelated to each other rather than with those that are semantically or syntactically linked. Otherwise, the new words will interfere with each other, thus impairing retention of them. In a word, the potential for overload and the possible interference effect that semantic mapping(SM) possesses are apparent and may influence the efficiency of vocabulary instruction.

Should we abandon the use of semantic mapping(SM) for vocabulary instruction? I think we should not draw a quick conclusion concerning the value of semantic mapping(SM) until we analyze the research in which the advantages or the disadvantages of semantic mapping(SM) have come up.

2.15 Analysis of Arguments against Semantic Mapping

No doubt, students have more difficulty learning new words presented to them in semantic clusters than they do learning unrelated words. The anecdotal evidence in classroom has clearly revealed this point. But if we examine the experiments Tinkham and Waring conducted, we will find the research methodology itself quite puzzling. They had their L2 subjects learn new words paired with artificial nonsense words (e.g., pear—okess, mouse—kunop) simply

by oral repetition. Then they compared the trials in which their subjects learned semantically related words to the trials in which their subjects learned unrelated words. They both found their subjects learned more slowly when they were presented with words in semantic clusters paired with artificial words. I suspect that the methodology itself goes against the well-known natural setting where people learn vocabulary.

For vocabulary learning, Hulstijn (1997: 214) summarizes key principles of L2 vocabulary learning, saying:

a) New vocabulary items should not be presented in isolation and should not be learned in rote fashion.

b) New vocabulary items should be presented in a meaningful context

c) Learners should elaborate on a new word's form and meaning in order to facilitate retention.

Although Tinkham (1993) and Waring, (1997) succeed in demonstrating the interference effect in learning semantically or syntactically linked words, they fail to set up an authentic or a quasi-authentic learning environment. Their suggestion that students be presented with unrelated new words is oversimplified and not realistic, since new words are always presented in a reorganized theme, regardless of methodologies of ESL programs. (As to the abundance of new words sharing similar semantic or syntactic elements in ESL texts, a number of examples and discussions can be found in Tinkham [1993, 1997] and Waring [1997].)

More oddly, Tinkham's (1997) further study on the interference effect of semantic clustering puts forward a conclusion that seems to go back to his starting point, at which he argues against the popular practice that ESL programs frequently present students with new words organized in semantic clusters, for example, clothing items. In this study, he suggests "a more thematic manner of organizing new L2 vocabulary", while he claims that "semantic clustering does serve as a hindrance" (Tinkham, 1997:138). Yet the two categories of clusters are not mutually exclusive. That is, some words might be both semantically and

thematically related. Although he says he distinguishes the two different manners of organizing lexical items on the base of the study of lexical semantics ("semantic clustering based upon semantic and syntactic similarities between clustered words and thematic clustering based upon psychological associations between clustered words and a shared thematic concept"([Tinkham, 1997:141-142]), in reality, the two categories are hard to delineate strictly. Nevertheless, Tinkham's emphasis on thematic clustering, once again, has justified the importance of *context* for vocabulary learning, as has been widely accepted in the vocabulary acquisition field.

To show how context is important, let's have a close examination of vocabulary acquisition theories throughout the literature. Nagy (1997: 64), the proponent of vocabulary acquisition through incidental learning, argues the importance of context from two common –sense observations: What a word means on any given occasion is mediated by the many contexts in which it is used, and such contexts provide considerable input from which language users clearly pick up huge amounts of vocabulary knowledge, apart from any explicit vocabulary instruction they may receive. Even Nations, Stoller and Grabe and other advocators who contend that vocabulary should be learned through the combination of explicit instruction and inferring from context, have not denied the role of context in vocabulary learning. Context is always crucial in the pedagogical themes these researchers have been exploring such as integrating new words with the old, providing a number of encounters with words, facilitating imaging and concreteness, using a variety of techniques including semantic mapping SM, etc, (Sokmen, 1997).

The above discussion and expansion of Tinkham's studies shows, on the one hand, that despite the interference influence, it is not always applicable to presenting unrelated new words, while, on the other hand, it signifies that new words are most likely to be learned within a theme, namely, in a context.

In the case of thematic clustering as a facilitator of L2 vocabulary learning,

semantic mapping SM has its strength in weaving semantic networks central to a theme. Therefore, I believe I have found a convergence of arguments that I had initially presumed to be contradictory.

2.16 Analysis of Arguments for Semantic Mapping

Turning to the research setting where the advantages of semantic mapping SM have been reported, we can find that researchers focus on word features in related, known words when presenting new words in their empirical studies (Margosein et al., 1982; Vogt, 1983). For example, for the new word *solitude*, the subjects learned its meaning through recalling three simple, related, familiar words: *alone, lonely, quiet* under the teacher's guide. Soon, the students responded well to the similarities and differences among the four words in a category, and in turn, increased their deep understanding of that new word (Margosein et al., 1982). This example shows how SM highlights the connections between the old and new words, but does not suggest how to present new words grouped together in semantic clusters.

Heimlich and Pittelman, (1986) exemplify the broad applications of SM in the classroom. For one of its applications to vocabulary instruction, they introduce the procedures for presenting new words central to a theme that is linked to a reading activity. For example, setting up the map for *stores* activates students to retrieve their knowledge about *people, kinds, problems, expenses of owning and prices* pertaining to the story's theme and expand that knowledge through learning and discussing new words *clientele, proprietor, nominal, exorbitant, negotiable, overhead, maintenance, personnel*. The map prepares students to understand, assimilate and evaluate the information in the material to be read. After reading, the map can be refocused to emphasize the main idea presented in the reading material (Heimlich and Pittelman, 1986:7). This example indicates that Heimlich and Pittelman incorporate vocabulary learning with reading comprehension through SM. Learning key vocabulary is only a necessary step for effective comprehension. They do not mention at all if the generated new words,

which are semantically or syntactically related, may cause confusion or any other negative effects.

2.17 The Concept of Vocabulary

Several definitions of vocabulary are listed below: According to Hornby (1995:133) states that vocabulary is the total numbers of words which (with rules of combining them) make up a language. In addition, Dupuis et al (1989: 67) state that vocabulary refers to "a set of words or phrases which label the parts of material to be learned and which are necessary for student's to use in talking and writing about the material". Vocabulary mastery is a great skill of knowledge about a set of words known by personas a part of specific language.

Vocabulary is one of the aspects of language besides grammar and pronunciation. Vocabulary mastery is crucial to language acquisition; one of the greatest inhibitors to communication in the target language is the lack vocabulary. Barnett (1989:60) states that "foreign and second language student's repeatedly claim that lack of vocabulary knowledge is major problem when reading" moreover, Levine (1965:1) states that "research has established a close correlation between vocabulary and intelligence." Student is identified as that of superior mental ability if she/he has good vocabulary. It means that she/he has done wide reading since reading is the principal way of developing a good vocabulary. It enables students to find new words and their meaning in different context. By reading much, their vocabulary will develop greatly.

According to Russo (1983:25), an individual's vocabulary, in the native tongue and the target language, falls into two categories: passive and active.

The passive vocabulary includes the reading and writing vocabulary. It encompasses more words because its individual components appear in a context which allows the reader or writer time for reflection and comprehension of meaning based on contextual clues.

The passive vocabulary is generally much more extensive than the active vocabulary. The active vocabulary refers to the words that student's have been taught or have learnt and they are expected to be able to use them.

2.18 What is Vocabulary?

Vocabulary is defined as a word in a specific language or freestanding items of language that have meaning (McCarthy, 1990). Penny Ur (1996) defined vocabulary roughly as "the words we teach in the foreign language" she also suggested that a new item of vocabulary may be more than a single word, a compound of two or three words (e.g. post office mother- in- law) and multi-word idioms (e.g.…call it a day)".

Graves (2000, as cited in Taylor, 1990) defines vocabulary as the entire stock of words belonging to a branch of knowledge or known by an individual. He also states that the lexicon of a language is its vocabulary. Which includes words and expressions Krashen (1998, as cited in Herrel, 2004) extends Graves' definition further by stating that lexicon organizes the mental vocabulary in a speaker's mind. An individual's mental lexicon's is that person's knowledge of vocabulary (Krashen, 1998, as cited in Herrel, 2004). Miller (1999, as cited in Zimmerman, 2007) states that vocabulary is a set of words that are the basic building blocks used in the generation and understanding of sentences.

According to Gardenor, (2009, as cited in Adger, 2002), Vocabulary is not only confined to the meaning of words but also includes how vocabulary in a language is structured: how people use and store words and how they learn words and the relationship between words, phrase, categories of words and phrases (Graves, 2000, as cited in Taylor, 1990).

2.19 Nature of Vocabulary Knowledge

Having a limited vocabulary is like a barrier that prevents students from learning a language (Norbet Schmitt, 2000: 22).Without a sufficient vocabulary, some one cannot communicate effectively or express ideas because we think with word. We also speak, listen, read and write with words. Words help us communicate our ideas and they also help us to understand other people's ideas. It also implied that vocabulary takes an important role in improving our skills in English. A good vocabulary goes hand in hand with someone ability to think logically and to learn easily and quickly.

Vocabulary consists of knowing how to use words, which represent image, (Joseph, et al, 1974:26).

It can be concluded that a learner of a foreign language will speak fluently and accurately, write easily, and understand what he reads or hears if he has enough vocabulary and has a capability of using it accurately.

Vocabulary is the key to student understanding what they hear and read in school; and to communicate successfully with other people, (Joseph, et al, 1974:14). For this reason it is very important for the student to quickly build up a large store of words. Research studies have shown the strong links between having an extensive vocabulary and achieving school success. *(http:// esl.fis.edu/portents/advice/vocab.htm).*

Vocabulary is central to language and is great significance to language learners; Murcia says that "words are perceived as the building blocks upon which knowledge of the second language can be built" (Heinle, 1991:296). It is implied that in learning vocabulary, students are ought to practice it very often and they cannot practice or build that language if they are lock of vocabulary.

Many definitions can be found about vocabulary from some expert, but the writers only choose several of them which are important to discuss.

"Vocabulary is a core component of language proficiency and provides much of the basis for how well learners speak, listen, read and write.

Without an extensive vocabulary and may discourage from making use of language opportunities around them." (Richards, as people may know, is just a word but actually vocabulary not just builds from a word but also from another word that convey one meaning.

Vocabulary can be defined, roughly, as the words we teach in the foreign language. However, anew item of vocabulary may be more than a single word:

For example, *post office* and *mother*-in-law, which are made up of two or three words but express a single idea. There are also multi- word idioms such as *call it a day,* where the meaning of the phrase cannot be deduced from an analysis of the component words. A useful convention is to cover all such cases by talking about vocabulary 'items' rather than 'word' (Pennyur, (1999:60).

Vocabulary is a group of words on a certain language as a part of teaching-learning as a foreign language. Words means the memory of the situation in which they have been observed and understood, brought out by the context in which they are used, (Robert Lado, 1994:118).

It means that to know a word is to be able to use it or to understand in situation in which the person has not experienced it before.

In language learning and teaching, vocabulary is the important a spect besides other language component such as grammar and pronunciation. Factor in all language teaching, student's must continually be learning words as they learn structures and they practice the sound system, (Edward, D.A, et al 1977:149).

Webster ninth collegiate Dictionary vocabulary is:

a. A list of words and phrases, abbreviation inflectional from. Usually arranged in alphabetical order defined or otherwise identified as in a dictionary of glossary.

b. An interrelated group of non-verbal symbols, signs, gestures', excused for communication or expression in a particular art, skill, etc.

Hatch and Brown define vocabulary as a list or set of words for a particular language or a list or set of words that individual speakers of language might use. (Evelyn, H. & Cherry.B.1995:1)

It can be concluded from all definition above vocabulary that vocabulary is a set of words which use in a language.

Thus, vocabulary is one of the component of a language where is no language without words. From these statements, vocabulary mastery and development of the student is important in language teaching beside grammar and pronunciation to reach the goal of English learning and teaching itself.

2.20 Types of Vocabulary:

Donoghue, (1990) cited in Rishiana (1997:3) that there are four categories of vocabulary.

1. **Listening vocabulary**

Refers to all the words that children recognize and understand when they hear them in oral context. It is the first vocabulary to develop during the language acquisition stage and is also the one that continues to grow most rapidly during Elementary school years.

2. **Speaking vocabulary**

Speaking vocabulary includes all the words that children use in everyday speech .It forms the basis for development of the reading and writing vocabulary.

3. **Reading vocabulary**

Reading vocabulary consists of all the words that children recognize and understand in writing.

The student's vocabulary mastery is generally limited when they enter schools. By the time they reach reading maturity in the upper grades, their reading vocabulary overtakes and surpasses their oral vocabulary. The more students' read, the large is their reading vocabulary.

4. **Writing vocabulary**

Writing vocabulary is the last to develop and includes only the words that children can use in written compositions. It is closely tied to spelling instruction. In this study, the writer used reading vocabulary to teach to the student's.

The materials were taken from their English books, *Get Reading for Beginners and Happy with English* adjusted to the syllabus given by the teacher.

According to Cheek, et al (1989:113) state that there are three reading vocabulary the student's may encounter when they are reading.

1. General vocabulary: referring to the words that comprise the major portion of one's vocabulary usage in everyday communication, such as "house", "table", and "chair".
2. Specialized vocabulary: referring to the words with multiple meanings that change from one content to another, such as "mass" "root", and "raise".
3. Technical vocabulary: referring to the words that are essential to the understanding of a specific content area. These words only relate to one content area and the understanding of its concepts, such as "gene" (science). "Embargo" (social studies) and "exponents" (mathematics).

General vocabulary is the main vocabulary found in the primary school student's reading text. The writer focused on the general vocabulary since it contains the words used in daily communication and is useful for the student's as their basic knowledge.

2.21 Vocabulary Development:

Several kinds of principles of vocabulary development are described by Gunning (1992:159). Their description is as follows**:**

1. **Building experiential background**

The most effective step to build vocabulary is described to provide students with a variety of rich experiences, for examples, taking children to a supermarket, Zoo, museum etc.

2. **Relating vocabulary to background**

It is essential to relate new words to experiences that student's may have had. Students were asked to respond to new words that required some sort of personal judgment or observation.

3. **Building relationship**

Show how new words are related to each other. For example; students are about to read a selection about autobiographies and biographies that include the unfamiliar words accomplishment, obstacles and nonfiction along with autobiography and biography. Instead of simply presenting them separately, demonstrate how they are related to each other.

Autobiography and biography are two similar types of nonfiction, and they often describe the subject's accomplishments and obstacles that he/she had to overcome.

4. **Developing depth of meaning**

There are two methods of developing depth of meaning: Definitions and simulation, Definition, however, may provide only a superficial level of knowledge, while simulation is the thoughtful level of knowledge.

5. **Presenting several exposures**

Gunning (1992:163) suggests that students study new words at least ten times. It also helps if words appear in different context so that student's experience their shade of meaning.

6. **Creating an interest in words**

In experiment program, Gunning, (1992:163) awarded student's the title of "word wizard" if they come on an example of a taught word outside of the class and reported to the group. Children virtually swamped their teachers with instances of seeing, hearing or using the words as they worded toward gaining points on the word wizard chart. On some days every child in the class comes in with a word wizard contribution. Children occasionally cause a minor description, for example, at an assembly when a speaker used one of the taught words and the entire class would use buzz recognition.

7. **Promoting transfer**

Students have to learn thousands of words, so teachers also have to show them to use the tools of vocabulary acquisition: (1) Context clues,(2) morphemic analysis and (3) dictionary skills, context clues refers to words or phrases, stated or implied, in a sentence, a paragraph or a passage that help student's to understand new and difficult vocabulary. Morphemic analysis refers to the ability to determine a word meaning through examining its prefix, root or suffix. Dictionary skills refer to skills of looking up words, obtaining appropriate definition and deriving the correct pronunciations.

Nation cited in Cameron (2001:85), lists basic techniques by which teachers can explain the meanings of new words, all of which can be used in the young learner classroom:

By demonstration or pictures

1. Using an object
2. Using a cut-out figure
3. Using gesture

4. Performing an action
5. Photographs
6. Drawings or diagrams on the board
7. Pictures from books

By verbal explanation

8. Analytical definition
9. Putting the new words in a definition context
10. Translating into another language

2.22 The Important of Vocabulary

Vocabulary is requisite for learning the main language skills. Mona, 2009:74 as cited in Krashen (1989: 439) points out, "A large vocabulary is, of course, essential for pastry of language." Mona, 2009:74 as cited in McGinnis and smith (1982:236), also point out that "without words a student seldom cannot understand what is being communicated to him nor can he express his thoughts to other". In this respect, Mona, 2009:74 as cited in Pittleman and Heimlich (1991:37) also claim that vocabulary knowledge is important in understanding both spoken and written language they state**:**

It is not surprising that vocabulary knowledge or knowledge of word meanings is critical to reading comprehension. In order for children to understand, what they are reading? They must know the meanings of the words they encounter. Children with limited vocabulary knowledge will experience difficulty comprehending both oral and written text.

In support of the crucial role that vocabulary plays in reading comprehension, crow (1986:243) claims that for adult L2 of FL readers the biggest difficulty in reading is not the concepts of a text, but the words representing these concepts. Mona, 2009:74 as cited in Hague (1987:218), also claims that, to read, a reader

must know words to become a better reader, a reader must learn more word" Howell and more head (1987:51) go so far as to say that word meanings may account for up to 70% of the variability between students who do and students who do not score well on comprehension tests.

Research has provided over whelming evidence that even among adult's word recognition accounts for a sizeable amount of variance in reading ability. e.g., Bortelson (1986:184) Gough and Tunmer 1986:43)

Morrison, (1984:154), Petfetti, (1985:42) Research has also shown that there is a correlation between word knowledge and reading comprehension Mona,2009:74 as cited in e.g. Barr (1985: 25) HoOver and Gough (1990:15) Kitao (1988:59) and that when FL readers vocabulary is improved Mona,2009:74 as cited in e.g. Cziko (1980:111)

Davis. (1989:56) McDaniel and Pressley (1986:112), the role vocabulary plays in listening comprehension has also been emphasized by Mona, 2009:74 as cited in Mecarthy (1995:31) who found that lexical knowledge is significantly related to listening comprehension.

Mona, 2009:74 as cited in Personke and Yee (1971:22) highlight the role that vocabulary plays in writing by saying, "Fluency in writing is almost dependent upon a large store of words which can be written without thinking".

The importance of vocabulary to general an academic achievement has also been recognized by Mona.2009:74 as cited in Zientarski and Pottorff, (1994:48). They claim that students who "Possess larger vocabularies tend to achieve greater success in their content courses." In support of this, Mona, 2009:74 as cited in Anderson and free body (1981:209) reported a strong relationship between vocabulary and academic performance.

As shown above, vocabulary is an essential component of language and we would be totally mistaken if we ignore teaching it.

2.23 What is a word?

A word is a single unit that bears one or multiple meanings. In contrast with morphemes a word can always stand isolated as well as it can be combined with other words to build more elaborated utterances.

The characteristics that all the words share are the written and the phonological forms; furthermore they are subjects to grammatical rules. Words carry multiple meanings, depending on the context, and they also affect words that surround them, in a grammatical as well as semantic sense. Therefore, when thinking about words it is not possible to isolate them and study them separately without any context. On the contrary, it is important to judge them carefully by taking into account their position in a sentence, their word forms and also it is necessary to focus on the words that surround them. A word is not an easy concept to define; therefore here is a theoretical overview of terms that would help to get closer to this notion. Therefore, the first part of the research is not focused only on the Czech/English translation. It also tests the student's ability to use the word correctly in a sentence.

When thinking about words in a context there is a need to distinguish tokens and types. This terminology is used to count how often particular words occur in a text. Tokens include all forms and count a word as many times as it occurs in the text. On the other hand, the number of types is a total number of different word forms; however, these forms are counted only as one word. The proportions of types and tokens are called type-token ratios and are mainly used to measure the vocabulary development of native speakers as well as second language learners (Read, 2000:18).

Another distinction of words is based on the meaning. First, there are function words that do not bear any particular meaning, such as articles, prepositions, conjunctions or auxiliaries. Second, there are content words, such as nouns, full verbs or adverbs. Unlike the function words, the content words have particular meanings and therefore, they are usually the main subjects of vocabulary testing. Function words are, on the other hand, tested under the heading of grammar. However, even the content words are problematic when it comes to their multiple forms. They could be divided into two groups: lemmas and word families. Lemmas do not change their meaning even when there are some inflectional endings added to the base word, e.g. walk, walked or walking. On the other hand, when the inflections change the meaning of the word or the word class of the base, they are called derived forms and they belong in a word family. These sets of word forms are for example: family, unfamiliar and familiarize.

It is also necessary to stress that there are also homographs, words that share the same word form, however, have at least two different meanings, for example the word bank which could state for sloping land along a river as well as a financial institution.

Words also create larger lexical items that have to be learnt together. One word can have a very different meaning in a combination with another word. There are for example phrasal verbs that combine verbs with prepositions and create a new meaning of this construction (e.g. look after, take over). Similarly lardy work compound nouns (e.g. full moon, bedroom) as well as idioms (piece of cake). While the meaning of compound nouns could be easily decoded from the words used, idioms are phrases that in a particular combination mean something different and therefore the meaning cannot be inferred, only learnt.

Finally, all these terms teachers and learners should bear in minds when dealing with vocabulary. There is not a simple answer to what a word is and there

is a huge difference in learning or teaching different words, taking into account their word classes, word forms, their positions in sentences, possibility of multiple meanings in different contexts and the way they affect other words that surround them in a sentence.

2.24 Importance of knowing a word

The previous subchapter has already dealt with what a word is and how it can be categorized. It has also suggested that a word does not carry only one particular meaning and that there are more messages a word expresses. There is a definition by Coady, (1993) who clearly summarizes what it means to know a word. According to him knowing a word involves**:**

"knowing the degree of probability of when and where to encounter a given word and the sorts of words to be found with it, the limitations imposed on it by register, it's appropriate syntactic behavior, its underlying form and derivations, the network of associations it has, its semantic features, its extended or metaphorical meanings" . . .

(Coady, 1993:13)

The view that you know a word if you can give an L1 equivalent is hopefully history. Therefore, all the elements that are included in "knowing a word" by Coady need to be incorporated in the process of vocabulary learning. However, knows a synonym sufficient? Is recognizing the word and understanding its meaning enough? Is using the word correctly in a sentence enough? All these questions touch closely on the necessity to gain more knowledge about a word in order to understand it in a text or to actually use it.

Formerly the skills concerning the usage of vocabulary were called active and passive; active skills including speaking and writing, and passive skills consisting of reading and listening. However, these terms are misleading because

even when learners are listening or reading it does not mean they are not doing anything. Therefore, the new terms emerged: productive and receptive (or receptive-interpretative) skills.

Receptive skills allow the learner to work with a text, when reading, seeking for specific information by skimming or for general information by scanning. The process of interpreting a text is very complicated because most likely the text does not only consist of words the learner knows. Therefore when the learner reads or listens to some text, it is necessary to deduce the meanings of unknown words from the context and to discover their function and discourse patterns. Surely, the input has to be adequate to the learner's level and also the learner has to be trained to use the productive skills effectively. In real life it is very likely that learners encounter vocabulary and grammatical structures they have not encountered before, therefore at that moment they have to deal with them in order to understand at least the general idea of the text or the utterance.

When learners feel the need to express themselves, in written or spoken form, they have to integrate their productive skills. As the motivation for the receptive tasks is to understand, here it is to communicate and express one's ideas. This process is creative and therefore it requires deeper knowledge than interpreting a text. At this stage the learner has to apply the knowledge of the vocabulary as well as the grammar needed to be understood. On one hand, it may seem more difficult to put together all the rules and vocabulary (and it probably is). However, on the other hand the learner is the one that decides which words to use and if there is a knowledge gap, more advanced learners may substitute a missing word with a synonym or to paraphrase the meaning of the word. Nevertheless, this is only possible from a certain level of the learner's language knowledge.

Since it is clear that learners need different skills to understand a written text and different skills to express their ideas orally, these skills need to be properly

trained. Learners have to think in advance how much they want to know about the word and for which purpose. Is it sufficient to work out a vague meaning from the context? Or is it also necessary to know the rules that closely apply to this word in order to use it in one's own speech? These questions have to be answered by learners as well as teachers, because they have a huge impact on the vocabulary assessment. When learners are asked to study a number of words, they have to know for which purpose, in which way will the words be tested. It is not possible to study from L1- L2 word list and then expect that learners can use it correctly in their utterances.

Finally, knowing a word is not an easy concept to define. It involves for instance knowing L1 translations, word class, word forms, collocations or register. Some of these help learners to interpret a text they encounter and some are there to help them produce their own utterance. Therefore, it is important to know what the learner actually wants to learn and what the purpose is, as it is impossible to acquire all the knowledge at once.

2.25 Lexical Competence

Admittedly, the question "What constitutes vocabulary knowledge?" is a very complex one; and there has not been a conclusive answer to it. Researchers could only offer sets of assumptions as to what constitutes vocabulary knowledge. What are available as an answer to the question at the moment are sets of assumptions. Some of that are believed to constitute vocabulary knowledge, as identified by researchers are**:**

Richard, (1985:30)

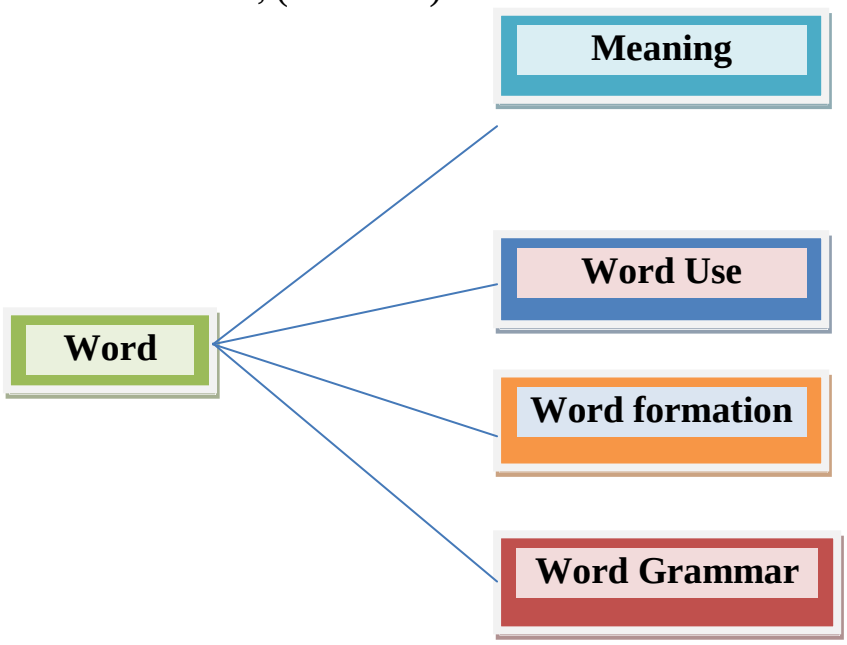
a. Knowing a word means knowing the degree of probability of encountering that word in speech or print. For many words we know the sort of words most likely to be found associated with word.

b. Native speakers of a language continue to expand their vocabulary in adult hood where as there is comparative little development of syntax in adult life.
c. Knowing a word implies knowing the limitations imposed on the use of the word according to variation of function or situation.
d. Knowing a word means knowing the syntactic behavior associated with the word.
e. Knowing a word entails knowing of the underlying form of a word and the derivations that can be made from it.
f. Knowing a word entails knowledge of the network of associations between that and other words in the language.
g. Knowing a word means knowing the syntactic value of a word.
h. Knowing a word means knowing many of the different meanings associated with a word.

Wallace, (1986:9-11)

a. Ability to retrieve vocabulary appropriately that has been taught.
b. Use of vocabulary appropriately in the given situation.
c. Use of vocabulary at the right level of formality.
d. Possessing the right kind of word (vocabulary) for one's.
e. Using vocabulary in an idiomatic way.
f. Using vocabulary in a meaningful way.
g. Correct use of a dictionary.
h. Correct use of grammatical form, spelling, pronunciation or stress.

Hamer, (1987:158)



He summarizes knowing a word as: Meaning in context relation, metaphor and idiom collocation, spelling and punctuation, part of speech, prefixes and suffixes, register and style, Nouns countable and uncountable, etc verb complementation, adjectives and adverbs position, etc

From these sets of assumptions, it may be inferred that lexical competence comprises two main kinds of abilities: The ability to comprehend the meaning of unfamiliar words from context and store them (comprehension), and the ability to retrieve words from memory own context (production), currently, many researchers in the area perceive lexical competence as consisting of these two abilities although there are some who insist that "lexical competence must be understood as competence for use rather than knowledge of words" (Ooi and Lee Kim-Seoh, 1996:52)

2.26 Vocabulary Learning Strategies

Is should be noted that to whatever extent the practice of teaching is marvelous in the classroom, there is no evidence to believe that learning has taken place at a satisfactory degree. The mere inseparable nature of teaching and learning does not ensure that learners have gained the intended knowledge. In this regard, (Waring, 2002:25) claims that teaching a word don't mean students have learned

it, and the fact that students have finished a unit should not mean they have mastered all the words in it. As a result, besides the effort of maximizing the efficiency of teaching, there should be an equal or even more investigation of the nature of the learning process the learners under go. Because learners are the most responsible bodies to enrich their word power, it is essential to high light the importance of learning strategies.

Researchers do not seem to be interested in defining the term 'learning strategy' for different reasons. First, there are no universally best strategies equally suitable for every learner. Second, the effectiveness of strategies depends on many other factors such as the nature of the learning task, the learners' motivation, attitude, prior knowledge, the learning environment and so on. Thirdly, the application of a wide range of strategies is more useful than using fixed ones. Lastly, strategies found to be useful one time may not be useful other times (Pavicic, 1999, Schmitt 2000, Nation 2001, Gu, 2003).

However, a common perception held by these writers entails that learning strategies involve conscious, self-initiated, and selective and series of actions the learner takes to facilitate the act of learning, retaining and recalling new words. Likewise, Oxford (1990:1) writes that: Learning strategies are steps taken by students to enhance their own learning… they are tools for active, self-directed involvement, which is essential for developing communicative competence. Appropriate language learning strategies result in improved proficiency and greater self-confidence.

The concept of selection and appropriateness of strategies implies the availability of numerous strategies for the learner to choose from with respect to suitability and individual preference.

2.27 Taxonomy of Vocabulary Learning Strategies

With regard to language learning strategies, Oxford (1990:16) established two general categories namely, direct and indirect strategies each consisting of three subclasses. Direct strategies are composed of memory, cognitive and

compensation strategies. Indirect strategies in turn comprised of met-a cognitive, affective and social strategy. This is a comprehensive classification suitable for language learning in general for which strategies to sustain communication (Compensation strategies) are extremely useful.

However, Schmitt (1997 and 2000), set up five classes of vocabulary learning strategies under two principles: strategies used to initially discover meanings of words (determination and social strategies) and strategies used for remembering words once meaning is recognized (memory, cognitive and met-a cognitive strategies).

A. Determination Strategies (Learning New Vocabulary)

No doubt that learner is adopting different and varied strategies and procedures towards learning new vocabulary items.

As to Nation (2001), although productive skills (writing and speaking) require the knowledge of several aspects of a word, meaning is the principal a spec that learners are most concerned with. Hence, to learn the meaning of a word for the first time, learners use various strategies. Some especially advanced learners analyze affixes and roots (word formation clue), some others go for contextual clues to work out meaning (guessing from context) and still others lookup a word in a dictionary for the correct meaning. Of course, there are more ambitious and determined learners who are able to make use of the combination of all instead of recourse to another person's help.

Guessing from context (incidental learning) and dictionary use (intentional learning) strategies are particularly relevant to this study and are discussed in some techniques which are adopted by learners in learning new words, details as follow.

a. Guessing Words in a context

It has been suggested that learning new vocabulary through context should be employed as the main approach to enhancing new vocabulary knowledge.

In (1994) since context is what determine the meaning of word; context guessing may be the most effective strategy for students to learn vocabulary.

Teachers need to encourage learners to complementarily do a substantial amount of reading and develop this skill in guessing form context.

According to (Nation & Coady, 1988; Mikulecky 1990 and Brown 1994) learners success in guessing can be affected by several factors such as the number of times they encounter a word and the variety of contexts where it is embedded.

It is important to mention here that "inferring" is another way of getting the meaning from a context and it implies drawing of a word the surrounding spoken or written lexis...

b. Word Roots and Affixes

It is very important that learners should have knowledge of affixes and roots of word in order to predict the meaning of the unknown vocabulary.

Through analyzing words into recognizable roots and affixes, classroom teachers can demonstrate that each isolated element of words can provide informational clues (Brown, 1994, Aebersold & Field 1997).

The most important affixes are claimed to the combining forms, prefixes, or suffixes that carry single invariant meaning.

For example learners can be given word such as "production" and they have to break it into parts. They can either rewrite the word in ports 'production' or underline the words show the parts pro/duct/ion.

Nation and Coady, (1988), strongly insist that the use of word form should be delayed until the available context clues have been fully employed.

According to Al-Mutawa & Kailani, (1993:51) knowledge of affixes will help them to**:**

a. Drive new words.
b. Increase their ability to utilize vocabulary system.
c. Grapple with derived words when they are presented for the first time.

d. Understand meaning of other related words if their roots are familiar to them.
e. Be of the correlation between various, affixes and their functions and meaning.
f. Improve their spelling skill especially in affixes.

c. Word Lists

Using word lists is one of the most common strategies of teaching new vocabulary. Here learners were presented a list of words in isolation with short definition or synonyms and directed to demonstrate their knowledge of the word on various, assessments. However, too much concentration of on using word lists may impede the studies form contextualizing and guessing meaning.

Suaffar, (1988) stated that using a word list could prohibit students from doing contextual guessing while context training enhances student's success in interpreting of vocabulary encountered in texts.

d. Using a Dictionary

Using a dictionary is one of the most important ways of learning the meaning of a new word.

Inferring the meaning of unknown words from a context is not is always easy and especially when unknown vocabulary becoming an impediment to reading comprehension, students should be allows consulting a dictionary.

Summers, (1988) claims that dictionary use plays an important role in EFL learning and that foreign language teacher should encourage students to make use of the considerable information in their dictionaries.

However, presently there is a prevailing view that EFL teachers discourage students from consulting dictionaries extensively because that can lead to word for word reading. It is also interfere with the flow of

concentration and is de contextualized (Fwaffar 1988, Nist and Olejnik 1995).

It is notable that dictionary value is reported to vary depending on student's age, level and etc.

e. Mnemonic

Mnemonic is also called "the key word technique" It is used when learners meet an unknown word and discover its meaning; they may wish to make an extra effort to remember the word. In this technique the learners create an unusual association between the word form and its meaning.

For example, let us imagine that an Indonesian learner of English wants to remember the meaning of the English word parrot.

Nation (1999:167) although the key word technique

Seems rather bizarre at first sight, its effectiveness lies

in its association of both formal and meaning elements of the new rod by the use of aural and imagery clues

This strategy is also called the "clue word" strategy because the learner uses a clue to remember the meaning of a word.

B. Social Strategies

Social strategies refer to the interaction of the language learner with his/her classmates and teachers to obtain word meaning. Language being a social behavior requires two or more people to communicate and communication is a function of the active participation of the communicators. Language learners very often use social strategies namely, asking questions, cooperating with peers, interacting with more proficient users of the language and native speakers when the opportunity is obtained (Oxford 1990 and Schmitt 2000).

Informants usually explain meanings in terms of synonymy, paraphrase or L1 translation. Social strategies, for example, discussing word meaning in a group, are important not only to determine initial meaning but also to consolidate word knowledge (Schmitt 2000).

C. Memory Strategies

As the name explains, memory strategies are used to support recalling and retrieving words once they are learned. One of the major problems FL learners encounter, Gu (2003), is how to make words accessible to memory after they are learned. Likewise, Oxford (1990:39) painfully explains:

"Though some teachers think vocabulary learning is easy, language learners have a serious problem remembering the large amounts of vocabulary necessary to achieve fluency." Memory strategies, therefore, assist learners to ease this problem.

a. Semantic Mapping

Semantic mapping strategies range from classifying words in terms of parts Of speech (nouns, verbs, and adjectives), sense relationship (synonymy, a antonym, and hyponymy), and connecting new vocabulary to concepts in memory through visual images to building complex vocabulary network.

These are strategies of meaningful manipulation of words and reflect how words can relate to each other in various ways (see Oxford 1990:39-40 for details).

D. Cognitive Strategies

Cognitive strategies are particularly fundamental for language learners because practice and manipulation of the target language, typical language learning principles, are the major components of these strategies (Oxford 1990, Schmitt & McCarthy 1997)

a. Repetition

Repetition, a form of practice, is saying or writing new words and their meanings again and again until they are easily remembered. Studies identified, (Nation, 2001:76), that most of the forgetting occurs immediately new information is learned and the rate of forgetting decreases as time passes on. Hence, it is recommended that repetition should occur as soon as words are first learned then after it can be spaced further. Moreover, research with varying

degree also shows that on average 5-7 repetitions are needed to consolidate words into long term memory (Crother & Suppes1967 in Gu 2003 and Nation 2001, Kachroo 1962 and Tinkham 1993 in Nation 2001).

The notion of repetition entails the importance of recycling vocabulary items in textbooks and classroom instructions. Recycling previously met words helps to consolidate them in long term memory. However, Hunt and Beglar (2005) explain that because of time limitation to cover a large portion of materials, words learned at the beginning are not systematically recycled.

b. Note Taking

Note taking is an act of processing or manipulation of vocabulary items to facilitate conceptualization and organization into a mental lexicon. When learners meet a new word; they take notes about it in their vocabulary notebook or simply write along the margins or between the lines. McCarthy, (1990) writes that learners differ in what they do in note-taking, when the take notes and how they take notes. Among other things, these differences may distinguish the good from the poor learner. Similarly, Sanaoui, (1995) and Hunt and Beglar (2005), identified learners as structured and unstructured based on the way they approach vocabulary learning.

Unstructured learners were found to be dependent on class materials, took less initiative and did less regular review. Structured learners, on the other hand, were better organized and systematically carried out independent study, self-initiated activities, regularly recorded new words in notebooks and reviewed them and seek for opportunities to use previously learned words. As a result, it can be recommended that learners have to use efficiently the different learning strategies in general and cognitive strategies in particular to improve their word knowledge and language proficiency as well.

E. Met-a cognitive Strategy

Met-a cognitive strategy, Oxford (1990:81), "help learners to regulate their own cognition and to focus, plan, and evaluate their progress." To use met-a

cognitive strategies demands learners to be more conscious and ambitious of their learning. Schmitt (2000:136) also writes these strategies "involve a conscious overview of the learning process and making decisions about planning, monitoring or evaluating the best ways to study."

Effective learners are experts of implementing met-a cognitive strategies; they know how to access to rich vocabulary input, decide which methods are the most efficient to follow, test their progress and determine which words are worth studying and which are not. Besides they record words which they have chosen to study. In this connection, Chamot and O'Malley, (1994) also maintain that more proficient learners use a great variety of strategies and often switch from one strategy to another when necessary. Moreover, learners who intelligently decide when to make guessing from context, refer to a dictionary or negotiate with other people or combine all of these are far more successful in enriching their word power and improve their language proficiency than their counter parts.

To sum up, in this chapter an exploration has been made on the common techniques of vocabulary teaching as prescribed by different linguists, researchers and language experts. In addition, the complex nature of vocabulary learning as well as the different aspects of word knowledge which contribute to that complexity is summarized. More importantly because much of the responsibility of learning lies on the shoulder of learners, basic vocabulary learning strategies commonly used by learners across the world are reviewed. The extent to which these techniques of teaching and strategies of learning are reflected in the subject schools of this study will be presented in chapter four. The following chapter focuses on the description of the population of the study, instruments and methods employed to gather the required data.

2.28 Memory in Vocabulary Learning Process

As Spielberger suggests memory is very complex. It consists of three main processes: encoding, storage and retrieval, which you can see in the following picture (Foster, 2008:25).

> *"Memory is complex; we can remember toys that we wanted as children, yet we sometimes cannot remember what we did the weekend before last . . . Yet it has been estimated that over the course of a lifetime, the average human stores approximately 500 times the amount of information that is in a full set of encyclopedias."*
>
> *(Spielberger, 2004:57)*

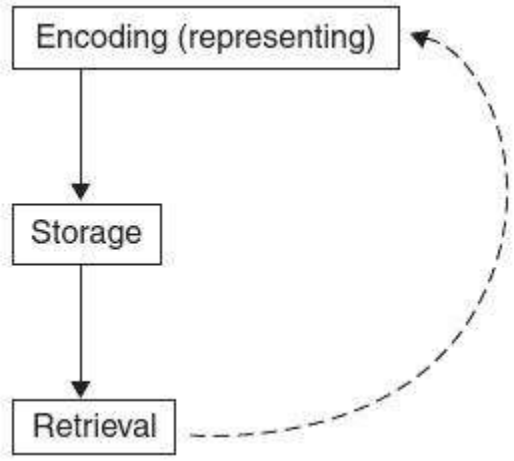


Figure (11): Three main memory processes Stages

Encoding is the input, which can be acquired in many ways. Storage is the ability to retain the information and concerning long-term memory, to store it for a significant period of time. The last step is the retrieval, which guarantees the access to the stored information. (Foster, 2008:25)

These steps are parts of short as well as long term memory. Short-term memory has a limited capacity and it holds information for immediate use, while long-term memory can store information for very long periods of time.

In the 1960s the division of memory was based on processing of information. A multi-store model6 of memory processing was completed and described by Atkinson and Shiffrin in 1968.

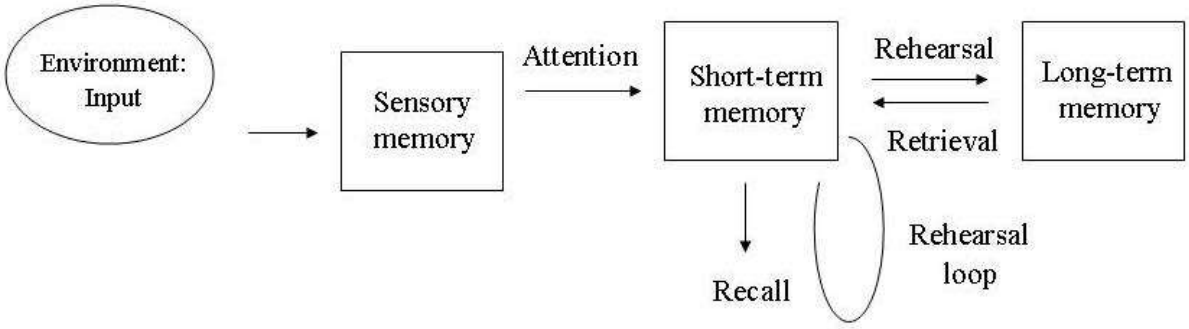


Figure (12): A multi-store model of memory processing

The input for the sensory memory are senses and it does not last long, usually less than a second. When the information is given a bit more attention than just registering something through senses, then it reaches the short-term memory. The encoding is usually auditory and lasts few seconds. The short-term memory can hold 7 +/- 2 items. Then when the piece of information is given even more attention and is being rehearsed through the rehearsal loop, it can get into long-term memory. The long-term memory is unlimited and the information can last in it for years.

As it was already mentioned, encoding can be acoustic, visual or semantic. Acoustic and visual encoding is mainly related to short-term memory, while long-term memory is encoded semantically. (Spielberger, 2004: 57)

Short-term memory or working memory as some scholars call it, is the ability to remember one or more particular pieces of information and then to use them in a short period of time.

A. Short-term Memory and Working Memory

"To understand this sentence, you need to remember the beginning until you get to the end,"(Baddeley, 1999:15). The capability of managing to remember the beginning of the sentence till the very end is what is guaranteed by short-term memory or also working memory. This competence is not only applicable to utterances concerning aural memory; however, it may also be employed while reading. This kind of memory enables the reader to get the whole message – it stores the beginning of the sentence till the end in order to understand the whole sentence. Only then the particular parts can be forgotten.

This is how the language comprehension and also arithmetic work. Baddeley uses a multiplication as an example. In order to multiply 23 by 7, it is necessary to remember the numbers, the sub counts and then adding the sub counts together. When the final result is reached, the sub counts can be forgotten. "Short-term memory or working memory is the name given to this system, or, perhaps more appropriately, set of systems. Information that is essential for a brief period of time is very temporarily stored, and then becomes quite irrelevant." (Baddeley, 1999: 15-16)

There are various theories that describe the relationship between short-term memory and working memory in a different way. Some scholars, such as Baddeley, do not distinguish these two concepts; however, there are also scholars who claim that these are two concepts with certain differences. According to Engle (2003) short-term memory has the ability to remember number sequences, do the basic calculations or to remember certain words or letters for the immediate use. These pieces of information are not stored according to any particular rule; they are remembered, retrieved when necessary and then forgotten. On the other hand, working memory is the executive memory function which enables the learner to store certain information in a particular way, being able to omit the useless pieces of information and then to keep the piece of information in an active state in order to use it immediately. Some scholars even

describe the process in which information is being transferred from short-term memory to working memory. On the other hand, both these types of memory have a similar life span, which lasts only a few seconds. The recall paradigm says that the last items presented are better recalled than those that appeared at the beginning when the recollection takes place immediately. "However, even a few seconds of interpolated material is enough to wipe out decency." (Baddeley, 1999:42),

Short-term memory or working memory does not have such an influence on vocabulary learning. Some items are remembered more easily than others, for instance some words can become immediately memorable because of their uniqueness in the written form or in pronunciation. Also the last words on a list or words that were heard last are usually remembered easily. However, this affects only a small number of words that should be remembered. Then for the word items that are not immediately remembered, the key lies in the rehearsal of the studied items and their storage in long-term memory in order to be able to use them in few minutes, days or years.

Remembering of the whole sentences was not the aim of the second part of the research. The students were asked to remember the target words and phrases in which the words were used; however, the provided text served only as a necessary context. Furthermore, the input was only in the written form. In the research the main focus was on memory and how much it is affected by time. However, the differences observed between two groups, one practicing the vocabulary regularly and the other one with no rehearsal, were in terms of days and weeks, not seconds.

B. Long-term Memory

"By contrast with the acoustic representation of information in the short-term store, information in long-term memory is thought to be stored primarily in terms of meaning of the information". (Foster, 2008:30), Long-term memory is therefore mainly based on the semantic encoding. For instance, when asked to

remember an article, consisting of few sentences, people are not usually able to repeat all sentences word by word, however, they can tell the main message the article carried. As for the rehearsal, by repetition the transfer from short-term memory to long-term memory is achieved. Also important pieces of information are stored in long-term memory, such as PIN for a credit card or a new telephone number.

The multi-store memory model by Atkinson and Shiffrin, (1968) suggests that a piece of information is transferred into long-term memory by passing through short-term memory and frequent rehearsal. However, this assumption was disconfirmed by several facts. First, there were some key clinical cases, brain-injured patients, who had severely damaged short-term memory. However, the impairment of short-term memory did not affect long-term memory, which stayed undamaged. Second, the presumption that a frequent encounter of a certain piece of information will ensure a transfer into long-term memory also does not always work. Foster (2008) uses the example of people handling coins on a daily basis and still they are not able to recall details on the faces of the coins. However, in this case the question is if there really was any rehearsal at all, because the fact that people handle coins every day does not necessarily mean they look at them and focus on what is drawn on them.

In vocabulary learning the focus is one of the key elements, because a mere encounter of new words is not enough to transfer them into long-term memory. Also the number of encounters is important. Apart from a few words that learners remember more easily due to, for instance, their uniqueness or a personal connection to their everyday life, students need to pay attention to the word's meaning, form and function in a sentence.

2.29 Memorization

Memorization is special kink of remembering .It's what is usually called "committing to memory" or remembering merely by heart". Without practice memorization becomes merely an accumulation of works. Unfortunately, much of what passes for learning in schools is of this kind. There are certain principles which, if followed make memorization easier.

A. Principles of memorization:

a. Learning whole

If the learner sees what he or she is trying to memorize as a meaningful whole, the task of learning is male easier, (Karland, Wallace, 1976).

b. Pattern Learning

Pattern is essentially any arrangement that is orderly.

If material that is to be memorized is arranged in some orderly way that gives it form or makes it more understood; it is easy to remember. This can be seen in the pattern made by setting our learning / teaching material under headings and sub-headings or in the patterns associations where by teachers link the thing to be remembered with some easily remembered object.

But the most important thing to remember is that teachers must use memorization for the right purpose. It is appropriate for learning factors, but when it is used as an alternative for understanding how thing are caused or why they happen it worthy inappropriate.

c. Mnemonic

They are artificial devices for helping people to remember details in a quick orderly way. They are also useful for examinations where the reduce the memory work load of students and give confident to those who may be afraid of omitting essential information under the stress conditions that examination create. It is true that there are artificially structured. They discourage remembering as a result of meaning full understanding, but the need to assemble and organize material to be

remembered can generate profound and useful though and it can also arouse interest and pleasure.

B. The role of Memory in Vocabulary Learning

The role of memory is crucial in any kind of learning and vocabulary learning is no exception. According to above- described continuum, learning of lexical items is not linear. Learners, without fail, forget some components of knowledge in both long term and short term memory forgetting tasks placed in a similar way when obtaining new information most of it is forgotten immediately, after which the process of forgetting slows down. On the basis of available research results, Thornbury, (2002) has completed a list of principles that facilitate the transfer of the learning materials into the long term memory. This include e multiple encounters with a lexical items, preferable at spaced intervals, retrieval and use of lexical items, cognitive depth (Cf. Schneiader et al, 2002), affective depth, personalization, imaging, use of mnemonics for unconscious attention that is necessary to remember a lexical item.

C. Bloom's Taxonomy and Thinking

Bloom's taxonomy is a classification of thinking according to six cognitive levels. The original concept of Bloom's taxonomy was published in 1956. The original hierarchy of thinking levels was the following (from the lowest level): knowledge, comprehension, application, analysis, synthesis and evaluation. This version was, however, changed under the leadership of Bloom's former student Lorin. W. Anderson.

Figure (13): Bloom's taxonomy **(**published in 2001**)**

This new version continues to deepen the understanding of various levels of thinking. It consists of six hierarchical categories where every level assumes an achievement of skills and abilities from a prior level before proceeding to another one. However, the particular levels do not have to be acquired only in the suggested order. This taxonomy is commonly used in lesson planning; however, in this case it was used to create a short-term test which would show how well the students learnt the required vocabulary during the learning part of the research. For this purpose the revised Bloom's taxonomy was used.

In the learning part, the main focus was on the three low thinking levels of the taxonomy which consists of remembering, understanding and applying, therefore the short-term test consisted mostly of exercises that tested these skills.

> *"Remembering knowledge is essential for meaningful learning and problem solving as that knowledge is used in more complex tasks. For example, knowledge of the correct spelling of common English words is necessary if the student is to master writing an essay." (Anderson & Krathwohl, 2001:66).*

The remembering level therefore cannot be omitted or taken for granted, since other levels are dependent on it. The second level, understanding, is the largest category if transfer-based educational objectives are emphasized in schools. The students are expected to understand, however, that the process of

understanding is again based on their prior knowledge. The basic understanding is based on conceptual knowledge. (Anderson and Krathwohl. 2001: 70). The remembering and understanding levels can be covered mainly by exercises focusing on translating from L1 to L2 and vice versa, matching words with either pictures or definitions and naming things in the pictures. Applying involves using procedures to perform exercises or solve problems.

When the students are familiar with the task and are able to manage the exercise without many problems, sometimes even mechanically. However, when the task is new, the students need to integrate the procedural knowledge and through the prior knowledge they have to devise a new strategy to deal with such an exercise. In the short-term test, most of the exercises were of a typical kind and therefore, not much thought had to be given to the exercise structure. Concerning the knowledge being applied in this stage the students' task is to complete a short text with missing words (first letters given).

The high thinking levels are analyzing, evaluating and creating. "Analyze involves breaking material into its constituent parts and determining how the parts are related to one another and to an overall structure" (Anderson and Krathwohl, 2001: 79).

The evaluating, making judgments' based on criteria and standards, in this stage the students' task is to decide if a statement is true or false. At this point the students needed to apply the low thinking skills, such as remembering the words' meanings and also to judge and evaluate if the whole sentence makes sense.

The last level, creating, is put at the very top of the hierarchy. According to Anderson and Krathwohl, (2001)

> *"Create involves putting elements together to form a coherent or functional whole. Objectives classified as Create have students make a new product by mentally reorganizing some elements or parts into a pattern or structure not clearly present before". (p. 84)*

This stage is the most difficult to achieve, the students will be asked to write sentences using given words. They are about to combine the knowledge of the words as well as their function in the sentence.

D. How are words stored?

> *"Most of us use [words] all the time without thinking. Yet words are supremely important. Everyone needs them, and a normal person probably comes into contact with thousands in the course of a normal day. We would be quite lost without them" . . . (Aitchison, 2003:3)*

As Aitchison mentions, everyone is surrounded by thousands of words and no one can imagine living without t+-hem. An educated adult English native speaker understands and potentially uses at least 50,000 words. Also native speakers can recognize a word in their mother tongue in 200 milliseconds or less from the beginning of the words that is being uttered. So where is this huge number of words stored? How is it stored when it is possible to recognize a word so quickly? It is obvious that the "mental lexicon", sometimes called a "mental dictionary," is not organized alphabetically. If this was true, speakers, who cannot express themselves and cannot come up with the best fitting word, would replace it with a word close according to the alphabet. However, this is not what happens when someone cannot find the right word during a speech. As Aitchison, (2003) concludes, "the large number of words known by humans and the speed with which they can be located point to the existence of a highly organized mental lexicon" (p. 9). However, there is a discussion about what information mental lexicon carries.

Some linguists claim that syntax, a combination and a choice of words, is more important than words themselves. Therefore, according to them mental lexicon is "unquestionably finite that is to say, the lexical items of a language can indeed be presented as a mere list" (Kempson, 1977: 102). This concept is also supported by Bloomfield, who claimed that "the lexicon is really an appendix of

the grammar, a list of basic irregularities" (Bloomfield, 1933:274). However, nowadays scholars try to eliminate this strict division of vocabulary and grammar.

It is not that easy to draw a line between a mere list of words and the ability to combine them. If the speaker lacks a certain expression or a particular form of a word, syntax is useless. Therefore, mental lexicon does not only consist of a list of lexical items organized in a specific order which helps the reader to retrieve a word as quickly as possible. The lexical items in the mind carry much more than a lexical item in a dictionary. They include connotations and carry certain links to other words used often with these items. This attitude could be supported by the fact that in particular situations the speaker uses a word in a new way, which cannot be described as a fixed expression, phrase or a collocation; and the hearer understands the meaning without a further explanation. There is a nice example of how it works by H. H. Clark (1996). When a caller asks an American telephone operator about long-distance charges and is told: "You'll have to ask a zero," there is no doubt about what the caller should do. In this case the reply "ask a zero" should be interpreted as "dial zero and ask the person operating there" (Clark & Gerrig, 1983). Surely, the phrase "ask a zero" is not commonly used and the caller could have heard it for the first time, however, the ability to reapply certain words in a new way is a remarkable ability of mental lexicon.

The concept of mental lexicon is closely connected to memory. There were and still are many opinions and ideas how human mind works and how the memories are organized. It has been described by many metaphors. First ideas suggested that memory is similar to a birdcage, a treasure house or an attic. This opinion changed mainly because it became apparent that the memories are stored in some particular order, not just "flying around" in a birdcage. At this moment a library metaphor came to existence. It suggests that there is some kind of order.

Concerning the mental lexicon there are similar metaphors that try to describe the way the words are stored. Similarly, there is some kind of order which guarantees that speakers find the right words to express themselves and hearers

recognize words and their meaning when they hear them. As we live in an era full of technology, one of the most recent ideas about mental lexicon is its resemblance to a computer. Its complexity and ability to work on many levels and deal with several things at the same time really seem like the mental lexicon when processing. However, scholars cannot look inside learner's mind and see how particular words are being stored; they can only observe and draw tentative conclusions.

According to Henning, (1973) the ways how to store vocabulary depend on the level of a learner's proficiency (as cited in Nation, 1990:33). Henning found that learners at a low level of proficiency stored vocabulary according to the sounds of the words. For instance learner at this level connects a word horse with a words house simply because of their sound similarity. On the other hand, the learners at higher levels of proficiency tend to store words according to their similar meaning. In this case, the learner would probably connect the word horse with a word cow.

> *"Experiments with the native speakers of English agree with this finding. As the learners become better at a language, whether they are native speakers or second language learners, the way that they organize and store vocabulary in their memory changes. Storage according to form is replaced by storage according to meaning". (Nation, 1990: 35)*

This knowledge should be then applied into teaching and learning vocabulary, because it can prevent the learners from making unnecessary mistakes. It means that the words with similar spelling or pronunciation should not be introduced at the same time because they would be stored together and easily interfere with each other.

In order to deal with the vocabulary learning, it is necessary to bear in mind that a word carries more than one meaning or a form. Also the fact that the learners know a particular word does not mean they can use it actively, according to Bloom's taxonomy – creatively. Still the majority of vocabulary we know is

subjected to receptive skills rather than productive ones. The process of vocabulary acquisition is long and demanding; and as the results of the research show, the students first reach the low levels of Bloom's taxonomy and only then they are able to continue up in the hierarchy.

It is important to remember that "a word" carries many meanings, lexical as well as functional. Therefore, the learning process cannot only focus on the mere translation of the particular word. According to Bloom's taxonomy there are six levels of thinking. When applied to vocabulary learning they represent the learner's ability to understand or use the word depending on the level the learner has already acquired. Furthermore, it is also important to know how the vocabulary is stored. As Henning found, learners at low levels of English tend to store vocabulary according to the sound similarities, while learners at high levels of English proficiency store words according to their similar meaning. Therefore, when the learners and teachers are acquainted with this concept, they can proceed more efficiently in the learning process. Finally, when the awareness of the way words are stored and the categories of thinking applied to vocabulary learning is put into practice, the vocabulary learning could become more effective and much easier for the learner than before.

2.2 Part (Two): Previous Related Studies

A review of research related to the field of semantic maps strategy revealed that many previous studies were conducted in this area all over the world.

Study (1) by: Salah Sid Ahmed Abdalla, Entitled: "The comprehensive and productive use of lexical items through semantic maps and word-list techniques for secondary level students." It is

Submitted to University of Khartoum- Faculty of Education- English department, (Unpublished M.A. degree in English language was written in, 2000)

The study, conducted at the secondary schools compared the relative effects of two vocabulary learning strategies (semantic mapping and word- list) on the acquisition and retention of ten vocabulary words. The study seeks to answer the following main questions**:**

a. Which of the two strategies; semantic mapping or word-list enhance better the student abilities to comprehend and produce the newly taught items in their suitable context?

b. How does semantic mapping-based compared to word-list based learning succeed in developing the students' abilities to acquire and retain the newly taught items?

c. How for would teachers responses to the questions concerning both semantic mapping and word-list strategies relate to the result of the empirical study?

The study aimed at achieving the following points**:**

a. To shed light on the student's problems in comprehending and producing lexical items through reading and relative writing tasks, respectively.

b. To investigate two teaching techniques for learning vocabulary, namely word-list and semantic mapping in order to see the effects of each techniques.

c. To investigate the attitudes of the secondary school teachers on vocabulary learning techniques including the two target techniques and their appreciation of each one.

The study suggested some researches for further research. As an example, semantic feature analysis could be used as complementary technique in addition to the semantic mapping in order to reinforce, refine, compare, and contract, in other words practice some of the different meaning and uses which are unclear to the student's, so such a study is suggested to be conducted in others to investigate the effectiveness of semantic mapping as a strategy for improving the student's reading comprehension.

Study (2) by: Mahadi Mohammed Ismail Entitled: "Semantic mapping for improving ELT Student's Reading Comprehension from teachers Perspective". It is submitted to Sudan University of Sciences and Technology- Faculty of Education- English department, (Unpublished, M.A. degree in English language was written in, 2013).

The study carried out to investigate the effectiveness of implementing semantic mapping as strategy for improving student's reading comprehension also to find out whether the level of reading comprehension ability can be measured through semantic mapping and then to investigated whether semantic mapping strategy helps learners derive meaning of the new words from the context. The study main findings were**:**

a. Comprehension passages were understandable if the text was organized according to semantic mapping.
b. Semantic mapping comprehension passage facilitates understanding new lexical items.
c. There is strong relationship between the text the reader if the text organized semantically.

d. The material semantically designed enhances the student's reading skills.

The study main recommendations were**:**

a. Texts of reading comprehension should be organized.

b. Material should be well organized semantically to encourage the student's reading comprehension skill.

c. Teacher should encourage their student's to read through semantic mapping to facilitate reading process.

d. Semantic mapping should be included during instructional design.

Study (3) by: Fransiscus Xaverius Mukarto, Entitled: "The patterns of Semantic Mapping development of English verbs acquired by Indonesian EFL Learners". It is submitted to University of Sains Malaysia- Faculty of Education- English department (Unpublished PhD, degree in English language was written in, 2005)

The study investigated the patterns of semantic development of English verbs acquired by Indonesian EFL learners of three different proficiency levels. Specifically, the study aimed that (1) To found out whether there were significant differences in the semantic mapping accuracy of English verbs between the three groups; and (2) To discover the patterns of semantic mapping development of the English verbs acquired by the three proficiency groups.

The study adopted the cross- sectional design. It involved 120 subjects divided evenly many three different proficiency levels: low intermediate, high intermediate, and advanced. The data on semantic mapping were elicited using a forward translation recognition matrix designed particularly for this purpose. The subject's responses were based on two variables: The accuracy of the semantic mapping and the level of mapping confidence.

A number of theories were adopted as the basis for research design and for explaining the results of the study. They include the psycholinguistic theory of

lexical representation, development and processing, componential analysis, contrastive analysis and prototype theory.

The results of the data analysis reveal that: (1) There were significant differences between the three different proficiency levels in the semantic mapping accuracy of English verbs and the number of significant differences varied from word to word and from category to category; (2) as proficiency level increased, L2 learners knew significantly more semantic features.

The findings study suggested that: (1) L2 vocabulary acquisition involves a continuous process of semantic restructuring; (2) The intensity of the restructuring process varies from word to word and from one semantic mapping category to another; (3) The restructuring process tends to result in more refined semantic contents tends to be slow; (4) despite the semantic restructuring process, L2 word meanings are both under-represented and over-represented even at the advanced level; and (5) The under-representation and over- representation of word meanings result from a number difference sources, based on the results of the study a model of representation of L2 word meaning and the paths of possible semantic restructuring is proposed.

The further research is suggested to reach a more comprehensive understanding of the patterns of semantic mapping development and a guideline for developing learning-teaching activities which help learners acquire more words and minimize under-representation as well as over-representation of word meaning is suggested.

Study (4) by: Omer Naeem Mohammed Entitled: "The effect of teaching vocabulary through semantic mapping on EFL learners Awareness of vocabulary knowledge". It is submitted to Alimam Mohammed Ibin Saud Islamic University-Faculty of Journal Education, (International interdisciplinary journal was written in, 2013)

The study to investigated the effectiveness of vocabulary instruction via using semantic mapping a against the established traditional vocabulary teaching techniques in Saudi Arabia, the purpose of the study was to investigated the effect of semantic mapping as instructional strategy for teaching vocabulary items to EFL learners at Alimam Mohammed Ibin Saud of the strategy on EFL students achievement of lexical items the sample of the study consisted of 50 male students enrolled in two sections, which were randomly selected from four sections and randomly assigned to both experimental and control group. Therefore aqua-experimental mode of inquiry was chosen internationally but its assignment on the groups was carried out randomly. The experimental group studied the lexical items via semantic mapping strategy, and the control group studied them in the traditional method. Vocabulary pre- test was given to both groups at the equivalent and homogenous. At the end of the experiment the same test was given to the experimental and control groups to investigate the effect of semantic mapping strategy on EFL student's achievement of lexical items. The researcher reached some recommended as follow**:**

a. Teachers are advised to be committed to teaching new lexical items by preparing additional challenging and motivating vocabulary activities based on semantic mapping strategy.

b. Teachers are advised to be eclectic in teaching new vocabulary by choosing the most appropriate strategy they should vary their strategies according to the difficulty of the word and the level of the class they can sometimes combine more than one strategy according to the nature of the new word.

c. Teachers are encouraged to focus on international as well as accidental vocabulary learning.

d. It is recommended that teachers avoid translation as much as possible in teaching new lexical items.

e. It is worthwhile to replicate the study in another area in Saudi Arabia and to test the effectiveness of semantic mapping strategy on other EFL learner's levels as well as the student's attitudes towards such a strategy.

f. Carried out further research concerning the effect of semantic mapping on other language skills such as writing and reading skills.

Study (5) by: Andriani Gita, Entitled: "Increasing Vocabulary Mastery through Semantic Mapping to the Sixth grade Students of Elementary School No 27 Palembang"**.** It is submmited to University of Sriwijaya- Nigeria - Faculty of English Education- English department (Unpublished B.A degree in English Language was written in 2012)**.**

> The research aimed to find out; whether or not there was any significant difference between the vocabulary mastery of students who were taught by using semantic mapping and that of those who were not, also the research significance the result of the study will hopefully be beneficial for teacher's, student's or learners of English and the writer herself for the teacher's, it can give reference of strategy to apply in the classroom. For the student's, it is hoped that they can use this strategy to increase their vocabulary mastery.

The research hypothesized that there was no significant difference between the vocabulary mastery of the students who were taught by using semantic mapping strategy and that of those who were not, there was a significant difference between the vocabulary mastery of the students who were taught by using semantic mapping strategy and that of these who were not.

The researcher concluded that the study presented three conclusions were: first study; semantic mapping strategy could increase student's vocabulary mastery. The data in paired sample T-test indicated that there was an improvement on the vocabulary mastery of the students who were taught through semantic mapping strategy. Second, there was no significant difference between the vocabulary

mastery of those who were taught by using semantic mapping strategy and that of those who were not.

The writer found that the student's vocabulary mastery in the experimental group was higher than those in the control group although the difference was not significant in other words; the students who were taught by using semantic mapping strategy had the same achievement as those who were not taught by using semantic mapping strategy. It means that null hypothesis was accepted.

Third the condition above May due to factors that influence student's achievement such as internal factor (attention) and external factor (natural condition).

Study (6) by: Mahnaz Saeidi, Entitled: "Teaching Vocabulary through Semantic Mapping as a pre-reading Activity across Genders"**.** It is submitted to University of Islam Abad- Faculty of Education (Journal of English studies was written in, 2010)**.**

The study has examined the effect of semantic mapping on teaching vocabulary across genders. The researchers selected 120 intermediate students after the administration of a standard proficiency test. A vocabulary test was also used to measure the student's vocabulary knowledge the experimental group received semantic mapping in the pre-reading stage, but the control group did not receive this treatment.

The results of the study, based on statistical analysis of the data, indicated that the experimental group outperformed the control group in vocabulary learning. As for the gender differences, the results indicated no significant difference between males and females. It can be suggested that semantic mapping can be used as an efficient methodology for teaching vocabulary, a technique which is equally effective for male and female EFL, Learners. The researcher formulated the following research questions were:

a. Is there any difference between the performance of students who use semantic mapping as a pre-reading activity for vocabulary learning and the performance of those who do not use this technique?

b. Is there any difference between the performance of male and female students who receive semantic mapping as a pre-reading activity for vocabulary learning?

Study (7) by: Judith Kerstin, Entitled: "Frame Semantics as vocabulary Teaching and Learning Tool."**.** It is submitted to University of Texas at Austin- Faculty of Education- English department (Unpublished PhD degree in applied linguistic was written in, 2011)**.**

The purpose of this study, which is grounded in applied linguistics, was to investigate two ways of presenting vocabulary in a German language class in order of to determine whether frame semantics is a feasible tool with regards to student's vocabulary acquisition and culturally appropriate usage of vocabulary.

In addition, this study examined learner's attitude towards the new method of vocabulary teaching and learning. A total of 34 University students enrolled in four second-semester German classes participated in this study. In the control Group rote memorization techniques were used. While the treatment group frame semantics was utilized for the teaching and learning of vocabulary the data was analyzed through quantitative methods.

The quantitative data was derived from an online demographic survey, a vocabulary pre-test, two vocabulary post-test (an immediate post-test and delayed post-test), a cultural appropriateness post-tests (an immediate post-test and delayed post-test) as well as pre-test and post-test attitude scale provided as an online questionnaire.

Analysis of the data indicates that there was no statically significant difference between the two groups with regards to their cultural appropriate usage of the

vocabulary items and no statistically significant differences were observed with regards to vocabulary recall and retention.

In addition, only the factor of enjoyment yielded significant differences with regards to learner's attitude, while the factors of motivation, interest and confidence did not show statistically significant differences between the groups. Thus, the results indicate that both methods. Frame semantics and the more traditional methods. Are suitable for vocabulary learning and teaching as both methods resulted in an increase of learner's vocabulary knowledge, including long-term retention?

The results of this study add to the body of literature related to semantic mapping in the foreign language classroom. And the finding of this study is as follows**:**

a. Frame semantic is beneficial as more traditional learning methods.
b. It may increase learner's cultural awareness, so that they are able to use a word more culturally and appropriately.
c. Teachers should give language learners the opportunity to learn the word in cultural context.
d. Vocabulary should be presented in cultural authentic-fields and networks of relationships.

Study (8) by: Darayseh Al-mutassim Ahmed Entitled: "The effect of a proposed Program Based on semantic mapping and Brainstorming strategies on Developing the English Writing Ability and attitudes of the first scientific secondary students" It is submitted to Amman Arab University for Graduate Studies.
(Unpublished, PhD. degree in applied Linguistic was written in, 2003).
The research aimed to find out; whether or not there were significant differences between the mean scores of the students in the experimental groups which can be attributed to the use of the semantic mapping teaching strategy. The researcher recommended that teachers should activate the prewriting phase and reading by

using appropriate teaching strategies such as brainstorming and semantic mapping in particular.

Study (9) by: Zaid Mohamed, Entitled: "Using Semantic Mapping in Communicative Language Teaching" It is submitted to King Saud University- College of Education- Abha Saudia, Arabia (Unpublished, M.A. degree in applied Linguistic, was written in, 1995).

The study investigated the semantic mapping technique in teaching reading to his students at Abha college of Education. The study conducted that semantic mapping has been shown to be a beneficial learning/ teaching technique for native speakers of English at all grade levels in regular and remedial classrooms as well as for those who are learning-disabled. He added that students who use semantic mapping manifest considerable improvement in reading comprehension, written expression, and vocabulary development. He suggested some areas of correlation between what a semantic mapping activity does and the principles and objectives of Communicative Language Teaching (CLT). For the students, the map was providing a graphic conceptualization of their randomly given ideas. There are three places in a lesson where semantic mapping may be as he clarified:

1- As a pre-assignment strategy to activate student's prior knowledge or to help the teacher in assessing the students' readiness to do the assignment.
2- As a strategy to allow students to record what they are learning during the assignment.
3- As a post-assignment strategy to allow them to integrate or synthesize what they have studied. He concluded that semantic mapping is interactive, it allow for sequential negotiation. It is an information-gap activity since students must fill in gaps in the map and in their personal schemata of the topic as the map takes shape. Moreover, it is a predicative activity. It is student centered because the semantic maps make use of the students' prior knowledge and because students control the input at each stage of the map's building. It is teacher-friendly because it allows the EFL teacher unobtrusively to pre-assess

the students' readiness to do an assignment, take immediate steps to enhance their preparation and to post-evaluate how well the students integrated or synthesized what they had studied. And finally, it is an integrative activity, since it allows students to connect previous knowledge with new knowledge, thereby expanding their reservoir of knowledge through that interrelationship. He recommended that there should be inclusion of semantic maps activities in the technical repertoire of Communicative Language Teaching (CLT).

2.3 Summary of the Chapter

The studies researcher has consulted as previous studies vary in terms of content and process in tackling topics.

Some cover the area of Semantic maps strategy others development vocabulary through semantic maps. Nevertheless, the researcher selects what he believes can be merged into his stock of knowledge to help emerging.

The title: effects of using semantic maps strategy on the development of vocabulary learning for Sudanese secondary schools' students.

Chapter Three

Research Methodology

Chapter Three

Research Methodology

3.0 Introduction

This chapter is operational framework of the study; it deals with, the population and subjects, tools, distributions materials, instruments, validity and reliability of the instruments , data collection procedures and summary.

3.1 Research Design

This study depends on the quantitative and qualitative method to meet its aims by using tests and a questionnaire to gather information from purposive sample of (160) Students as well as (100) English Language Teachers.

3.2 Population and The study Sample

In this study the sample of the study are divided into two groups. The first group is English language teachers who work at Secondary Schools in Khartoum State. They were 100 in numbers, 40 of them were females and 60 were males, they have different English Language qualifications graded from diploma to Masters.

The second group is 3rd level Secondary School males and females students, they were 160 students, 80 of them are experimental group and 80 are control group. The two groups were selected randomly. The researcher selected randomly 160 male and female students from Secondary Schools at Khartoum State; 80 male and female students to represent the experimental group and 80 male and female student's to represent the control group.

3.3 The Subjects of the Study

The subjects of study are divided into two groups**:**

The first is a group of English Language Teachers in Secondary Schools, in Khartoum State Localities.

The second is a group of Secondary schools Students, from 3rd year in Khartoum State Localities.

The sample of this study is selected randomly in order to give an appropriate result. The teachers are given hundred copies of Questionnaires sheets while students are given tests (pre-test and post-test).

The researcher has faced some difficulties in distributing the questionnaire. However, he has to distribute it at different Schools in different parts of the Localities and he has to wait to collect the questionnaire, and one hundred and twenty only were collected, twenty copies were excluded because they were in complete, the researcher was handed one hundred only valid copies.

Teachers were selected randomly from many Educational Governmental Instantiations.

3.4 Tools of the Study

To collect the desired information to information the resent study, two types of tools have been adopted one type is a questionnaire, which was distributed to randomly selected group of Sudanese English Language Teachers at Khartoum Secondary Schools. A pre-test and a post-test, is the second tool used in this research. The tests were administered to 3rd year Secondary Schools Students of Khartoum State Localities. Students were, amounting to as many as a one hundred and sixty were divided into two groups, namely experimental and controlled. Before the test, the experimental group has been subjected to a dose of exposure to linking devices which was positively reflected in their exam performance.

3.5 Sample Description

3.5.1 The Teachers

Table below show the number of the English Language Teachers

Table (3.1): Frequency distribution for teacher's respondents according to gender

Gender	Frequency	Percentage
Male	60	60 %
Female	40	40 %
Total	100	100%

The results which are distributed in the above table (3.1) show that 60% of the teachers are Male, whereas 40% are Female.

Figure (3.1): *Teachers' gender*

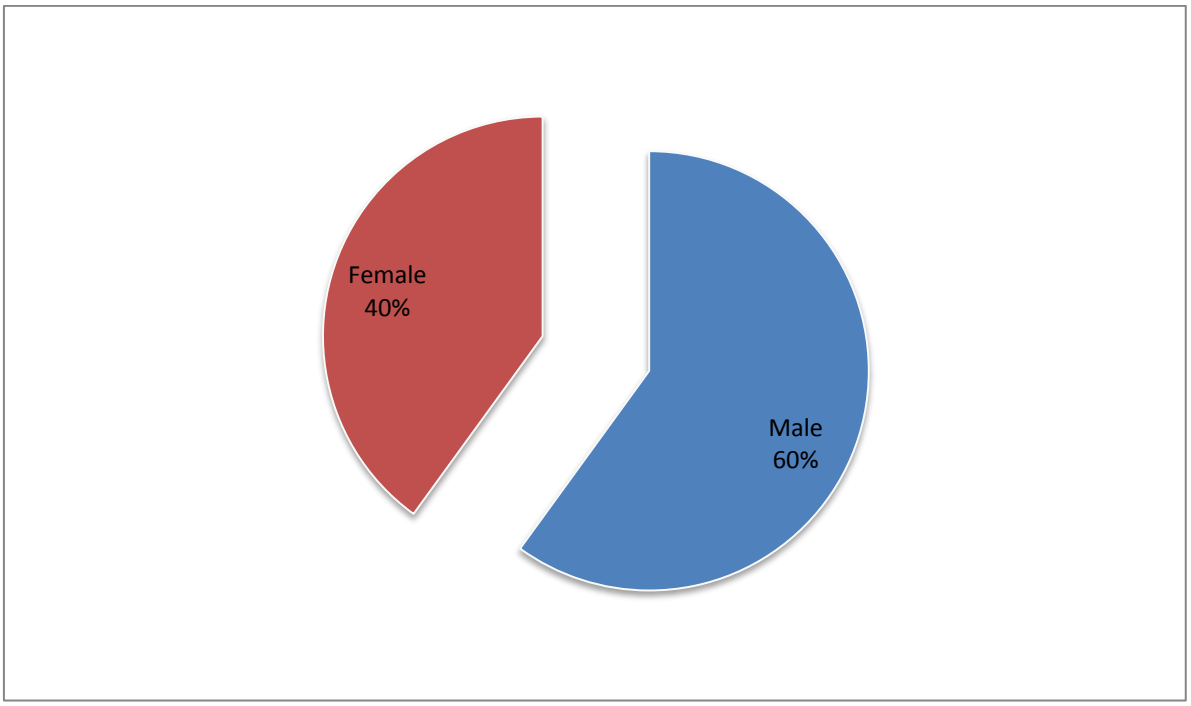


Table (3.2): Frequency distribution for teacher's respondents according to age

Ages	Frequency	Percentage
Less than 30	20	20%
(31- 40)	25	25%
(41 - 59)	45	45%
More than 60	10	10%
Total	100	100%

The results in table (3.2) above show that 20% of the teachers' age ranges less than 30 years old, while 25% of them vary between (31- 40), whereas 45% of them are aged between (41-59) and 10% of them are aged between (more than 60).

Figure (3.2): *Teachers' ages*

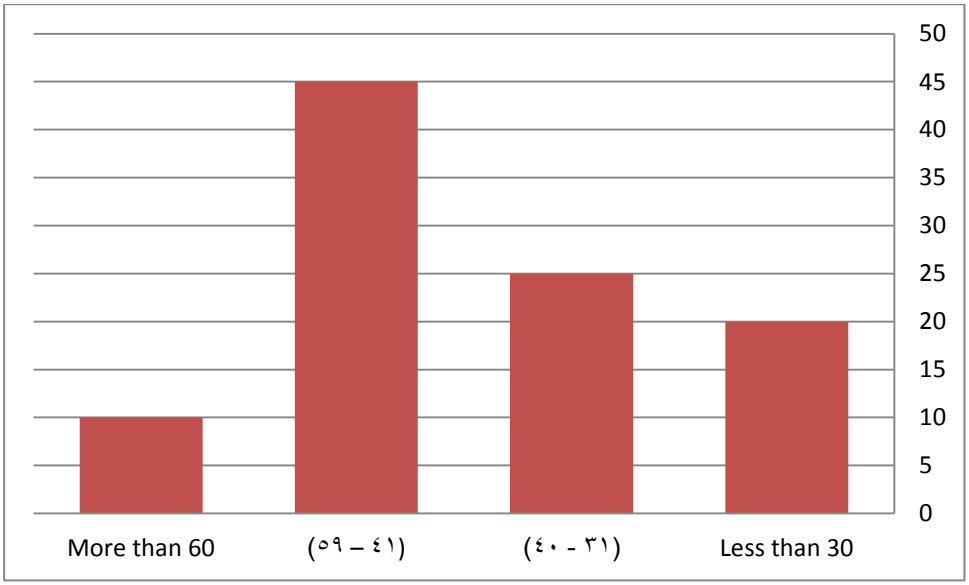


Table (3.3): Frequency distribution for teacher's respondents according to qualifications

Qualification	Frequency	Percentage
Diploma	13	13 %
Bachelor	55	55 %
Master	30	30 %
PhD	2	2%
Total	100	100%

The results in table (3.3) above show that 13% of the teachers qualified in Diploma, whereas 55% qualified in Bachelor also 30% qualified in Master and qualified in PhD 2%.

Figure (3.3): *Teachers' Qualifications*

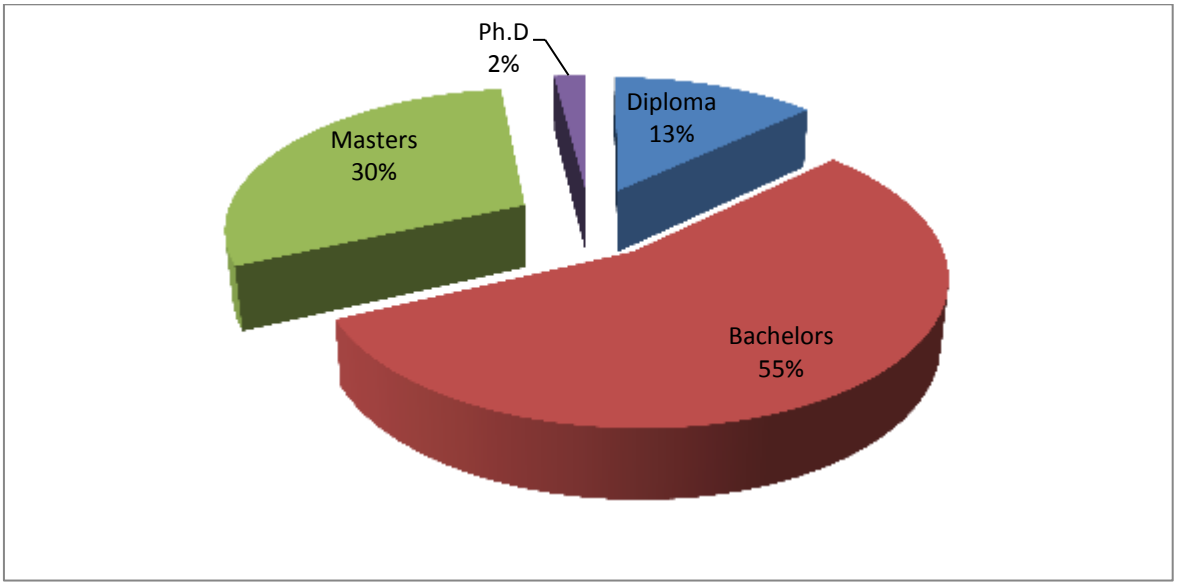
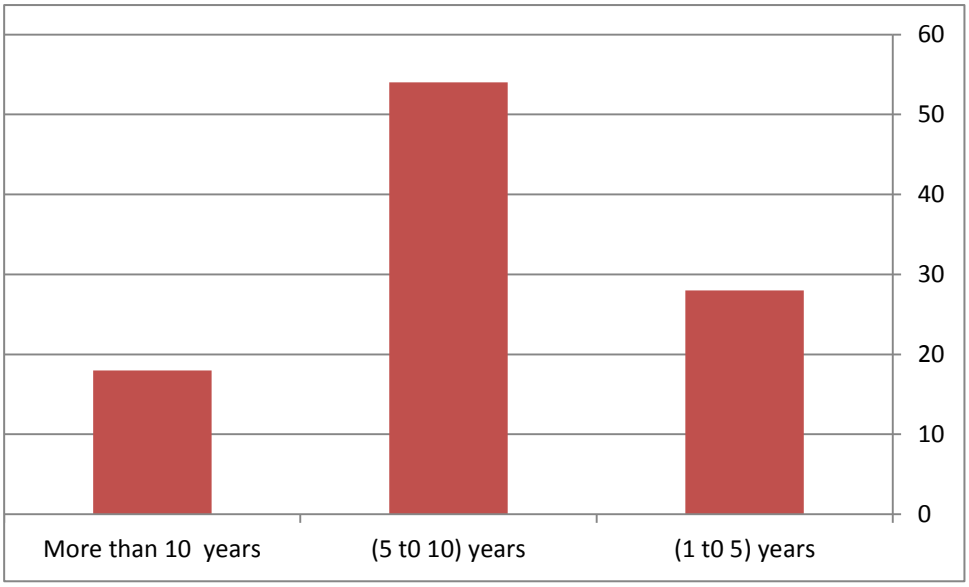


Table (3.4): Frequency distribution for teacher's respondents according to experience

Years of Experience	Frequency	Percentage
(1 to 5) years	28	28%
(5 to 10) years	54	54%
More than 10 years	18	18%
Total	100	100%

The results which are distributed in the above table (3.4) show that 28% of the teachers experience between (1 - 5) years of experience, while 54% of them between (5 -10), and 18% of them experienced between (more than 10 years).

***Figure (3.4)*:** *Teachers' years of experience*



3.5.2 The Students

Tables below show the number of the students

Table (3.5): Frequency distribution for student's respondents according to gender

Gender	Frequency	Percentage
Male	80	50 %
Female	80	50 %
Total	160	100%

The results which are distributed in the above table (3.5) show that 50% of the students are Male, whereas 50% also are Female.

Figure (3.5): *students' gender*

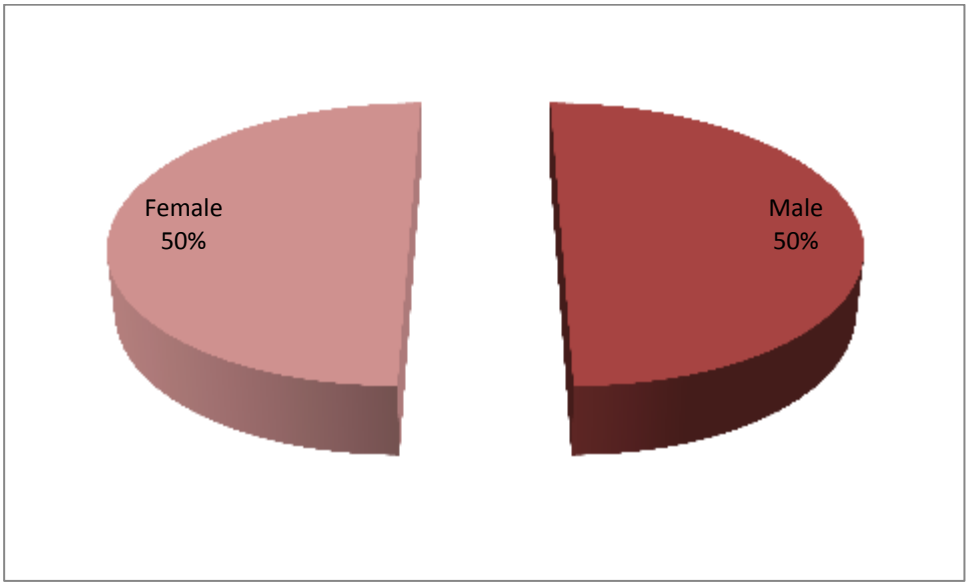
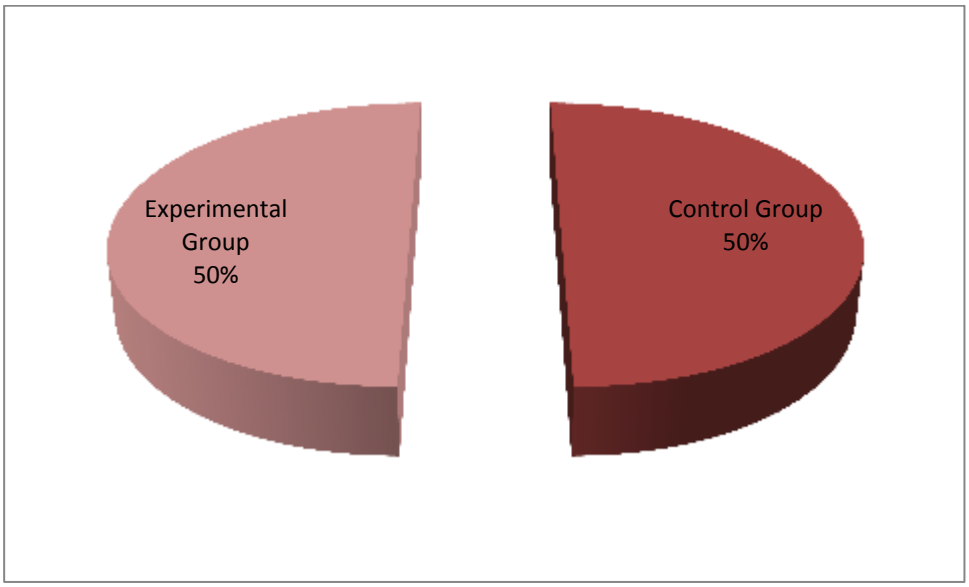


Table (3.6): Group wise distribution

Group	*Frequency*	*Percentage*
Control Group	80	50 %
Experimental Group	80	50 %

Figure (3.6): *Group wise distribution*



3.6 English Language Teachers from Khartoum State

The researcher visited Ministry of Education – Khartoum State and all the Educational Administrative Offices in Khartoum State in which Technical Supervision Administration Offices are located. There are three Districts in Khartoum State, each has a number Localities. Khartoum State is a microcosm of Sudan that is it hosts teachers from nearly all States of Sudan. Khartoum State has three Districts each with its Educational Administrative Offices as follows**:**

a. The Khartoum District :

Includes into two Localities

1- Khartoum Educational Locality

2- Jebel Awliya Educational Locality

b. Bahri District :

Includes two Localities

1. Bahri Locality
2. Sharaq El-Neel

c. Omdurman District:

Includes three Localities

1. Omdurman Locality
2. Umbada Locality
3. Karrari Locality

In each District there is an Educational Administration responsible for running the educational activities within its territory. Within this Administration there is always a technical Supervision Administration, directed by the leadership which is administered by the Head-Supervisors. Head-supervisors are responsible for directing the different Head- department in their officers. Among those departments, there is the English Language Department, which includes English and Literature.

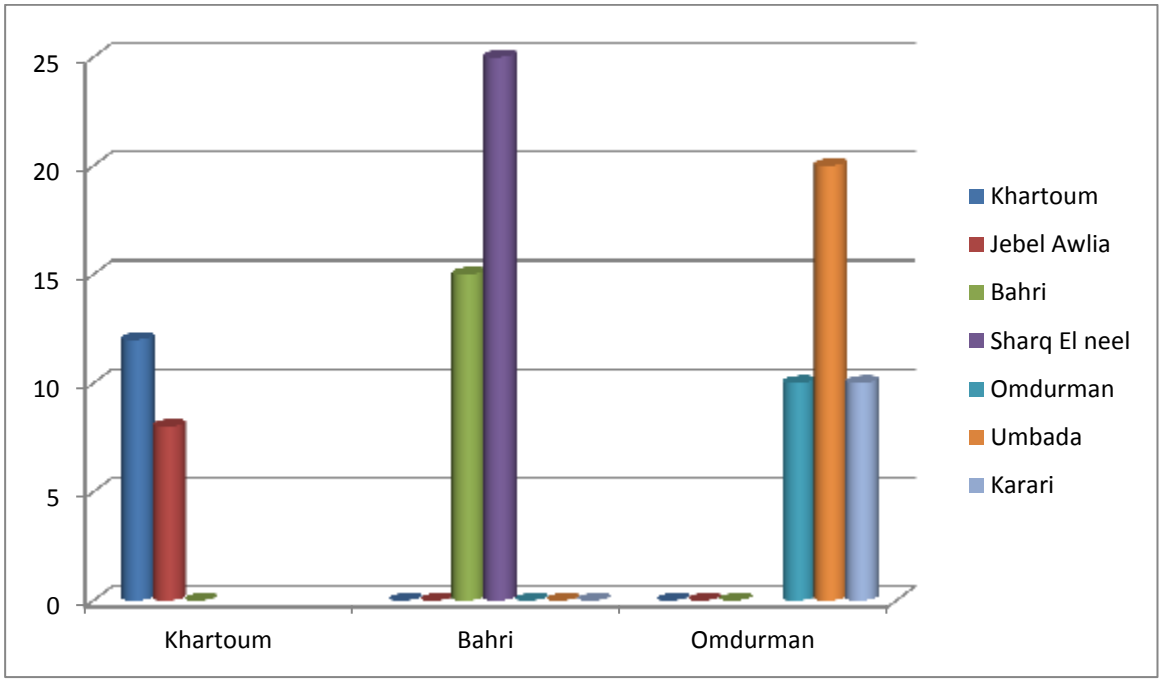
3.7 Distribution of Teachers in Khartoum State Localities

Sample selected of the Teachers in the different Localities of Khartoum State is as follows:

Table (3.7): Distribution (Sample) of Teachers in Khartoum State Localities

Distract	Locality	Frequency	Percentage
Khartoum	Khartoum	12	12%
	Jebel Awliya	8	8%
Bahri	Bahri	15	15%
	Sharaq El-Neel	25	25%
Omdurman	Omdurman	10	10%
	Umbada	20	20%
	Karrari	10	10%
Total		100	100%

Figure (3.7): *Distribution of Teachers in Khartoum Localities*



3.8 Materials

Vocabulary Lists

Forty-three words were chosen. This word list was used as it contained the most frequent word families. Frequency of the words was considered to be one of the important factors affecting the level of difficulty of the words. Words with a higher frequency were recognized more quickly and easily. The selected words were appropriate and useful for the Secondary School Students. The research prepared two word lists from the 43 words to be studied by the experimental and control group.

The experimental group list was grouped into five semantically related sets. The semantically related sets included *'jobs'*, *'feelings'*, and *'ways of walking'*, *'materials', 'quality adjectives'* each set consist of 5 to 8 words. This way of presentation which is called semantic mapping strategies is designed to allow the experimental group retain and summon the words easily.

The control group list was listed randomly without any consecration to semantic networking; it is conventional way of presentation. It includes the word and its definition. This traditional way of presentation will be compared with the new method of presentation (semantic maps) to examine its effectiveness in vocabulary learning.

After getting the advice from the teachers, semantically related word list and a conventional list of words were prepared **(*See Appendices A&B*).** A total of 43 words were set for each word list. In each word list, there were nouns, adjectives and verbs, respectively so as to minimize any difference in the level of difficulties of words to the participants caused by different parts of speech for the experimental group. The number of syllables of the words on the word lists was also controlled; as it was found that word length effect could be found on learners' short-term and long-term memory in vocabulary recall tests. This was

done to minimize any difference in the level of difficulties of the words caused by different lengths of the words in the two word lists. The word lists were also given to two other English teachers to see if they could identify the relationship between the words on the list. This was done to ensure that the words were grouped appropriately into semantic sets.

The relationships between the words were stated explicitly to the participants the lists were reviewed to make sure that the words used in the definitions were familiar to the students. The participants were given 50 minutes to study each of the vocabulary lists in the research before taking the immediate exam.

3.9 Research Instruments

Students Vocabulary Tests

An immediate-test and a delayed -test were given to the participants after the presentation of each word list. The immediate tests were conducted to see whether there were any differences found in vocabulary learning right after the presentation method. The impact of the grouping on learners' short-term memory could then be examined. To see whether differences in vocabulary learning were caused to learners' long term memory, delayed post tests were conducted. The format of the tests was matching in which participants were asked to match the words with their corresponding meaning. The order of the words in the list was shuffled in each test so that they did not look the same as in their study list or the previous test the participants had taken. This was done to prevent that participants only memorized the order instead of the meaning of the words.

Teachers Questionnaire

The structured questionnaire was designed to examine teacher's perceptions about the use of semantic maps strategies for enhancing vocabulary learning**.** The questionnaire consisted of one section consists of 15 items which show how the semantic grouping help students remember the words easily; enable students to

remember the words for a long time; and aroused students interest in learning the words in the list. A five-point Liker scale was used with questionnaire statements, the scale was graded from *strongly agree* to *strongly disagree*.

(*See Appendix D*)

3.10 Validity of the Instruments

Validity of the Test

To determine the validity of test, both of treatment vocabulary list and the vocabulary test were given to a group of judges ***(See Appendix E)***. The juries were six ELT specialists with different qualification and different years of experience each in Sudanese Universities. In addition, the test was given to a supervisor who works in secondary schools with 10 years of experience and M. A. degree. They all suggest some changes in the delayed test to fit the investigation of the impact of semantic mapping on long-term memory. The researcher modified the immediate test into anew delayed test accordingly. To investigate the validity of the semantic maps in list (**A)** created by the researcher, the researcher follows some models of concept maps building core concept word, strands and supports.

Validity of the Questionnaire

To check the validity of questionnaire, the researcher passed it to English language specialist as judges ***(See Appendix E)***. The juries of questionnaire were three teachers with different qualifications and different years of experience each in Sudanese Universities. They all suggest some changes in the questionnaire, and they suggest reducing the items of the questionnaire from 30 to 15 related items. The researcher makes the changes for the questionnaire before measurement of its reliability.

3.11 Reliability of The instruments

Reliability of the Tests

In order to ensure the reliability of the immediate test and the delayed test of the study, the researcher administrates a test retest on an experimental sample of 20 subjects who are taken from the population. Their tests are corrected. A statistical formula of Cranach Alpha is calculated. The result was (0.908) which is a very high internal contingency coefficient. This is a very appropriate for the reliability of the test and for the purpose of the study. The ***c***orrelation was significant at the 0.02 level (2-tailed). ***(See Appendix F)***

Reliability of the questionnaire

To ensure the reliability of the teachers' questionnaire, the researcher administers a test retest on a sample of 10 teachers who are taken from the population; the interval between the two tests was two weeks. Their tests were corrected. The researcher calculates the reliability of the test through Pearson's product moment formula. The correlation of coefficient between the two tests was (0.92) which is a very high internal contingency coefficient. This is a very appropriate for the reliability of the questionnaire for the purpose of the study. ***(See Appendix F)***

3.12 Research Procedures

a- Tests Procedures

A two group's experiment research model is adopted; group experimental group (A) and control group (B). With this model, each group received the treatments and learned the words presented, group (A) learned the words through list presented in semantic mapping method and group (B) learned word list which was traditionally presented. They learned all the words selected for this study and experienced the presentation methods and took a unified test, validity can be

ensured as results found in the study would be affected by differences found between groups of students.

The whole data collection process lasted for three weeks. Both groups attended the vocabulary sessions at different time. When presenting the vocabulary, participants were given the respective word list and they were asked to study the list for 50 minutes individually and silently. They were not allowed to discuss with other participants. This was done to prevent the influence caused by any sharing with or learning among peers. Students were told that they only needed to understand the meaning of the words and were not required to spell the words so as to prevent having participants waste time on spelling but not understanding the meaning of the words. Participants were not allowed to ask the teacher any question during the study time so as to minimize any influence brought by additional explanation from the teacher. After the 50 -minute studying time, all the word lists were collected. Then, participants were given 50 minutes to finish an immediate-test (considered as pretest), in which the same definitions were used but the order of the words was shuffled. Three days after the presentation of each set of the vocabulary, they did a delayed-test (considered as measuring posttest). The format was the same except that the order of the words was shuffled again.

SPSS Statistics was employed for data analysis. Paired samples tests were run to compare whether differences were found in performance between the two groups. The tests also checked whether there were differences in students' performance in immediate tests and delayed tests. This showed us whether students performed better in any of the tests when no reinforcement was given to students between the immediate and delayed tests. Item wise analysis were also run to see the impact of the two presentation methods on words of different parts of speech. To see whether differences were found between the two groups,

independent samples tests were run. The collected data were analyzed, tabulated and presented in ch4

b- Questionnaires Procedures

Questionnaires comprised of 15 items were distributed to 100 Secondary Schools Teachers. Participants were asked to response for the 15 statements to show their views about the effectiveness of semantic mapping strategies in vocabulary learning. The percentage of teachers choosing a particular response was calculated and presented in chapter four.

3.13 Summary of the Chapter

This chapter focuses on the methods, which were used to direct the study. It sheds light on the Subjects who were the most important source of data needed to the study, moreover, the instrument by which data were collected and techniques that were used.

In the following chapter, the researcher will try to deal with the analysis and discussion of the data.

Chapter Four

Data Analysis, Results & Discussion

Chapter Four

Data Analysis, Results and Discussion

4.0 Introduction

This chapter presents the results, analysis and discussion of the collected data. The purpose of the study is to find out the effect of semantic maps strategy on vocabulary learning in English among 3rd year Secondary School Students in Khartoum State Localities.

In order to analyze the data, both descriptive and analytic statistics were used. The descriptive statistics such as mean, median, mode, standard deviation were used on the scores obtained in the test of both experimental group and control group for understanding the nature of the distribution of the scores. Analytic statistical technique Analysis was used to find out the effect of Semantic Maps Strategy on students different vocabulary memorization. Statistical Package for Social Science (SPSS) was used for analysis of the data. The analysis and the result of analysis were discussed with the help of tabular displays in the following sections .

To study the nature of distribution of data before applying analytic statistics ، descriptive analyses were carried out to compute mean, median, standard deviation, for all the variables under study and the data was used to ensure that it satisfies the underlying hypotheses for employing analytic statistics. The result of analysis is presented in the following table.

4.1 Analysis of Vocabulary Learning

The students were subjected to immediate test immediately after experiencing the presentation of vocabulary through semantic maps strategy to examine the effect of semantic maps strategy on vocabulary learning and to check the impact of the new method in student's short-term memory. In order to find out, whether

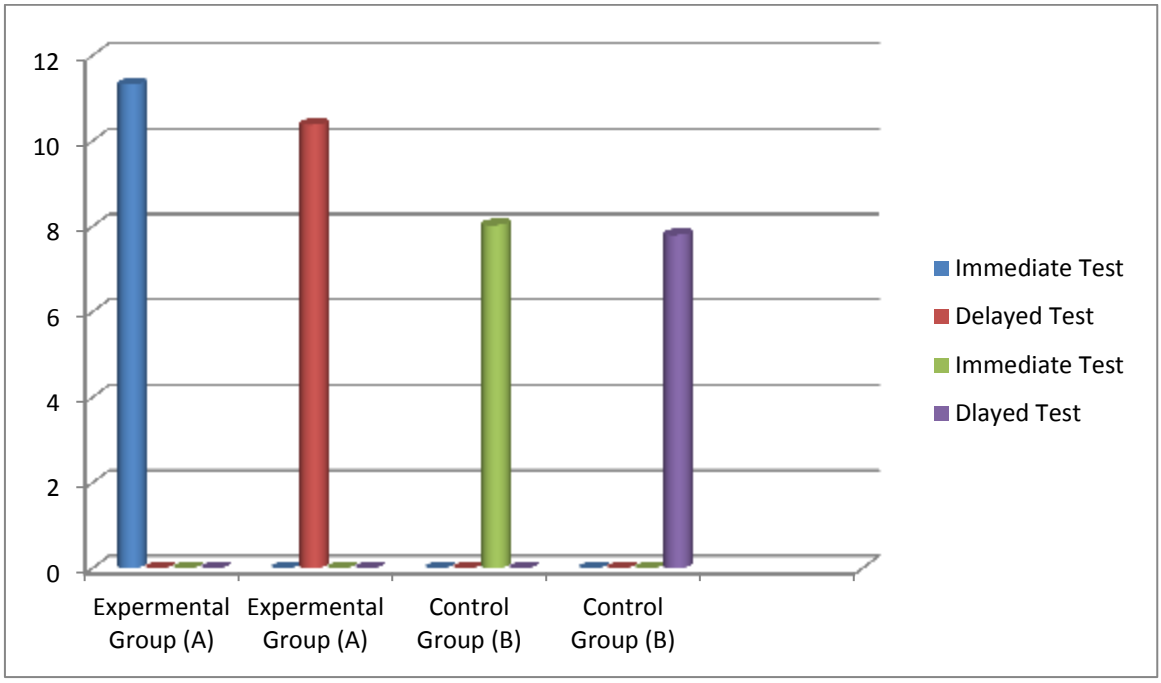
the effect of Semantic Maps Strategy on vocabulary learning is sustaining over a period of time (long-term memory), a delayed test was carried out after a gap of three days after the immediate tests.

Students' performance in the vocabulary tests is presented in Table 4.1. In the vocabulary tests, students scored one mark for each correct response and the total scores of each vocabulary test was 25. The result of the tests is analyzed below:

Table (4.1): Analysis of Vocabulary Learning

Group	Test	N	Mean	Median	SD
Experimental Group (A)	Immediate Test	80	11.32	12.0	5.35
Control Group (B)	Immediate Test	80	8.03	8.75	1.75
Experimental Group (A)	Delayed Test	80	10.38	11.0	4.54
Control Group (B)	Delayed Test	80	7.80	7.5	1.44

Figure (4.1): *Analysis of Vocabulary Learning*



The above table and graph show a comparison between immediate and delayed tests of vocabulary learned by the students. As shown in the table, students did better in the immediate tests (mean 11.2 and 10.03) than in the delayed ones (mean 10.38 and 9.80) with respect to each group. The result indicate a significant difference between each group in both tests, hence we find that there is a high deviation between the groups in the immediate test (SD = 5.35) for group (A) and (SD = 1.75) for group (B), this imply that semantic maps strategy has a great effect in activating students **short-term memory** than the traditional method of vocabulary presentation (List of vocabularies). Similarly in the delayed test, the result reveal that there is high deviation between group (A) (SD = 4.54) and group (B) (SD = 1.44) to indicate that, still semantic maps has strong effect in activating students **long- term memory** than the traditional method.

The result of this analysis shows that Semantic Maps Strategy is more effective compared to conventional method of teaching in fostering students' vocabulary learning in English. The finding of the study concur with the findings of, Pikula (1987), whose study showed that the use of compared the effectiveness of the two techniques (semantic maps and dictionary) for 38 students of

experimental and control groups. In his study, the experiment group developed the network of semantic categories using their existing knowledge of vocabulary whereas the control group used a dictionary to learn vocabulary. Posttest results at the end of the six-week period indicated statistically significant difference between the two groups. The experimental group exhibited a great enough gain over the control sample.

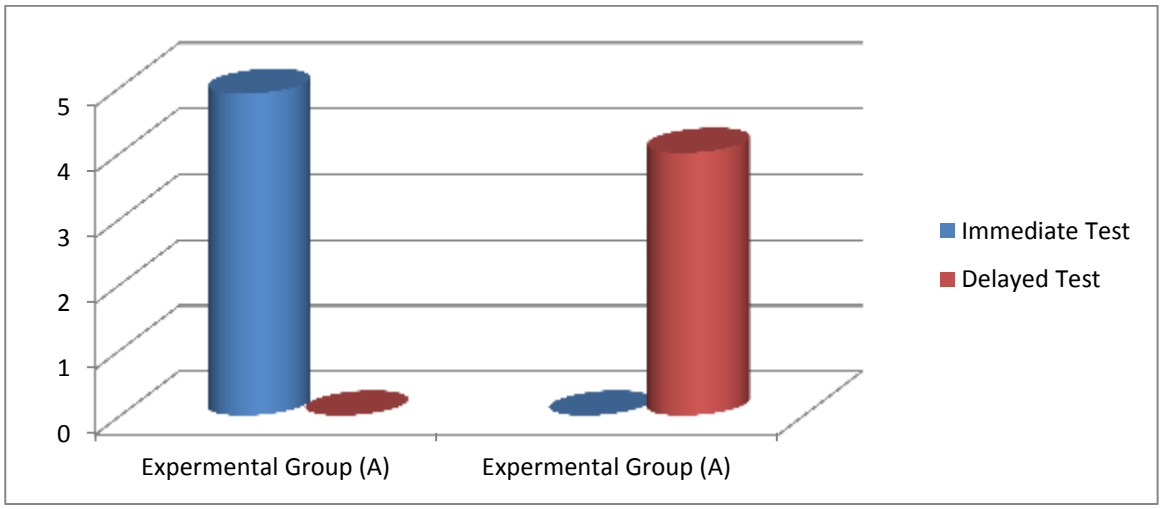
To investigate whether the differences between the two immediate tests and the two delayed tests were statistically significant paired samples tests were run and the results are presented in Table (2).

4.2 Analysis of Group (A) Sample Test

Table (4.2): Group (A) Samples Test

Group	Test	N	Mean	SD	SD error
Experimental Group (A)	Immediate Test	80	4.9538	2.1145	0.2623
Experimental Group (A)	Delayed Test	80	4.7846	5.4464	0.6755

Figure (4.2): *Analysis of group (A) sample test*



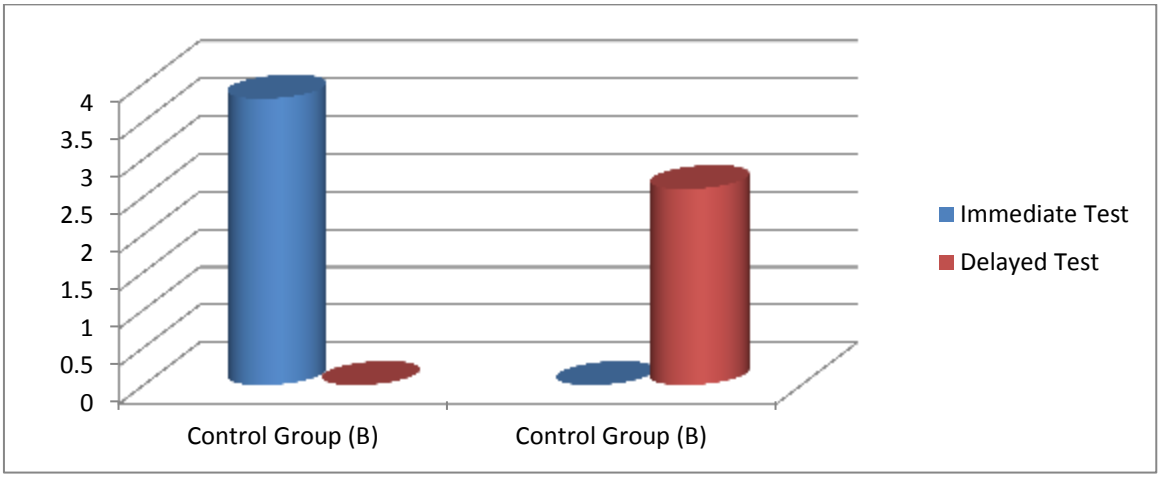
As shown in Table 4.2, regardless of the test time, students slightly higher in the immediate test (mean = 4. 9538) than in the delayed one (mean = 4.7846). To investigate whether the differences between the immediate test and the delayed test were statistically significant ، paired samples tests were run, the results indicate that, the difference between the immediate test and the delayed test were not significant, However there is slight difference between the immediate test (SD = 2.1145) and the delayed test (SD = 5.4464), to show that students performed slightly better in the immediate than the delayed test. The conclusion of this analysis shows that semantic maps strategies have a great impact in student's short-term memory as well as long-term memory that allow them to learn English vocabulary easily.

4.3 Analysis of Group (B) Sample Test

Table (4.3): Group (B) Samples test

Group	Test	N	Mean	SD	SD error Mean
Control Group (B)	Immediate Test	80	3.8462	3.0716	0.3291
Control Group (B)	Delayed Test	80	2.6462	2.7154	0.4329

Figure (4.3) *Analysis group (B) sample test*



In contrast of students semantic maps list check, students perform higher in the immediate test (mean = 3.8462) than in the delayed one (mean = 2.6462) in conventional vocabulary method. To investigate whether the differences between the immediate test and the delayed test were statistically significant ، paired samples tests were run, the results indicate that, the difference between the immediate test and the delayed test were significant. Students performed significantly better in the immediate test (SD = 3.0716) than in the delayed test (SD = 2.7154).The conclusions of this analysis indicate that conventional vocabulary method (list of vocabulary) is not effective method for vocabulary memorization if compared with semantic maps strategy.

4.4 Analysis of Students' Learning of different Parts of Speech:

There were different part of speech, nouns, adjectives and verbs in each of the student's vocabulary presentation lists. Students' learning of the words of each part of speech will be analyzed in the following.

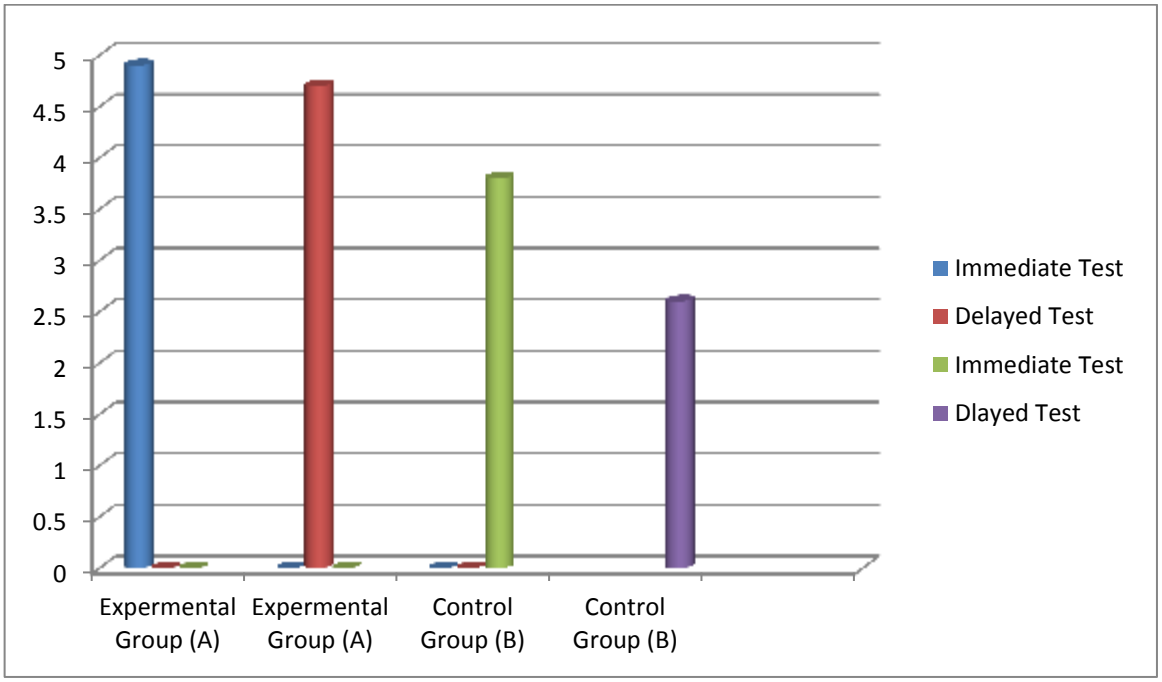
4.4.1 Analysis of Nouns Learning

Participants scored slightly higher in the items of nouns in the semantic tests . The students who were exposed to semantically related list perform better than those who were exposed to tradition vocabulary list. The differences between the mean scores of the tests for both groups were statistically significant as shown below:

Table (4.4): Students' learning of nouns

Group	Test	N	Mean	SD	SD Mean
Experimental Group (A)	Immediate Test	80	4.9538	1.2114	0.2623
Control Group (B)	Immediate Test	80	3.8462	0.3071	0.3291
Experimental Group (A)	Delayed Test	80	4.7846	1.5446	0.6755
Control Group (B)	Delayed Test	80	2.6462	2.7154	0.4329

Figure (4.4): *Analysis of Students' a learning of nouns*



The above table (4.4) shows a comparison between immediate and delayed tests of (noun) learning. As can be seen from the table, students did better in the immediate tests (mean 4.9538 and 3.8462) than in the delayed ones (mean 4.7846 and 2.6462).The result indicate a significant difference between each group in both tests, hence we find that there is a high deviation between the groups in the immediate test (SD = 1.2114) for group (A) and (SD = 3.0716) for group (B), this imply that the leaning of noun through semantic maps strategies is better than the traditional method of vocabulary presentation (List of vocabularies). Similarly in the delayed test, the result reveal that there is high deviation between group (A) (SD = 1.5446) and group (B) (SD = 2.7154) to indicate that, semantic maps strategies has strong effect to sustain nouns in students long term memory than the traditional method.

4.4.2 Analysis of Adjectives Learning

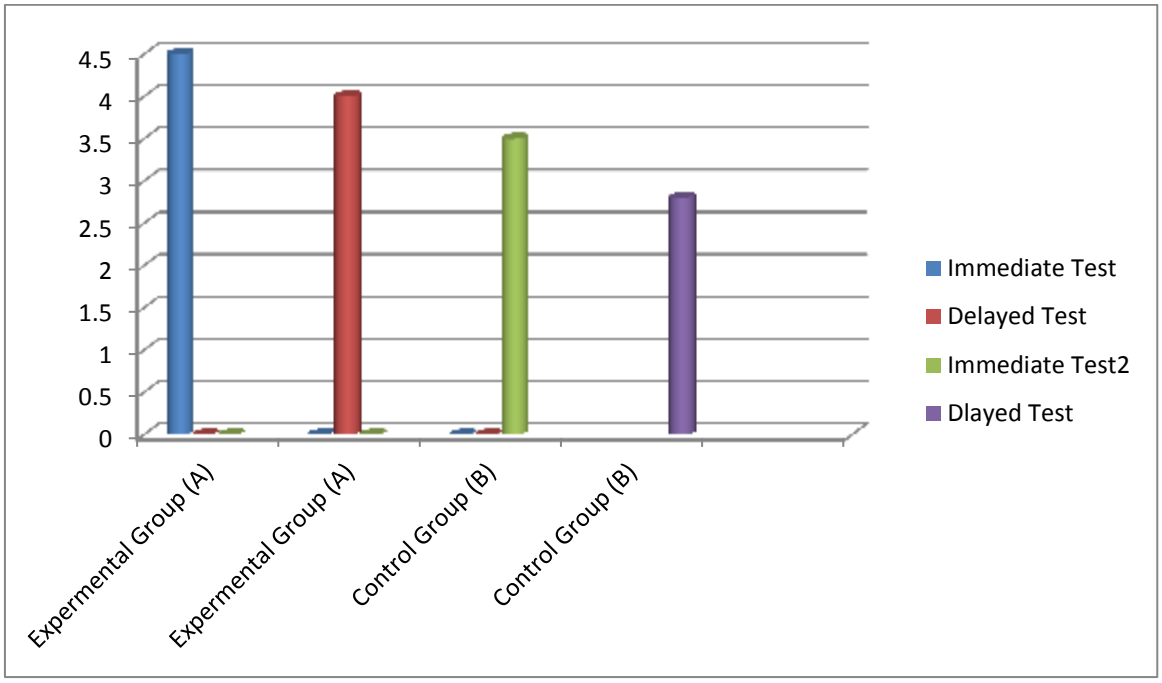
As in the learning of nouns, participants learned adjectives slightly better from the semantic related word list than traditional vocabulary list. The mean scores of

the items of adjectives were slightly higher in the immediate tests than in delayed test for each group. With paired samples tests run, it is again found that the differences between both groups were significant as indicated in the below table (5):

Table (4.5): Students' learning of adjectives

Group	Test	N	Mean	SD	SD error Mean
Experimental Group (A)	Immediate Test	80	4.5538	1.00048	1.2409
Control Group (B)	Immediate Test	80	3.5231	0.03341	1.4058
Experimental Group (A)	Delayed Test	80	4.0769	1.25384	1.5552
Control Group (B)	Delayed Test	80	2.8769	0.23437	1.8411

Figure (4.5): *Analysis of Students' leaning of adjectives*



The above table 4.5 shows a comparison between immediate and delayed tests of (adjectives) learning. As can be seen from the table, students did better in the immediate tests (mean 4.5538 and 3.5231) than in the delayed ones (mean 4.0769 and 2.8769). The result indicate a significant difference between each group in both tests, hence we find that there is a high deviation between the groups in the immediate test (SD = 1.00048) for group (A) and (SD = 0.03341) for group (B), this imply that the learning of adjectives through semantic maps strategies also is better than the traditional method of vocabulary presentation. Similarly in the delayed test, the result reveal that there is high deviation between group (A) (SD = 1.25384) and group (B) (SD = 0.23437) to indicate that, semantic maps has strong effect to sustain adjectives in students long-term memory than the traditional method.

4.4.3 Analysis of Verbs Learning

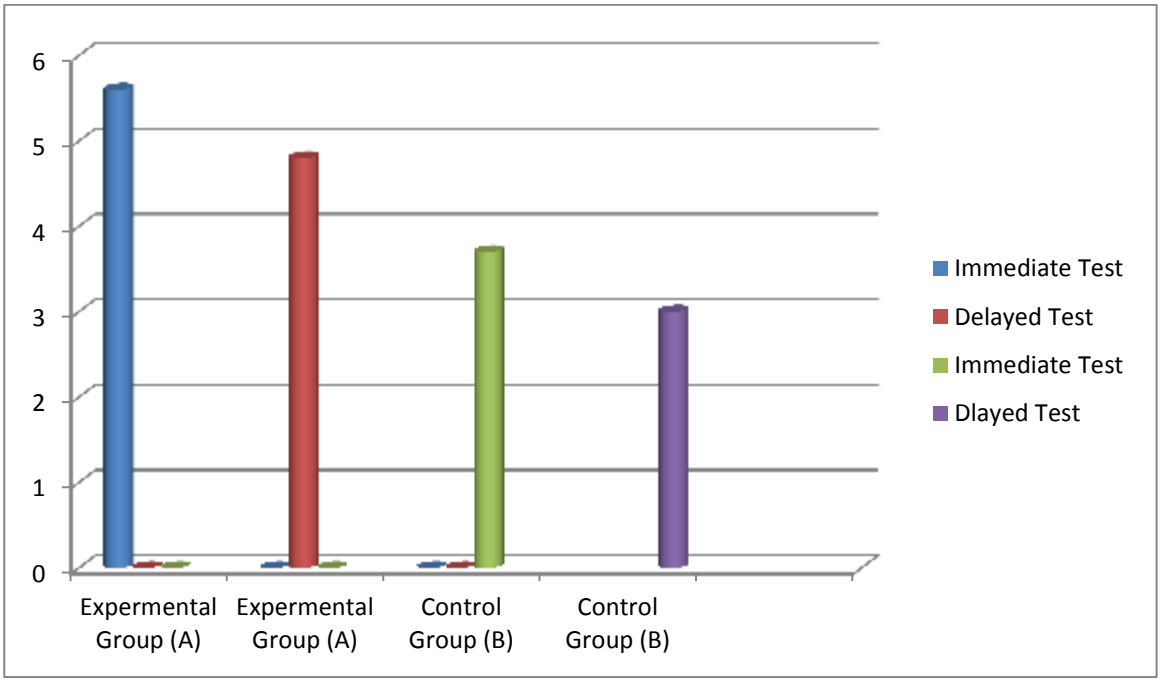
Participants learned verb better from the semantic related word list than traditional vocabulary list. The mean scores of the items of verbs were slightly higher in the immediate tests than in delayed test for each group. With paired

samples tests run, it is again found that the differences between both groups were significant as indicated in the below table:

Table (4.6): Students' learning of verbs

Group	Test	N	Mean	SD	SD error Mean
Experimental Group (A)	Immediate Test	80	5.6462	1.9751	1.2096
Control Group (B)	Immediate Test	80	3.7077	8.2392	1.0219
Experimental Group (A)	Delayed Test	80	4.8308	1.4314	1.7755
Control Group (B)	Delayed Test	80	3.3692	0.2192	1.5123

Figure (4.6): *Analysis of Students' learning of verbs*



The above table 4.6 shows a comparison between immediate and delayed tests of (verb) learning. As can be seen from the table, students did better in the immediate tests (mean 5.6462 and 3.7077) than in the delayed ones (mean 4.8308 and 3.3692). The result indicate a significant difference between each group in both tests, hence we find that there is a high deviation between the groups in the

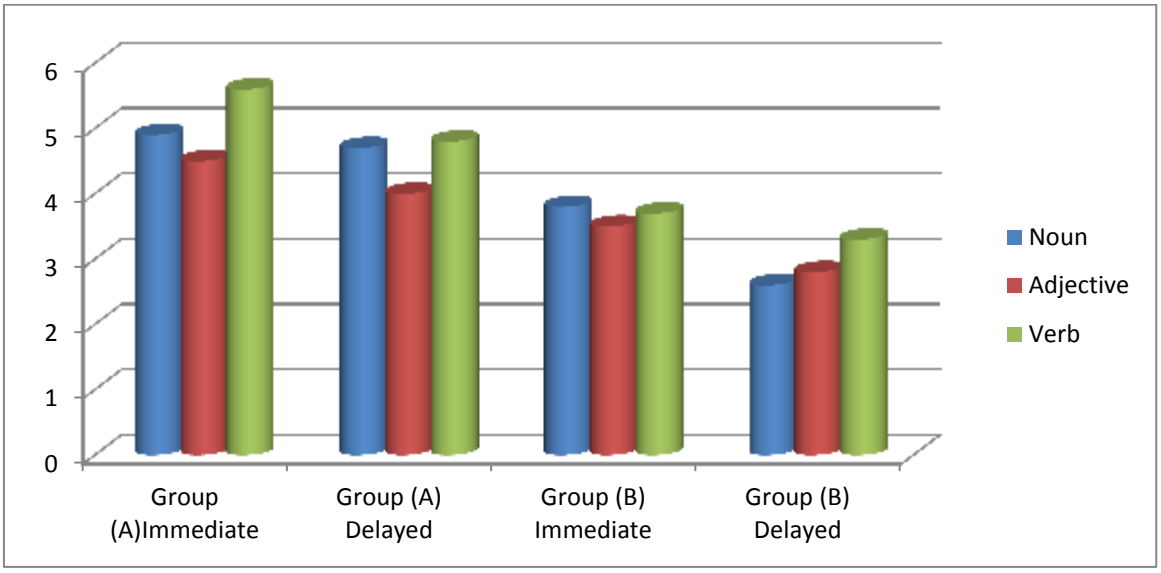
immediate test in verb learning (SD = 1.9751) for group (A) and (SD = 8.2392) for group (B), this imply that the learning of verb through semantic maps strategies is better than the traditional method of vocabulary presentation. Similarly in the delayed test, the result reveal that there is high deviation between group (A) (SD = 1.4314) and group (B) (SD = 0.2192) to indicate that, semantic maps has strong effect to sustain verbs in students long-term memory than the traditional method

4.4.4 Analysis of Overall Result of Part of Speech Learning

Table (4.7): Overall Result of Part of Speech Learning

Dependent variable	Group	Test	N	Mean	SD	SD error Mean
Learning of Nouns	Experimental Group (A)	**IT**	80	4.9538	1.2114	0.2623
	Control Group (B)	**IT**	80	3.8462	0.3071	0.3291
	Experimental Group (A)	**DT**	80	4.7846	1.5446	0.6755
	Control Group (B)	**DT**	80	2.6462	2.7154	0.4329
Learning of Adjectives	Experimental Group (A)	**IT**	80	4.5538	1.00048	1.2409
	Control Group (B)	**IT**	80	3.5231	0.03341	1.4058
	Experimental Group (A)	**DT**	80	4.0769	1.25384	1.5552
	Control Group (B)	**DT**	80	2.8769	0.23437	1.8411
Learning of Verbs	Experimental Group (A)	**IT**	80	5.6462	1.9751	1.2096
	Control Group (B)	**IT**	80	3.7077	.82392	1.0219
	Experimental Group (A)	**DT**	80	4.8308	1.4314	1.7755
	Control Group (B)	**DT**	80	3.3692	0.2192	1.5123

Figure (4.7): *Analysis of overall result of part of sspeech learning*



The above table 4.7 shows descriptive Statistics of Part of Speech learning of Experimental Group and Control Group in the student's immediate test and students delayed test. Participants scored slightly higher in the items of nouns in the immediate semantic tests than delayed test. However, the differences between the mean scores of the test were not statistically significant when the immediate test and delayed test compared with in each group. And it was significant when the groups were compared.

As in the learning of nouns, participants learned adjectives slightly better from the semantic word list. The mean scores of the items of adjectives in the immediate test were slightly higher than that of delayed tests. There were significant differences between both groups in the tests which indicate that a semantic maps strategy has a great effect in vocabulary learning.

In contrast to the learning of nouns and adjectives, participants scored higher mark in the verbs in both immediate test and students delayed test, this indicate that students learned verbs more than other parts of speech.

4.5 Analysis of Teachers Questionnaires

To gather teachers' perceptions about the use of semantic maps, they were asked to complete a questionnaire contains 15 items related to the effect of semantic maps on vocabulary learning. All one hundred teachers respond to the questions and their data were included in the analysis.

The questionnaire focused on teachers' perceptions on semantic maps method in vocabulary learning. To better understand the teachers' perceptions, their responses were analyzed separately first. Then, their responses were summarized as a whole. A 5-point Liker scale is used to show the degree of agreement and disagreement. Teachers choosing points 1 and 2 are regarded as '*Agreeing*' to the statements; whereas those choosing points 5 and 4 are regarded as '*Disagreeing*' to the statements **(See *Appendix D)***. Teachers' responses on the questionnaire are presented below.

Table (4.8): Good technique for reviewing vocabulary lessons

Responses	Frequency	Percentage
Strongly agree	75	75 %
agree	20	20 %
Neutral	0	00%
Disagree	5	05%
Strongly Disagree	0	00%
Total	100	100 %

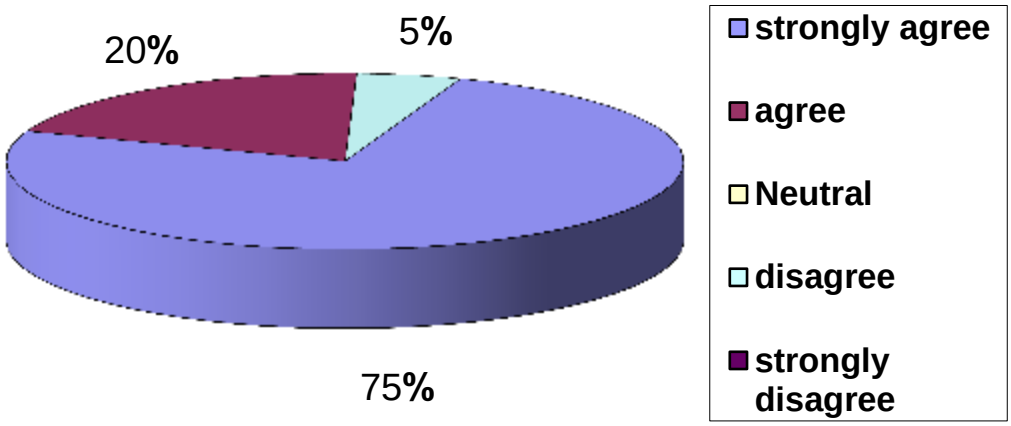


Figure (4.8): *Good technique for reviewing vocabulary lessons*

The statistical analysis in table 4.8 shows the most of the participants support the statement that Semantic Maps is a good teaching technique for reviewing vocabulary lessons. Almost all the participants either strongly agree (75%) or agree (20%). Only (5%) of the teachers provide the response disagree. Accordingly, this statement scores high mean in this section of the questionnaire. This indicates that the teachers are completely satisfied with this item.

The findings of this item give manifestation for the teachers to facilitate vocabulary learning by presenting vocabulary lesson through semantically related sets. The words are grouped together based on semantic and syntactic similarities and they are grouped into a system which shows their relationship to one another.

Table (4.9): More systematic and well organized

Responses	Frequency	Percentage
Strongly agree	80	80 %
agree	20	20 %
Neutral	0	00%
Disagree	0	00%
Strongly Disagree	0	00%
Total	100	100 %

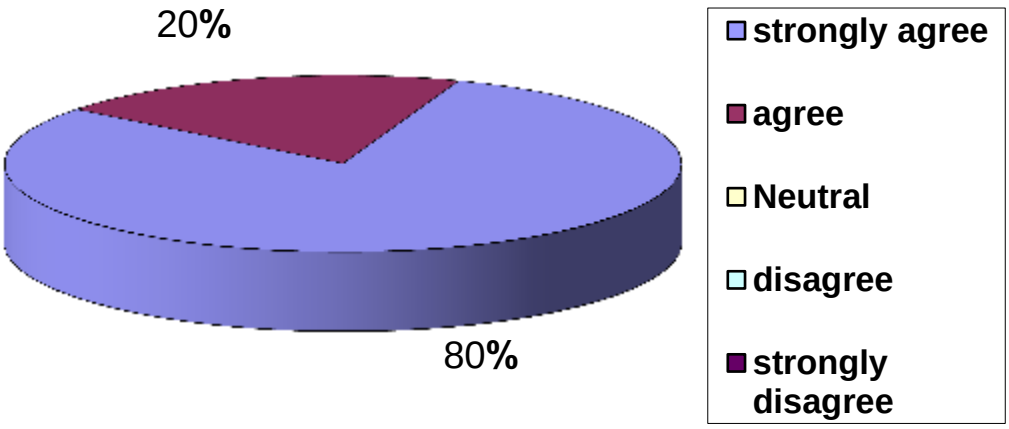


Figure (4.9): *More systematic and well organized*

As indicated in table 4.9, there is consensus point of view from the teachers about the statement that semantic maps is more systematic and well organized, 80 % strongly agree and 20% agree. None of the respondents provide the responses, disagree, neutral or strongly disagree. The conclusion of this analysis reveals that 100% of the respondents believe that segmenting maps strategies is systematic and organized.

This goes in line with the fact that words are organized in our brain in semantic fields. This idea comes from the studies on how L1 mental lexicon is organized. It is further supported by the findings that learners tended to recall words based on semantic fields. This theory suggests that there is a certain kind of organization of the words in the mental lexicon. However, there is no consensus on how exactly they are organized.

Table (4.10): Same parts of speech are grouped together

Responses	Frequency	Percentage
Strongly agree	84	84 %
agree	10	10 %
Neutral	0	00 %
Disagree	6	06%
Strongly Disagree	0	00%
Total	100	100 %

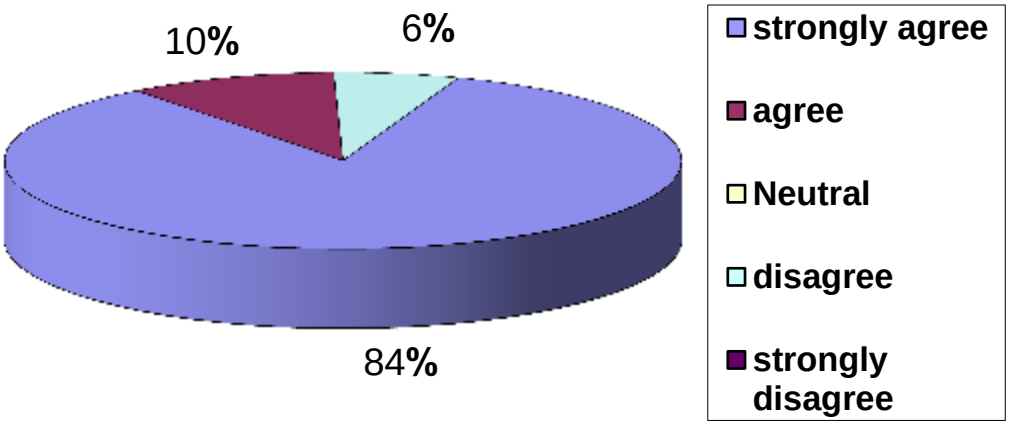


Figure (4.10): *Same parts of speech are grouped together*

Regarding the statement that semantic maps is clear as words with the same parts of speech are grouped together, the results show that 84 % of the respondents strongly agree with the above statement and 10 % of them agree. On the other hand, only 6% of the participants disagreed with the statement and accordingly it can be said that the most of the English language teachers who respond to this item are satisfied with the statement.

Usually, words within each semantic set are of the same part of speech are grouped together, such as, clothes: shirt, jacket sweater'، to present nouns or storm, creep, barrel to present verbs. With great similarities between the words, it was believed that words of such kind should be presented together.

Table (4.11): Making it easier to remember words

Responses	Frequency	Percentage
Strongly agree	90	90 %
agree	10	10 %
Neutral	0	00 %
Disagree	0	00%
Strongly Disagree	0	00%
Total	100	100 %

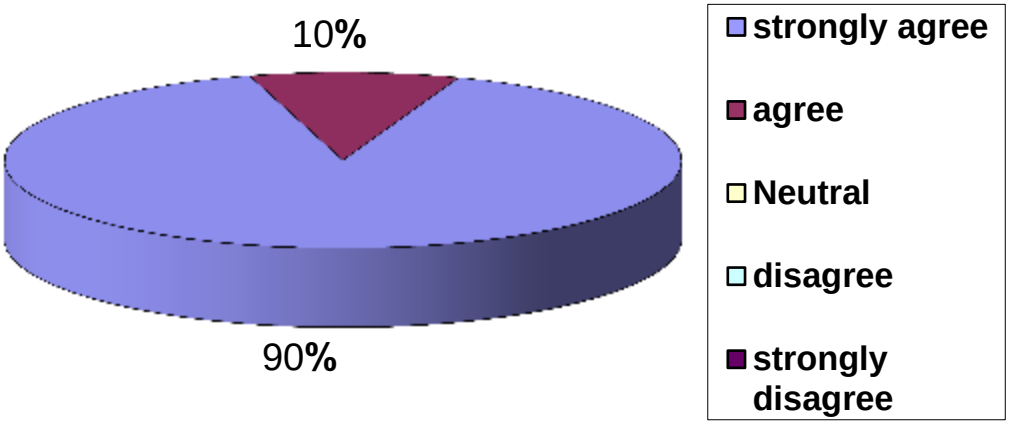


Figure (4.11): *Making it easier to remember words*

Concerning the claim that it's easier to remember words if they are grouped than learning unrelated words, the result shows 90 % of the respondents strongly agree and 10 % of them agree with the statement

As indicated above, the survey results indicated a generally positive perception regarding this assumption. Importantly, it was argued that learners can remember the vocabulary for a longer time if the learning involves a high involvement load, in which they have to invest a lot of time and processing effort when learning. Therefore, the way that the words are grouped may have an impact on learners' short-term and long-term memory, so the vocabulary inventory which is taught through semantic maps sustain in short-term memory which develops in a few seconds and minutes; and continue to the long-term memory last for more than 24 hours so that students are able to recall the words easily.

Table (4.12): Helping students remember the words for a longer time

Responses	Frequency	Percentage
Strongly agree	82	82 %
agree	14	14 %
Neutral	0	00%
Disagree	4	04%
Strongly Disagree	0	00%
Total	100	100 %

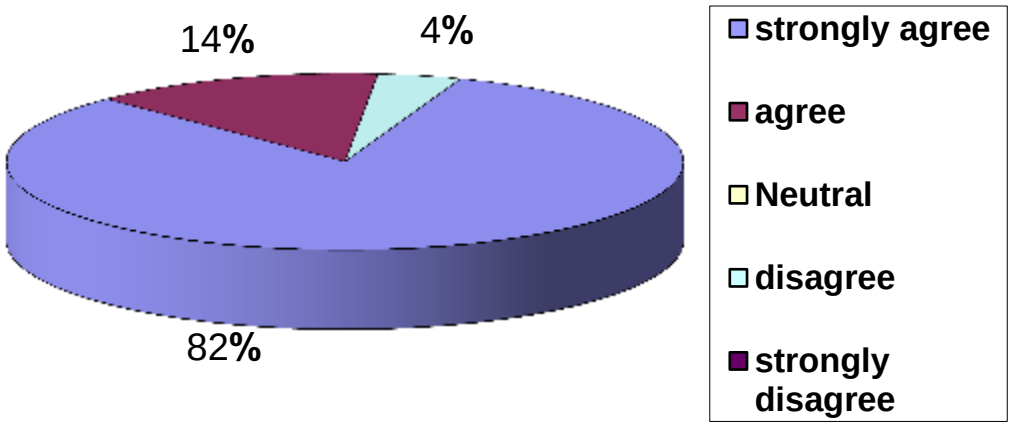


Figure (4.12): *Helping students remember the words for a longer time*

Again, the table 4.12 shows that the vast majority of the respondents support the statement that semantic maps can help students remember the words grouped in semantic sets for a longer time. Almost 82% of the participants strongly agree and 14% agree on the statement. Only 4% of the respondents disagree with the same statement.

Actually, the semantic maps helped organize words in a systematical way. This taught the students a deeper mental processing to find out the relations between the words and to build up a net of words. As a result, most of them could transfer the words they learnt into long-term memory as approved in the delayed test and revised the semantic map created for consolidation. The improvement in memory, in turn, resulted in retrieval of words after long time.

Table (4.13): Helping students remember the related things

Responses	Frequency	Percentage
Strongly agree	100	100 %
agree	0	00 %
Neutral	0	00 %
Disagree	0	00 %
Strongly Disagree	0	00 %
Total	100	100 %

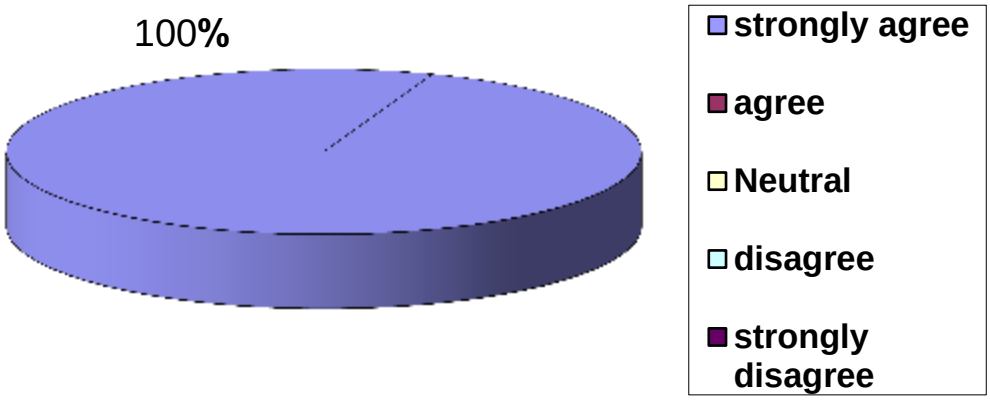


Figure (4.13): *Helping students remember the related things*

On whether or not the grouping helps students remember the related things, the descriptive analysis of this item show a complete consensus, the results indicate that almost 100% of the respondents strongly agree with the statement.

It is easy to come up with other words belonging to the same category. The experimental group comes up with other related things with semantic grouping in the test. Most of them of them remembered other words in the same set by remembering the initial words. The grouping helped them remember the words within the same set. This notion was approved by (Collins & Loftus, 1975); the spreading-activation that related categories or items could be activated with the activation of one of them.

Table (4.14): Used for higher level learners

Responses	Frequency	Percentage
Strongly agree	36	36 %
agree	22	22 %
Neutral	0	00 %
Disagree	28	28 %
Strongly Disagree	14	14 %
Total	100	100 %

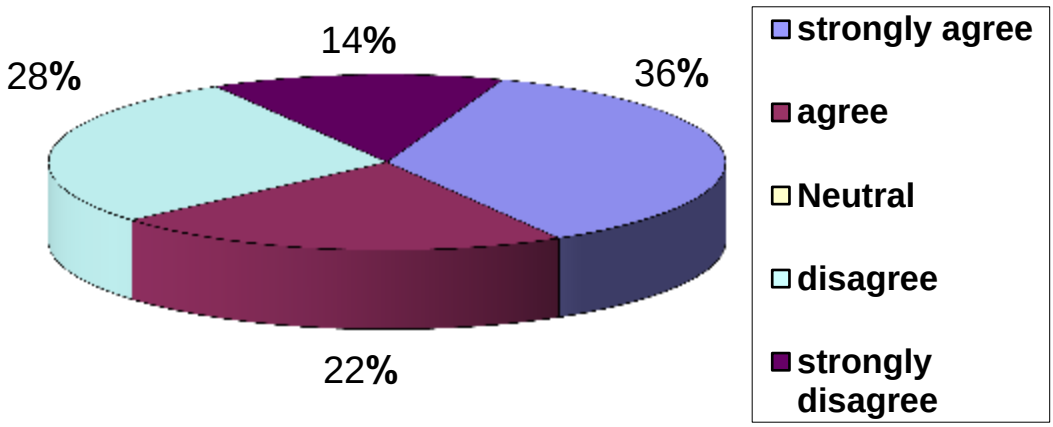


Figure (4.14): *Used for higher level learners*

On whether or not semantic maps should be used with the higher level learners who have a large vocabulary size, the results indicate that, out of 100

respondents, 36 teachers strongly agree on the statement and 22 teachers agree. On the other hand, 42 of the respondents do not support the statement. Therefore, it can be said that, for many participants, semantic maps is not exclusive for higher level learners; however, language learners with richer vocabulary knowledge are likely to develop higher language proficiency. It has been found that students need to have a certain amount of vocabulary to summon the strands and support words that have relation to the core concept word in the semantic networking, this do not give a manifestation of using semantic maps strategies with higher level student only, but it can be used with lower level students to reshape their mental picture so that they can memory and recall the new lexemes easily.

Table (4.15): Teachers retrieve students' prior knowledge

Responses	Frequency	Percentage
Strongly agree	45	45 %
agree	30	30 %
Neutral	0	00 %
Disagree	13	13%
Strongly Disagree	12	12%
Total	100	100 %

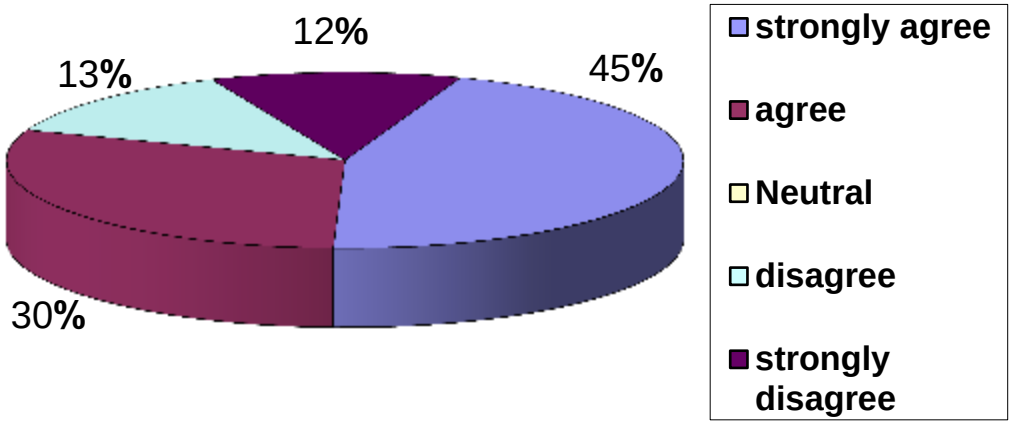


Figure (4.15): *Teachers retrieve students' prior knowledge*

Concerning the teacher's use of semantic maps to retrieve their prior knowledge, the results show that 45 % of the teachers strongly agree with the

notion and 30 % of them agree with the same claim. Almost quarter of the teachers (25%) do not support the statement, hence 13% of them disagree and 12% strongly disagree with this statement.

In consideration of the above result, therefore when teachers link what the students already knew to the words to be learned, they learned the new words more easily. Semantic maps can used to draw learners' prior knowledge and use discussion to elicit information about word meanings. Research has shown that learners should develop strategies which involve more met-cognitive processing that draw their prior knowledge; these strategies will be more beneficial to their vocabulary learning in the long run.

Table (4.16): Integrated with the four language skills activities

Responses	Frequency	Percentage
Strongly agree	67	67 %
agree	19	19 %
Neutral	0	00 %
Disagree	11	11 %
Strongly Disagree	3	03 %
Total	100	100 %

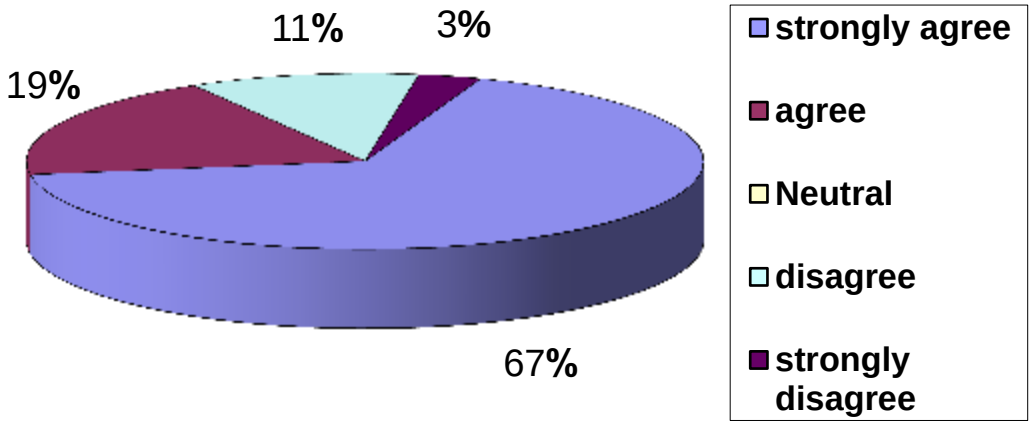


Figure (4.16): *Integrated with the four language skills activities*

Regarding the statement that teachers should integrate semantic maps with listening, speaking, reading and writing activities, the results show that 67% of the respondents strongly agree with the above statement and 19 % of them agree.

On the other hand, only 14% of the participants do not support the same statement and accordingly it can be said that the most of the English language teachers who respond to this item are satisfied with using semantic maps strategies with the four skills.

As noted in the literature review, teaching vocabulary could be integrated in all four skills to make the word itself more living which implied the development and the expansion of the students' vocabulary that can get all at once within the teaching of another skill. Besides, the teacher must recognize that no one method no one method of teaching vocabulary is best, so the effective teacher has need of different methods for different occasion and for individual students.

Table (4.17): Making easy to learn a large vocabulary size.

Responses	Frequency	Percentage
Strongly agree	83	83 %
agree	17	17 %
Neutral	0	00%
Disagree	0	00%
Strongly Disagree	0	00%
Total	100	100 %

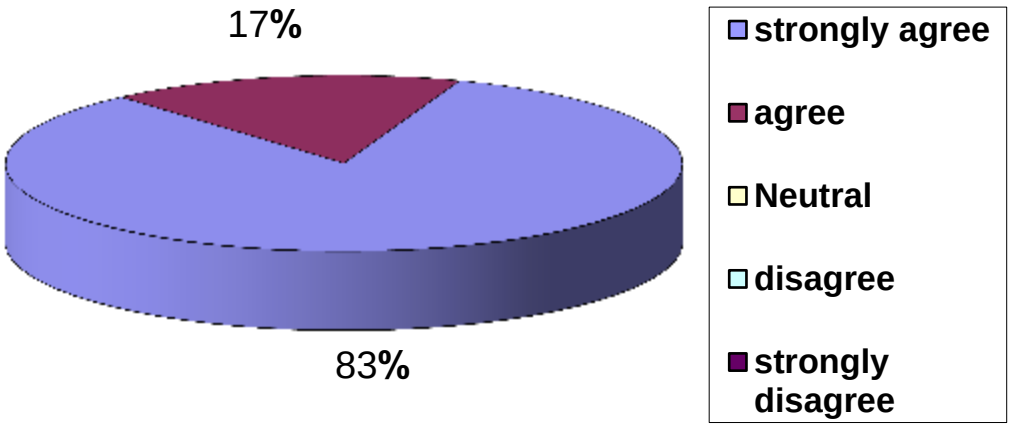


Figure (4.17): *Making it easy to learn a large vocabulary size.*

As can be seen from the above table and chart which represent the assumption that semantic maps allow learners to learn a large vocabulary size easily, the vast majority of the respondents 83 % strongly agree and 17% of them agree with the

statement, Accordingly, the final result reveals that 100% of the English language teachers believe that semantic maps assume that learners can easily acquire a large vocabulary size.

Semantic maps activity enables learners to see connection between words. This is often useful device in helping to remember new words. Semantic Elaboration facilitates the creation of links and semantic networks as well as deep level of word processing. By appling the technique of semantic maps strategy the students are invited to widen their vocabulary networking as a result they will be able activate and learn a large vocabulary size.

Table (4.18): Integrated with the other techniques.

Responses	Frequency	Percentage
Strongly agree	64	64 %
agree	33	33 %
Neutral	0	00 %
Disagree	3	03 %
Strongly Disagree	0	00 %
Total	100	100 %

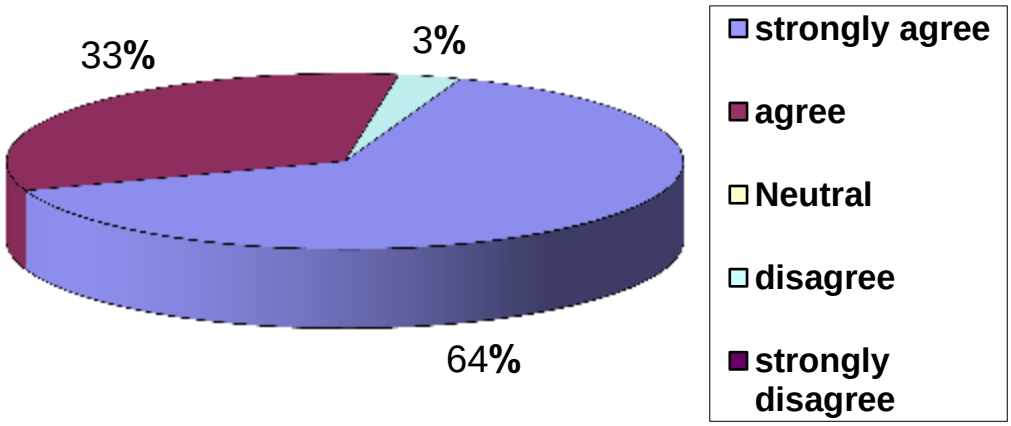


Figure (4.18): *Integrated with the other techniques.*

On whether or not semantic maps should be integrated with the other techniques, the results indicate that, out of 100 respondents, 63 teachers strongly

disagree on the statement and 33 teachers disagree. On the other hand, only 3 of the respondents do not support the statement.

In a study by (Ng, Rosa: 2010), semantic maps and pictures were integrated into the vocabulary notebooks of the students to see the effects of the two vocabulary learning methods on the subjects' learning of the target vocabulary items. Students had to use the semantic maps or pictures in their vocabulary notebooks to complete a variety of tasks. By Appling multi-techniques student will be motivated and they will not fell bored.

Table (4.19): It's difficult to remember unrelated words for a long time.

Responses	Frequency	Percentage
Strongly agree	52	52 %
agree	37	37 %
Neutral	0	00 %
Disagree	8	08%
Strongly Disagree	3	03%
Total	100	100 %

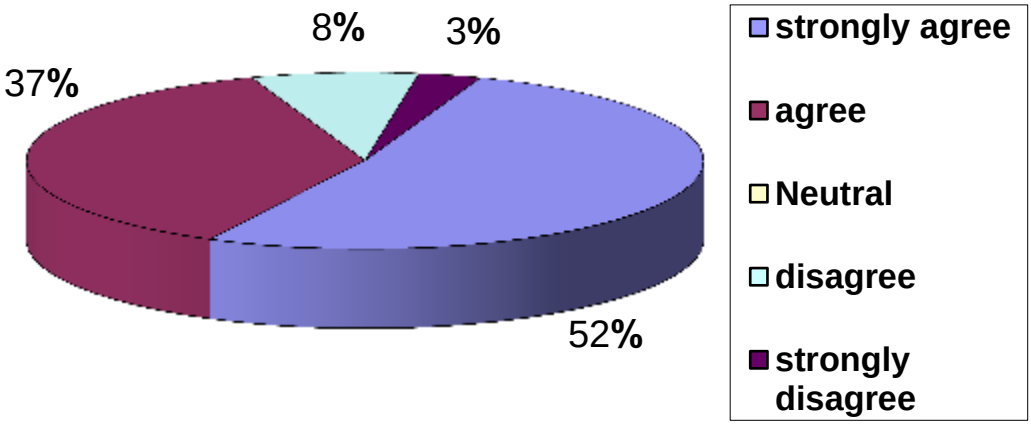


Figure (4.19): *It's difficult to remember unrelated words for a long time.*

On whether or not it's difficult to remember unrelated words for a long time, the results indicate that, out of 100 respondents, 36 teachers strongly agree on the

statement and 37 teachers agree. On the other hand, only 11 of the respondents do not support the statement.

Some studies show that adult learners are better at remembering words from lists that contain semantically related subsets than words from lists of unrelated words. In addition, he found out that if the semantically related words are separated in the lists, adults tend to cluster them in output.

However, some other researchers took caution against the danger of presenting closely related new words. They suggested that learners should start by learning semantically unrelated words and also avoid learning words with similar forms.

Table (4.20): Helping the student's retain the words better

Responses	Frequency	Percentage
Strongly agree	64	64 %
agree	36	36 %
Neutral	0	00 %
Disagree	0	00 %
Strongly Disagree	0	00 %
Total	100	100 %

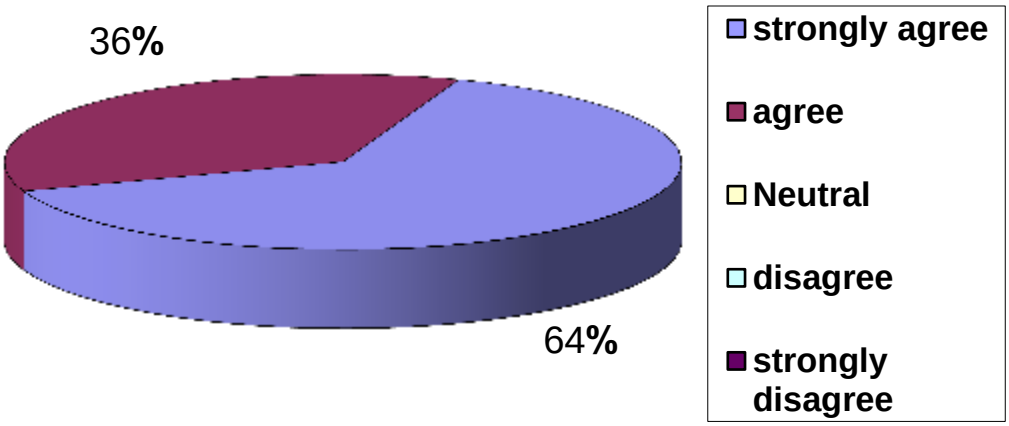


Figure (4.20): *Helping the students retain the words better*

The statistical analysis the statement that semantic maps help the students retain the words better shows that 64% of the respondents strongly agree with this assumption and 36% of them agree with it. Accordingly it can be true to say that all English language teachers who respond to this item believe that semantic mapping help the students retain the words better.

Semantic maps has a greater impact on vocabulary learning than other techniques such as, the context clue approach or the traditional dictionary-definition-plus-example approach, because semantic maps motivates the students to connect their prior knowledge to new words and to see the lexical or conceptual relationships among words. Semantic maps allow students will to retain words schemata that allow them to easily retain the words.

Table (4.21): Helping the students recall the words more easily

Responses	Frequency	Percentage
Strongly agree	79	79 %
agree	21	21 %
Neutral	0	00 %
Disagree	0	00 %
Strongly Disagree	0	00 %
Total	100	100 %

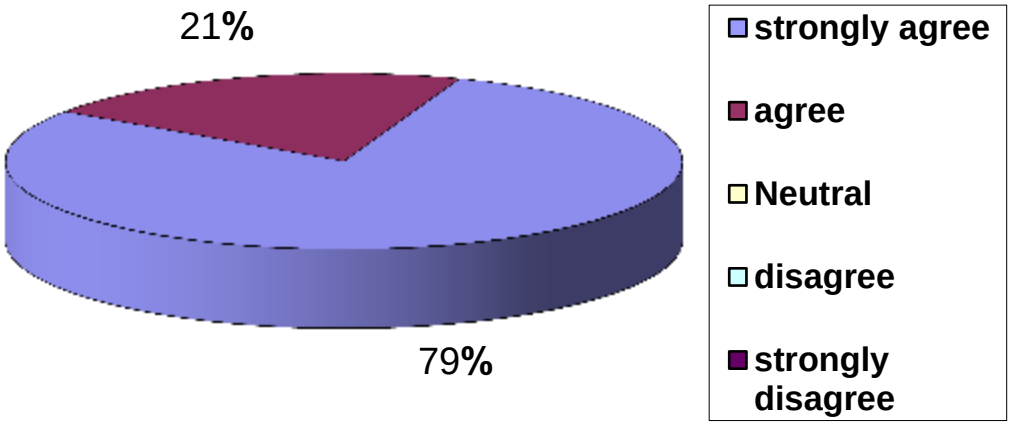


Figure (4.21): *Helping the students recall the words more easily*

The result shows the teachers perception of the effectiveness of using the semantic maps to recall words easily. There is consensus view point about this assumption, the statistical analysis reveals that 79% strongly agree and 21% agree. So 100% of the respondents regarded the semantic maps as an effective technique that helps students to recall words easily.

One advantage of the semantic maps is its effectiveness in the way that it strongly supported the students in easily reviewing the learnt words. To recall the words learnt before, students can imagine all the branches (strands and supports) of a central word (core concept word).

Therefore, semantic maps strategy can be considered as an effective method for teachers of teaching vocabulary which can make students recall new words more easily by finding the new words when they fill in semantic mapping chart, or word braches imagination.

Table (4.22): Improving the students' logic

Responses	Frequency	Percentage
Strongly agree	36	36 %
agree	28	28 %
Neutral	00	00 %
Disagree	24	24%
Strongly Disagree	12	12%
Total	100	100 %

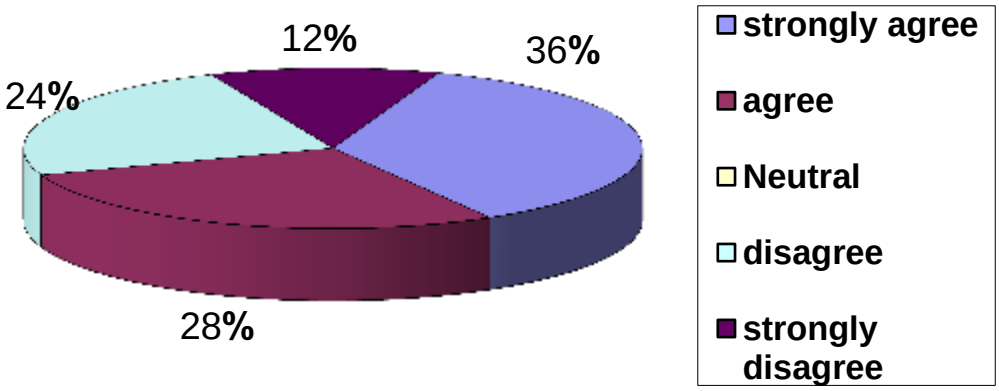


Figure (4.22): *Improving the students' logic*

For the statement that semantic maps improves the students' logic, the results show that 36% of the respondents strongly agree with the above statement and 28% of them agree. On the other hand, 36% of the participants do not support the same statement and accordingly it can be said that the 64 of the English language teachers who respond to this item think that semantic maps improve student's logic compared with 36 don't believe that.

Improving student's logic is one advantage of using semantic maps. The semantic maps is logical in the way of putting the related words into a map to retrieve other branches of words. It can be considered as word generating machine. Student can put the words with the related meanings into a map and generate or present words logically. So students will be able to manipulate with one word to generate multi semantic related word, this tasks consequently will develop their logic.

4.6 Summary of the Questionnaire Analysis

Table (23): Summary

No	Statement	Responses				
		SA	A	N	D	SD
1	Semantic Maps is a good teaching technique for reviewing vocabulary lessons.	75%	20 %	00 %	05 %	00%
2	It is more systematic and well organized.	80%	20 %	00%	00 %	00%
3	It is clear as words with the same parts of speech are grouped together.	84%	10 %	00%	06 %	00%
4	It's easier to remember words if they are grouped than learning unrelated words.	90%	10 %	00%	00 %	00%
5	It can help students remember the words grouped in semantic sets for a longer time.	82%	14 %	00%	04 %	00%
6	The grouping helps students remember the related things.	100 %	00 %	00%	00 %	00%
7	Semantic Maps assumes that learners have a large vocabulary size, so it's more appropriate to use for higher level learners	36 %	22 %	00%	28 %	14%
8	Teachers should guide students to retrieve prior knowledge to understand new words if possible.	45%	30 %	00%	13 %	12%
9	Teachers should integrate Semantic Maps with listening, speaking, reading and writing activities.	67%	19 %	00%	11 %	03%
10	Semantic maps assume that learners can easily acquire a large vocabulary size.	83%	17 %	00%	00 %	00%
11	Teachers should integrate Semantic Mapping with the other techniques. (i.e thematic or rote related).	64%	33 %	00%	03 %	00%
12	As the words are not related to each other, it's difficult for students to remember the words for a long time.	52%	37 %	00%	08 %	03%
13	It help the students retain the words better	64%	36 %	00%	00 %	00%
14	It help the students recall the words more easily	79%	21 %	00%	00 %	00%
15	Semantic Maps improve the students' logic.	36%	28 %	00%	24 %	12%

The above table's 4.23 shows summary of the result about teachers believe on the effectiveness of using the semantic maps on vocabulary learning.

Most teachers agreed that a semantic map is a good teaching technique for reviewing vocabulary lessons. This hypothesis is supported by 95% of the teachers. The result approved that semantic maps is interesting technique that teachers can use in teaching vocabulary. These techniques incorporate a variety of the other memory strategies such as grouping, imagery, and elaborating (associating). This technique is valuable for improving both memory and comprehension of a new word. The result in items 2 ,item 4, item 6 ,and item12 shows that almost 100% of the teachers think that semantic maps is more systematic and well organized, and it easier to remember words if they are grouped than learning unrelated words. In addition to that they think that the grouping helps students remember the related things, so as the words are not related to each other, it's difficult for students to remember them for a long time.

The analysis also shows some significant result about grouping and remembering words organized through semantic maps. Almost 100% of the teachers support item 3, item5, item10, item 13 and item14. It is found that teachers believe that same parts of speech are grouped together, and organized in semantic sets for a longer time it will be clear for students so that they are able to remember, retain, recall and learn a large vocabulary size easily.

When they were asked to show their response about that appropriateness of using semantic maps with other technique, four skills and higher students level, as shown in items 7, 8, 9, 11, and 15, The majority of teachers think that it is appropriate to use semantic mapping with higher level learners who have a large vocabulary size so that teachers are able to retrieve their prior knowledge to understand new words. In addition to that teachers should integrate semantic maps with the language skills and the other vocabulary techniques.

4.7 Discussion

The effectiveness of presenting words in semantic maps shown by the findings of the present study will first be discussed. Teachers' perceptions on the effectiveness of semantic maps **methods** will be discussed.

Semantic Mapping Method

This finding may seem different from the findings of the previous studies that grouping words in semantic maps was detrimental and beneficial to vocabulary learning (Erten & Tekin, 2008; Finkbeiner & Nicol, 2003; Papathanasiou, 2009; Tinkahm, 1997; Warking, 1997). However, as pointed out in Chapter Two, previous studies mainly focused on the comparisons between semantic and unrelated sets, and thematic versus unrelated sets. Direct investigations were not made to determine the effectiveness of semantic maps. Results of the present study is similar with what Hoshino (2010) found that semantic grouping was more beneficial to students than grouping words in thematic sets or unrelated sets. Nevertheless, Hoshino's study has its limitations. Only nouns were used in most of the previous studies, which is different from the present study in which nouns, adjectives and verbs were involved. Therefore, it is not surprising to find results from the present study different from those in previous ones.

Though it was found that semantic grouping may not be beneficial to students' Learning when compared with unrelated sets (Erten & Tekin, 2008; Finkbeiner & Nicol, 2003; Papathanasiou, 2009; Tinkahm, 1997; Warking, 1997), results of the present study suggest that semantic grouping could have greater effects on learners' vocabulary learning. Though it may suggest that semantic grouping may have similar negative effects on vocabulary learning as thematic grouping does when compared with unrelated sets (Erten & Tekin, 2008; Finkbeiner & Nicol, 2003; Papathanasiou, 2009; Tinkahm, 1997; Warking, 1997), it is still not desirable to group unrelated words together rather than grouping words semantically simply because students couldn't learn the unrelated words more effectively. How learners actually learn English words in class should be

considered. Grouping words into unrelated sets is not desirable as it does not take learners' preference and interest into account, which may in turn affect the effectiveness of this kind of grouping in the long run. Learners' attitude could affect whether they could successfully learn the language (Lender, 2008). As Huckin and Coady (1999) put, learners would be more successful in vocabulary learning if they are learning something which they find interesting. Personal interest has to be considered as it could offset other negative effects, like disappointing grades, in vocabulary learning (Covington, 2000). Grouping words in unrelated sets would not be interesting to students. Logical and strong linkages between the words is one important factor that learners value.

Parts of Speech Learning

There is significant difference in vocabulary learning was found between the two kinds of presentation methods, significant difference was found among words with different parts of speech. The participants of this study learned the verbs in the semantic maps significantly better than the noun and adjectives. Such a difference was not found in the learning of nouns and adjectives. This suggests that the presentation methods may bring a difference to the learning of verbs, but not nouns and adjectives. Morgan and Bonham (1944) suggested that nouns are learned more easily than words of other parts of speech, like adverbs, verbs and adjectives, as nouns are usually more concrete. Also, Kensinger and Corkin (2003) found that emotion words are better remembered than neutral words, as they have more elements for self-reference (Hulme *et al*., 1997). In the present study, the nouns in both word lists have a high degree of word concreteness and the adjectives are emotion words. Words of these two parts of speech may not pose as great difficulties to learners as the verbs do, which are mainly neutral words. The result that only a significant difference was found in the learning of verbs may suggest that semantic mapping method may only have an impact on the learning of words which involve a higher level of difficulty. Parts of speech could be one of the factors affecting the level of difficulty of words and it is

worth considering the parts of speech when investigating the effects of the two vocabulary presentation methods in this study.

However, as pointed out above, previous research on the grouping of words mainly focused on nouns only, except Tinkahm's (1997) and Hoshino's (2010) studies.

Difference between Group (A) and Group (B)

The difference between Group A and Group B is also worth noticing among the students, students in Group (A) performed significantly better in the immediate test and the delayed test than group (B).

Before the vocabulary presentation began, randomization was implemented when putting students into the two different groups. Group (A) received vocabulary instruction through semantic mapping while group (B) received traditional vocabulary presentation. The teacher did not give any explanation on the grouping of the words in either word list. So, the difference between the two groups should not be due to their different understanding of the word lists because of teachers' explanation.

Recycling of words is always important in vocabulary learning. There is significant difference on vocabulary learning among the students, it is worth noting that presentation method have an impact on learners' vocabulary learning, which may in turn affect their performance. Learners may learn verbs more effectively than nouns and adjectives, but further investigations on the impact of the grouping methods on the learning of verbs have to be conducted.

The effectiveness of Semantic Maps

Semantic Maps is a good teaching technique for reviewing vocabulary lessons, it is more systematic and well organized and clear as words with the same parts of speech are grouped together. Semantic maps are one of word association techniques. It is a technique to make arrangement of words into a diagram, which has a key concept at the center or at the top, and related words and concepts linked to the key concept by means of lines or arrows

(Gairns and Redman, 1986). Sokmen (1997) mentioned four techniques for semantic elaboration: semantic feature analysis, semantic mapping, ordering, and pictorial schemata. By applying these techniques students will be able to acquire different part of speech easily

It is appropriate to use semantic maps with higher level learners who have a large vocabulary size so that teachers are able to retrieve students' prior knowledge to understand new words. In addition to that teachers should integrate semantic mapping with the language skills and the other vocabulary techniques. Semantic mapping strategy that can be used in all disciplines and all language skills to demonstrate the relationships between ideas, concepts and words, It is an activity that can be used with integration with other techniques to bring into consciousness relationship among words in a text and help deepen understanding by creating associative networks for words, It builds on students prior knowledge and use discussion to elicit information about word meanings. It is an active form of learning; it can be a very effective teaching tool.

Semantic Maps can help students remember, retain and recall the words and related things grouped in semantic maps easily for a longer time. It improves the students' logic, because student can put the words with the related meanings into a map and generate or present words logically with reference to their prior knowledge.

Chapter Five

Conclusions & Recommendations

Chapter Five

Conclusions and Recommendations

5.0 Introduction

Chapter five of this research is intended to give an overall summary about the main findings by a list of suggested recommendations.

5.1 Conclusion

The main objective of this study was to find out whether or not semantic maps had positive effects on students' vocabulary learning. The original hypotheses of the study were that semantic maps has great effect to helps student's in learn vocabulary, there is significant difference in learning different parts of speech (verbs, Nouns, Adjective) through semantic maps, students Memorize words easily when presented through semantic maps and teachers have positive attitude towards the use of semantic mapping method in vocabulary teaching.

A two group experiment was employed, the researcher administrated two tests for experimental and control groups who were (160) students in number. A survey questionnaire was used in this study to elicit the perspectives of (100) English language teachers who works for Secondary schools in Khartoum state about the effectiveness of semantic maps method in vocabulary teaching.

The collected data were subjected to analysis through descriptive statistics. The findings of this research study revealed important points in the students' vocabulary retention through semantic mapping and teachers' attitudes towards the effectiveness of using semantic maps in vocabulary learning. After testing the hypotheses it is found that the findings were generally supporting the research hypotheses.

In conclusion, this study was successful in developing the students' vocabulary by using semantic maps strategy. In addition, the student were more active and participated in the lesson- learning process of vocabulary, therefore semantic

maps strategy can be alternative strategy for teacher and students' in vocabulary which can make students remember new words easily.

5.2 Testing of the Study Hypothesis

This study had investigated and tested the following hypothesis:

a. Semantic maps have great effect in helping students to learn vocabulary.
b. Students have positive attitude to words the use of semantic maps method in vocabulary teaching.
c. Students memorize words easily when presented through semantic maps.
d. There is significant difference in learning different parts of speech (Verbs, Noun, and Adjective) through semantic maps.

The results are consistent with the research conducted by Margosein, Pascarella and Pflaum (1982), Vogt (1983) and Pikula (1987) who found that semantic mapping had a greater impact on vocabulary learning. However, the studies carried out by the previous researchers compared the effectiveness of the semantic mapping and other techniques (context clue approach, the traditional dictionary-definition-plus-example approach, or the dictionary). In this study, the researcher compared the effectiveness of the semantic mapping and that of the word lists. One reason for helping vocabulary memorizing could be the semantic mapping's effectiveness in visually integrating new words with old ones and promoting a deep level of semantic processing, Hague (1987) and Machalias (1991). Stated that "meaningful exercises or classroom activities which promote formation of associations and therefore build up students' semantic networks are effective for long-term retention" (Hague, 1987; Machalias, 1991, cited in Sokmen, 1997, p. 249). Moreover, according to Schmitt (2000), presenting items to students in a systematized manner which will both illustrate the organized nature of vocabulary and at the same time enable

students to internalize the items in the coherent way. Actually, the semantic mapping helped organize words in a systematical way and created a semantic link between the words by the topics or by the ideas in the context. This required the students a deeper mental processing to find out the relations between the words and to build up a net of words. As a result, the students could remember the words right after the lessons, most of them could transfer the words they learnt into long-term memory and revised the semantic map created for consolidation. The improvement in memory, in turn, resulted in retrieval.

5.3 Summary of the Findings

Based on the outcome of the collected data, their analysis and discussion, most important findings are as follows:

1. Semantic Maps is a good teaching technique for reviewing vocabulary lessons, it is more systematic and well organized and clear as words with the same parts of speech are grouped together.

2. Based on the students tests analysis Semantic maps strategy is found effective in developing vocabulary learning in English among secondary school Students and the effect is sustaining words in students' short-term and long-term memories.

3. Semantic maps strategy is effective in developing different parts of speech among secondary students and the effect is sustaining for long time.

4. Semantic maps strategy is effective in developing verbs more than the learning of nouns and adjectives, because the participants scored higher marks in the verbs in both students immediate test and students delayed test, this indicate that students learn verbs more than other parts of speech.

5. Traditional presentation of vocabulary list is found to be not effective in developing vocabulary learning among secondary students if compared with semantic maps strategy.

6. Semantic Maps can help students remember the words and related things grouped in semantic sets for a longer time.

7. Semantic maps can be used as a tool to retrieve students' prior knowledge to understand new words. So it's more appropriate to use it for higher level learners.

8. Semantic Maps can be integrated with other techniques and used with the four language skills activities, so that learners can easily learn a large vocabulary size.

9. Semantic Maps help the students retain the words better، so the students are able to recall the words more easily.

10. Semantic Maps improve the students' logic, because student can put the words with the related meanings into a map and generate or present words logically. In contrast, it's difficult for students to remember the unrelated words.

5.4 Pedagogical Implications

Results of the present study provide insights on the use of semantic maps strategy to enhance vocabulary learning. Some pedagogical implications are presented below.

First, although some studies found that students may learn unrelated words grouped in the same list better, it is unreasonable to do so as it does not consider learners' interest. In the process of vocabulary teaching, it is likely that words are grouped and presented to learners in certain ways when teaching syllabus is concerned. From the participants' comments in the present study, teachers consider seeing how the words are grouped and linked is important. This indicates that grouping words in organized, logical ways is important from learners' perspective. With semantic grouping having a significant advantage

over the other, it seems that a semantic method is worth being employed in vocabulary teaching.

Second, during the vocabulary learning process, students should be introduced to a combination of vocabulary learning strategies. According to Schmitt (1997) and Oxford's(1986), taxonomy of vocabulary learning strategies the use of vocabulary notebooks is a kind of cognitive strategy while that of semantic maps and pictures are memory strategies. Teachers can provide chances to the students to use the semantic maps, pictures, or vocabulary notebooks in the as a combination of a variety of vocabulary learning strategies, and this facilitated the students' learning of the target vocabulary items. As suggested by Wei (2007), during the process of vocabulary learning, a combination of a variety of vocabulary learning strategies should be employed so that knowledge can be acquired more effectively.

Third, The English language teachers can effectively integrate the four language skills with Semantic Maps Strategy in their classroom in order to develop students vocabulary learning in English, As an example semantic mapping strategy can be integrated at all the phases of reading instruction – pre-reading, while reading and after reading to promote the vocabulary of students .

Fourth, the more learners centered and constructivist based semantic maps helps to lower the affective filter in a language classroom, so that the learner will actively participate in the classroom activities without fear and anxiety and it will have a positive effect on their language learning. Even the shy and timid student will participate in the activity.

5.5 Recommendations

Therefore, based on the results of the study, the following recommendations were proposed:

1. Teachers should encourage using pair work and group work as part of the semantic maps strategy to provide opportunities for meaningful interaction and facilitate vocabulary learning .

2. The official Educational institutions should use and activate it in Secondary Schools in teaching English Language and include it in curricula.

3. The academicians and researchers are to expand researches on using it as one of teaching methods of English Language as a foreign Language.

4. The textbook writers and syllabus designers can integrate various semantic maps in the textbook that will facilitate better comprehension of students .

5. Semantic Maps strategy can be used as an evaluation tool, where teachers can ask students to complete the map .

6. The semantic maps drawn by the students could be displayed in the classroom, so they feel proud about their work and it also help them to revisit the ideas and reinforce their leaning .

5.6 Suggestions for Further Studies

The present study provides insights on the ways that words could be grouped when presented to students, especially semantically. To have a more comprehensive picture of the effects of semantic groupings on vocabulary learning, further research could be done on the effects of this method on both receptive and productive vocabulary knowledge. Moreover, effects of the grouping methods on words of different parts of speech could be further investigated. To have a better understanding of the effect of different groupings on learners' vocabulary learning, studies could be done with students with a

greater range of proficiency levels, motivation and different age groups. Then, effects of the grouping on different kinds of learners could be found out. Moreover, further researches could be done in the following areas:

1. The study can be replicated with other population including students in the primary level and secondary level .

2. In the present study use of semantic maps strategy is restricted to the teaching of English only; it can be used for the teaching of other languages.

3. The studies could be carried out to see the effect of semantic maps strategy on content area instruction.

4. In the present study Semantic maps is only used to develop vocabulary learning; a study could be carried to see the effect of semantic maps on other language skill.

5. A qualitative analysis of maps drawn by students and its relation to their reading comprehension and written expression can be explored.

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Appendixes

Appendixes

Appendix (A)

Pre-Test List for the Experimental Group (A)

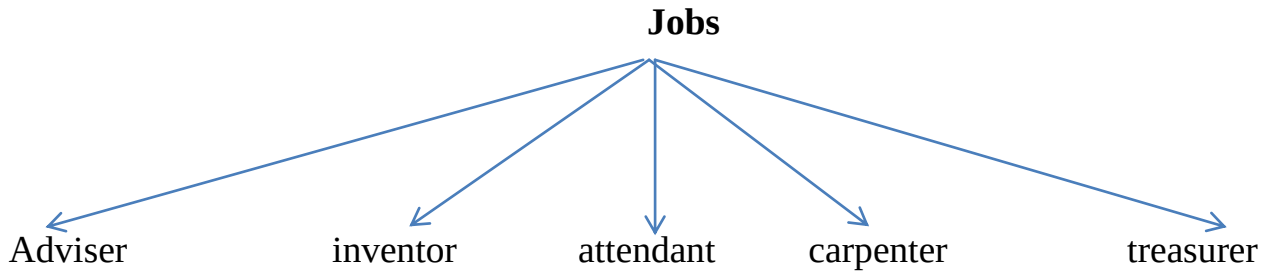
Semantically Related Word Lists for Students

Instructions

1. Study the meaning of the following words on your own silently.
2. You will be tested on the meaning of the words only.
3. You have 30 minutes to study the list.

1. Nouns:

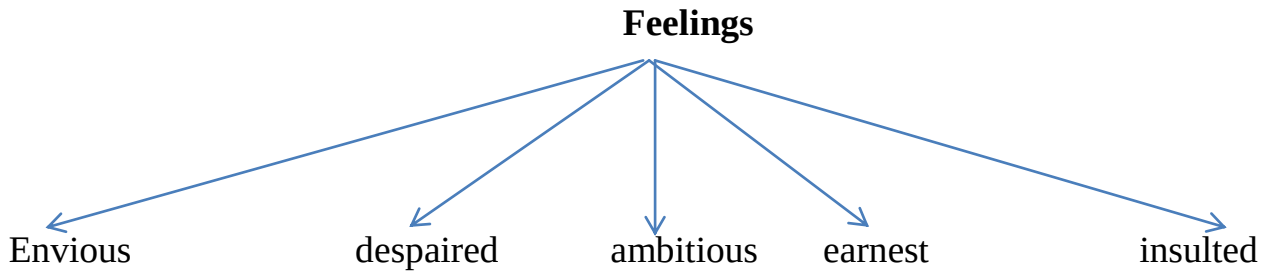
No	Jobs	Meaning. Eng.	Meaning. Ara.
1	Adviser	someone whose job is to give advice about a subject	مستشار
2	inventor	someone who has invented something or whose job is to invent things	مخترع
3	attendant	someone whose job is to be in a place and help visitors or customer	خادم
4	carpenter	a person whose job is making and repairing wooden objects and structure	نجار
5	treasurer	a person who is responsible for an organization's money	أمين صندوق



Adjectives:

No	Feelings	Meaning. Eng.	Meaning. Ara.
1	envious	wishing you had what another person has	حسود
2	despaired	to feel despair about something or someone	يائس
3	ambitious	having a strong wish to be successful, powerful or rich	طموح
4	earnest	serious or determined, especially too serious and unable to find your own actions funny	جدي
5	insulted	to say or do something to someone that is rude or offensive	مهان

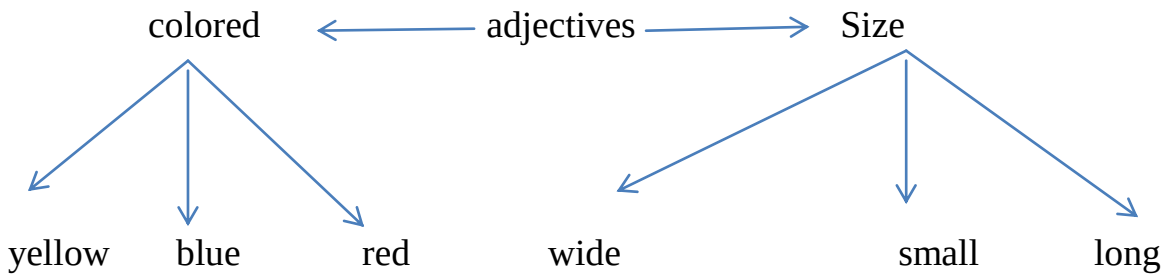
Adjectives: Semantic Network



Adjectives:

No	Words	Meaning. Eng.	Meaning. Ara.
1	Size	how large or small something or someone is	حجم
2	small	limited in size or amount when compared with what is typical or average	صغير
3	colored	having or producing a color or colors	ملون
4	wide	having a larger distance from one side to the other than is usual or expected; not narrow	واسع
5	red	of the color of fresh blood	أحمر
6	yellow	a color like that of a lemon or gold or the sun	أصفـر
7	long	being a distance between two points which is more than average or usual	طويل
8	blue	color of the sky without clouds on a bright day	أزرق

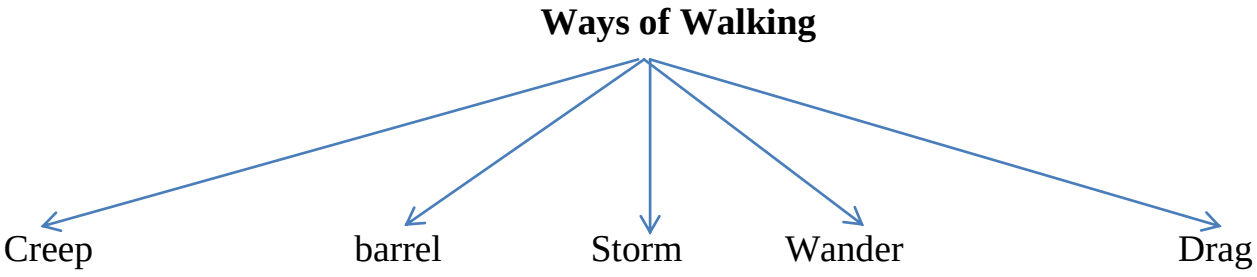
Adjectives: Semantic Network



Verb:

No	Ways of walking	Meaning. Eng.	Meaning. Ara.
1	Creep	to move slowly, quietly and carefully, usually in order to avoid being noticed	الذهاب ببطء
2	barrel	to travel somewhere very quickly	أنطلق بسرعة فائق
3	Storm	to attack a place or building by entering suddenly in great numbers	يندفع
4	Wander	to walk around slowly in a relaxed way or without any clear purpose or direction	يتجول
5	Drag	If something such as a film or performance drags, it seems to go slowly because it is boring	يتسحب

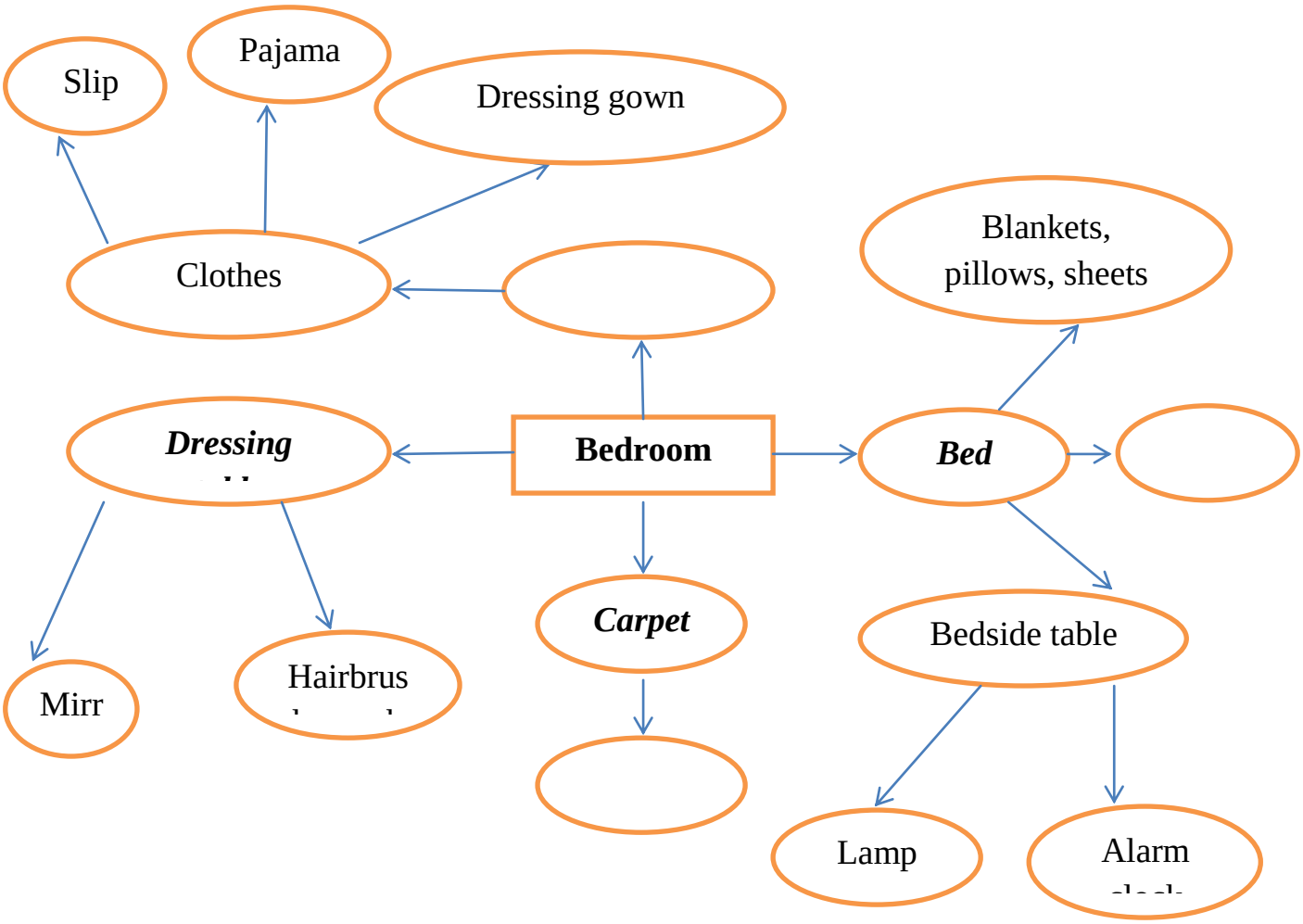
Verbs: Semantic Network



Nouns:

No		Things found in bedroom	Meaning. Eng.	Meaning. Ara.
1		Bedroom	a room used for sleeping in	غرفة
2	Things found on the bed	Bed	a rectangular furniture used for sleeping on	سرير
3		Blanket	a flat cover made of material, used on a bed	بطانية
4		Pillow	a rectangular cloth bag filled with soft material, used for resting your head on in bed	وسادة
5		Sheet	a large thin flat especially rectangular piece of cloth used for sleeping on	ملاية
6		Mattress	the part of a bed, made of a strong cloth cover filled with firm material	مرتبة
7		Bedside table	a small table at the side of a bed	طاولة سرير جانبية
8		Lamp	a device for giving light	مصباح
9		Alarm clock	a clock that you can set to wake you up at a particular time with a loud noise	منبه
10		Carpet	(a shaped piece of) thick woven material used for covering floors	بساط
11		rug	a piece of thick heavy cloth, used for covering the floor or for decoration or praying	سجادة
12		Dressing table	a piece of bedroom furniture like a table with a mirror and drawers	منضدة الزينة
13		Mirror	a piece of glass with a shiny metallic back which reflects light, producing an image of whatever is in front of it	مرآة
14		Hairbrush	a brush used to smooth the head hair	فرشاة الشعر
15		comb	a flat piece of plastic, wood or metal with a thin row of long narrow parts along one side, which you use to tidy and arrange your hair	مشط
16		wardrobe	tall cupboard in which you hang your clothes, or all of the clothes that a person owns	دولاب ملابس
17		Clothes	things such as dresses and trousers that you wear to cover, protect or decorate your body	ملابس
18		Dressing gown	a long loose piece of clothing, like a coat, which you wear informally inside the house	ثوب النوم
19		Pajama	pajamas	بيجامة
20		Slippers	a type of soft comfortable shoe for wearing inside the house	شباشب

Semantic Network:



Appendix (B)

Pre- Test List for the Control Group (B)

Lists of Words for Students

Instructions

1. Study the meaning of the following words on your own silently.
2. You will be tested on the meaning of the words only.
3. You have 60 minutes to study the list.

List (1):

No	Words	Meaning. Eng.	Meaning. Ara.
1	drag	If something such as a film or performance drags, it seems to go slowly because it is boring	يتسحب
2	insulted	to say or do something to someone that is rude or offensive	مهان
3	Carpenter	a person whose job is making and repairing wooden objects and structure	نجار
4	creep	to move slowly, quietly and carefully, usually in order to avoid being noticed	الذهاب ببطء
5	adviser	someone whose job is to give advice about a subject	مستشار
6	treasurer	a person who is responsible for an organization's money	أمين صندوق
7	storm	to attack a place or building by entering suddenly in great numbers	يندفع
8	despaired	to feel despair about something or someone	يائس

9	ambitious	having a strong wish to be successful, powerful	طموح
10	inventor	someone who has invented something or whose job is to invent things	مخترع
11	earnest	serious or determined, especially too serious and unable to find your own actions funny	جدي
12	attendant	someone whose job is to be in a place and help visitors or customer	خادم
13	barrel	to travel somewhere very quickly	أنطلق بسرعة فائق
14	envious	wishing you had what another person has	حسود
15	wander	to walk around slowly in a relaxed way or without any clear purpose or direction	يتجول

List (2):

No	Words	Meaning. Eng.	Meaning. Ara.
1	Bedroom	a room used for sleeping in	غرفة
2	Bed	a large rectangular piece of furniture, often with four legs, which is used for sleeping on	سرير
3	Blanket	a flat cover made of wool or similar warm material, usually used on a bed	بطانية
4	Pillow	a rectangular cloth bag filled with soft material, used for resting your head on in bed	وسادة
5	Sheet	a large thin flat especially rectangular piece of cloth used for sleeping on	ملاية
6	Mattress	the part of a bed, made of a strong cloth cover filled with firm material	مرتبة
7	Bedside table	a small table at the side of a bed	طاولة سرير جانبية
8	Lamp	a device for giving light	مصباح
9	Alarm clock	a clock that you can set to wake you up at a particular time with a loud noise	منبه
10	Carpet	(a shaped piece of) thick woven material used for covering floors	بساط
11	rug	a piece of thick heavy cloth smaller than a carpet, used for covering the floor or for decoration or praying	سجادة
12	Dressing table	a piece of bedroom furniture like a table with a mirror and drawers	منضدة الزينة

13	Mirror	a piece of glass with a shiny metallic back which reflects light, producing an image of whatever is in front of it	مرآة
14	Hairbrush	a brush used for making the hair on your head tidy and smooth	فرشاة الشعر
15	comb	a flat piece of plastic, wood or metal with a thin row of long narrow parts along one side, which you use to tidy and arrange your hair	مشط
16	wardrobe	tall cupboard in which you hang your clothes, or all of the clothes that a person owns	دولاب ملابس
17	Clothes	things such as dresses and trousers that you wear to cover, protect or decorate your body	ملابس
18	Dressing gown	a long loose piece of clothing, like a coat, which you wear informally inside the house	ثوب النوم
19	Pajama	pajamas	بيجامة
20	Slippers	a type of soft comfortable shoe for wearing inside the house	شباشب

List (3):

No	Words	Meaning. Eng.	Meaning. Ara.
1	Size	how large or small something or someone is	حجم
2	small	limited in size or amount when compared with what is typical or average	صغير
3	colored	having or producing a color or colors	ملون
4	wide	having a larger distance from one side to the other than is usual or expected; not narrow	واسع
5	red	of the color of fresh blood	أحمر
6	yellow	a color like that of a lemon or gold or the sun	أصفـر
7	long	being a distance between two points which is more than average or usual	طويل
8	blue	color of the sky without clouds on a bright day	أزرق

Appendix (C)

Vocabulary Test for Group (A) & (B)

Name: ..... School: .....

Instructions

Question (one): Marks: ……../15

1. Match the words in column **A** with the meanings in column **B.**

2. Write down the appropriate letter next to the words.

Time: 50 minutes

No	Column A	(Letter)	Column B
1	barrel	---------	a. someone whose job is to be in a place and help visitors or customer (خادم)
2	inventor	---------	b. to feel despair about something or someone (يائس)
3	wander	---------	c. to travel somewhere very quickly (أنطلق بسرعة فائق)
4	despaired	---------	d. a person who is responsible for an organization's money (أمين صندوق)
5	earnest	----------	e. to say or do something to someone that is rude or offensive (مهان)
6	attendant	----------	f. wishing you had what another person has (حسود)
7	storm	----------	g. someone who has invented something or whose job is to invent things (مخترع)
8	envious	----------	h. serious or determined, especially too serious and unable to find your own actions funny (جدي)

9	ambitious	----------	i. to attack a place or building by entering suddenly in great numbers (يندفع)
10	creep	----------	j. someone whose job is to give advice about a subject (مستشار)
11	adviser	----------	k. to walk around slowly in a relaxed way or without any clear purpose or direction (يتجول)
12	treasurer	----------	l. to move slowly, quietly and carefully, usually in order to avoid being noticed (الذهاب ببطء)
13	drag	----------	m. a person whose job is making and repairing wooden objects and structure (نجار)
14	insulted	----------	n. If something such as a film or performance drags, it seems to go slowly because it is boring (يتسحب)
15	Carpenter	----------	o. having a strong wish to be successful, powerful or rich (طموح)

Question (Two):

Choose the most appropriate answer: Marks: _____/ 5

1. Which one is found on dressing table?

a. rug b. clothes c. mirrors d. carpet

2. Materials used for bed, except……..

a. Blankets b. pillows c. slippers d. sheets

3. Which one can be found on carpet?

a. Pajama b. Comb c. rug. d. mattress

4. ……..is a part of bedside table.

a. clothes b. wardrobe c. alarm clock d. bed

5. ……is a part of wardrobe.

a. Dressing grown b. Hair brush c. Blankets d. lamp

Question (Three): Marks: _____/ 5

Complete the sentences with the appropriate words from the list below.

Size colored wide small long

1. The road is 12 meters…….
2. How……..……does it take from here to Khartoum by plane.
3. Ali got a lot of presents from his friends, all the gifts were in…….
4. Some of the dresses were large, but others were very……..
5. One of my trousers is small, and the other is medium…….

Appendix (D)

Teacher's Questionnaire

Personal Information

Please use a tick (√) to fill in the information in the appropriate space.

1. Gender:

a. Male ( ) b. Female ( )

2. Age:

a. Less than 30 ( ) b. 31- 40 ( ) c. 41- 50 ( ) d. More than 60 ( )

3. Qualifications:

a. Diploma ( ) b. B.A ( ) b. M.A ( ) d. PhD. ( )

4. Years of Experience:

a. (1- 5) ( ) b. (5- 10) ( )

b. (10 - 15) ( ) c. (More than 15) ( )

Dear Colleague:

This questionnaire has been intended for the research planned to be conducted at Sudanese Secondary Schools at Khartoum State Localities. In particular, it has been designed to collect data on teacher's perspectives on the use of Semantic maps strategy to develop student's vocabulary learning. The findings of this study are hoped to contribute to the improvement of vocabulary teaching and learning process. You are, therefore, kindly requested to respond to all the items in the questionnaire.

General Direction:

The questionnaire deals with how teachers perceive semantic maps in vocabulary learning and what are their perspectives about semantic maps teaching strategies (techniques). Please, respond to each item in each section according to their respective instructions.

Thank you in advance!

The items refer to your perception about the use of semantics maps in the developing of vocabulary, put a tick (√) in only one of the boxes for items 1 -15 under only one of the numbers in front of each item.

Key: (1) strongly agree

(2) Agree

(3) Neutral

(4) Disagree

(5) Strongly disagree

No	**Statements**	1	2	3	4	5
1	Semantic Maps is a good teaching technique for reviewing vocabulary lessons					
2	Semantic Maps is more systematic and well organized.					
3	Semantic Maps is clear as words with the same parts of speech are grouped together.					
4	It's easier to remember words if they are grouped than learning unrelated words.					
5	Semantic Maps can help students remember the words Grouped in semantic sets for a longer time.					

6	The grouping helps students remember the related things.					
7	Semantic Maps assumes that learners have a large vocabulary size, so it's more appropriate to use for higher level learners.					
8	Teachers should guide students to retrieve prior knowledge to understand new words if possible.					
9	Teachers should integrate Semantic Maps with listening, speaking, reading and writing activities.					
10	Semantic maps assume that learners can easily acquire a large vocabulary size.					
11	Teachers should integrate Semantic Maps with the other techniques. (I.e. thematic or rote related).					
12	As the words are not related to each other, it's difficult for students to remember the words for a long time.					
13	Semantic Maps help the students retain the words better.					
14	Semantic Maps help the students recall the words more easily.					
15	Semantic Maps improves the students' logic.					

Appendix (E)

Instrument Jury Members for Questionnaire

No	Name	Qualifications	Experience	Place of Work
1	Dr. Ibrahim Elfaki	Associate prof	14 Year	Nile Valley University
2	Dr.Mohd Alameen Elshinghity	Associate prof	25 Year	Al-Ribat University
3	Dr.Tawfig Khalil Mohd Musa	Assistance prof	6 Year	Bahri University

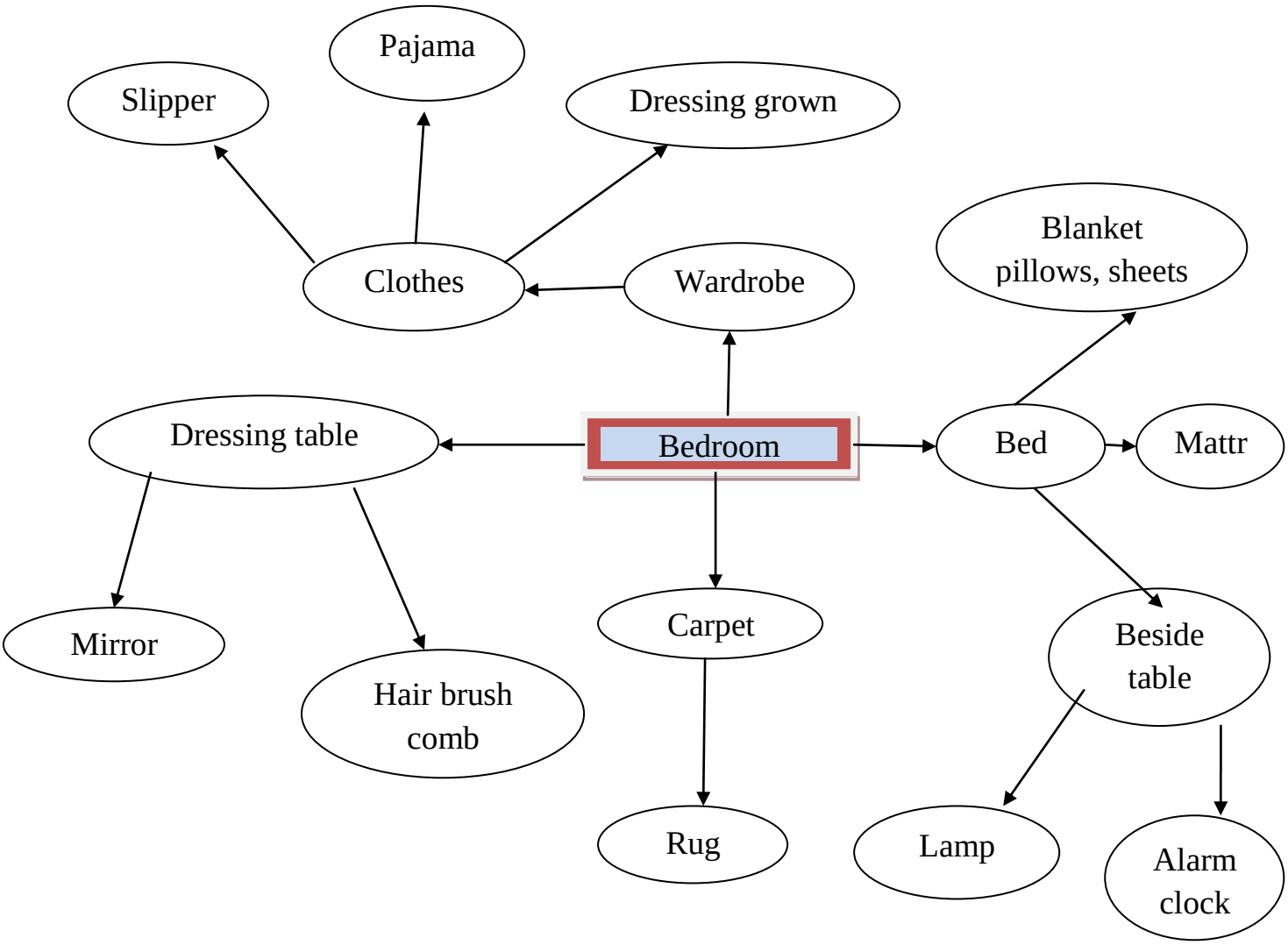
Appendix (F)

Reliability Calculations of the Tests

		Delayed
Immediate	**Pearson Correlation**	**0 .908(**)**
	Sig. (2-tailed	**0.000**
	N	**20**

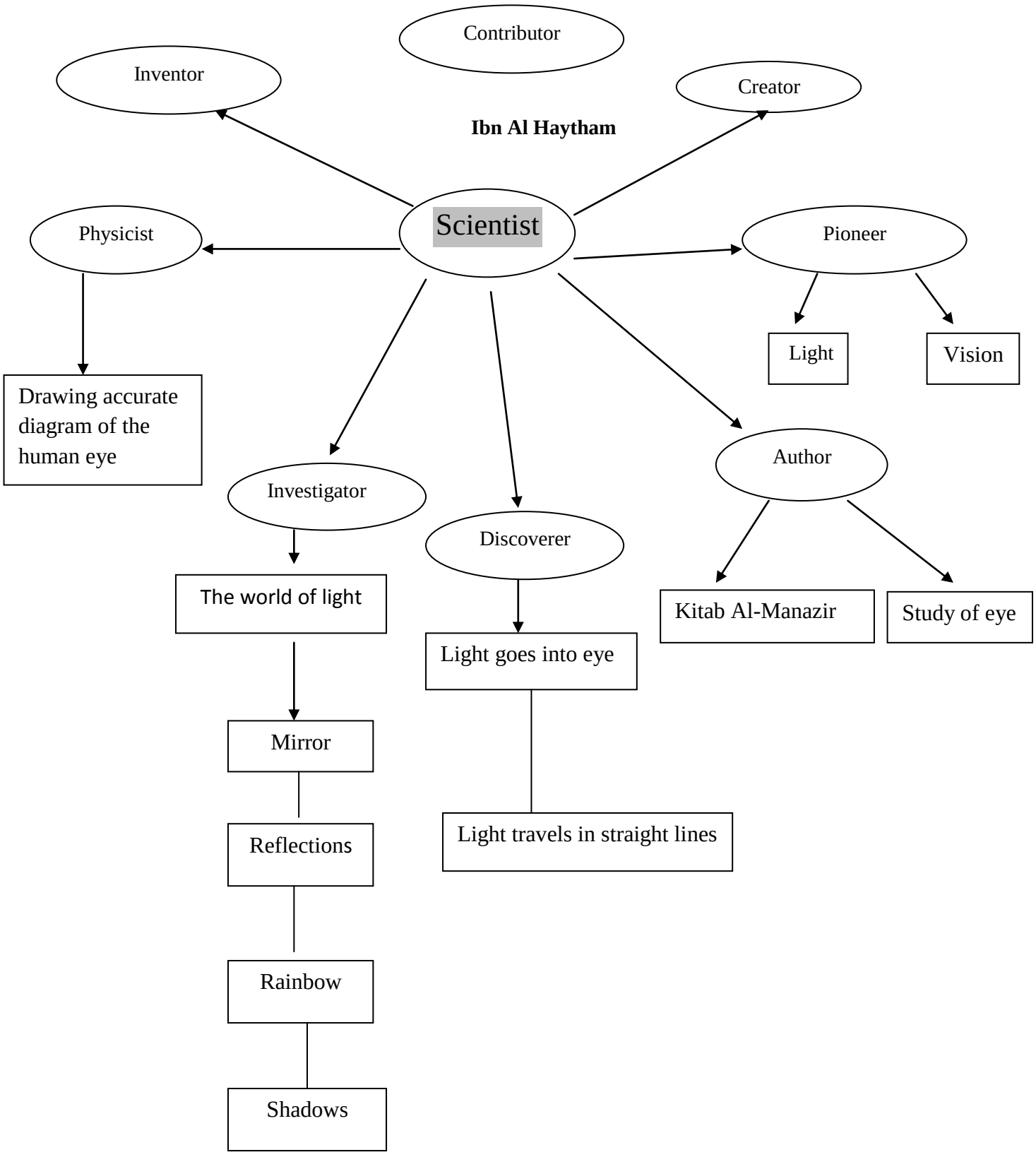
**** Correlation is significant at the 0.02 level (2-tailed)**

Appendixes (G)



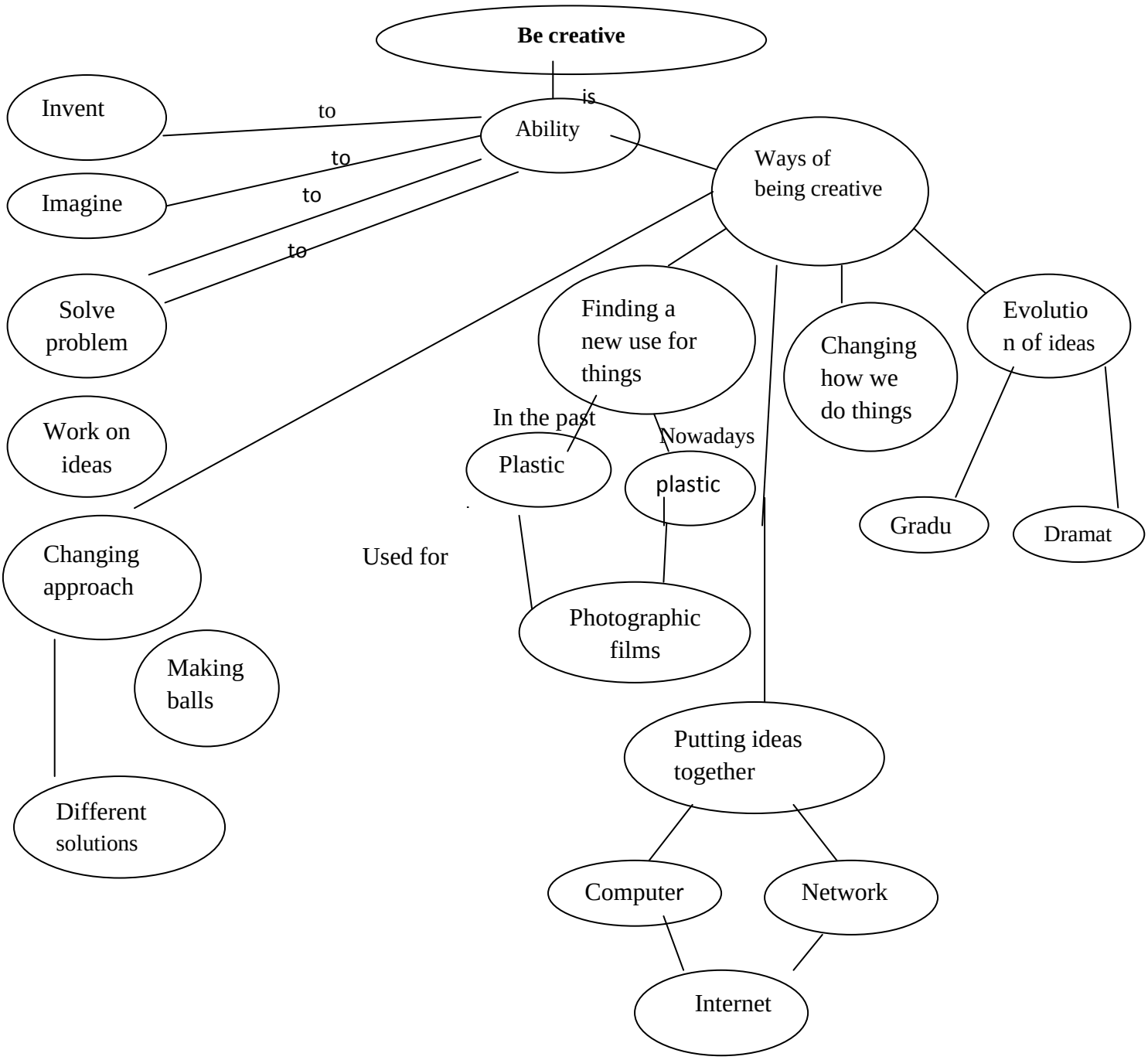
Appendix (H)

Word map



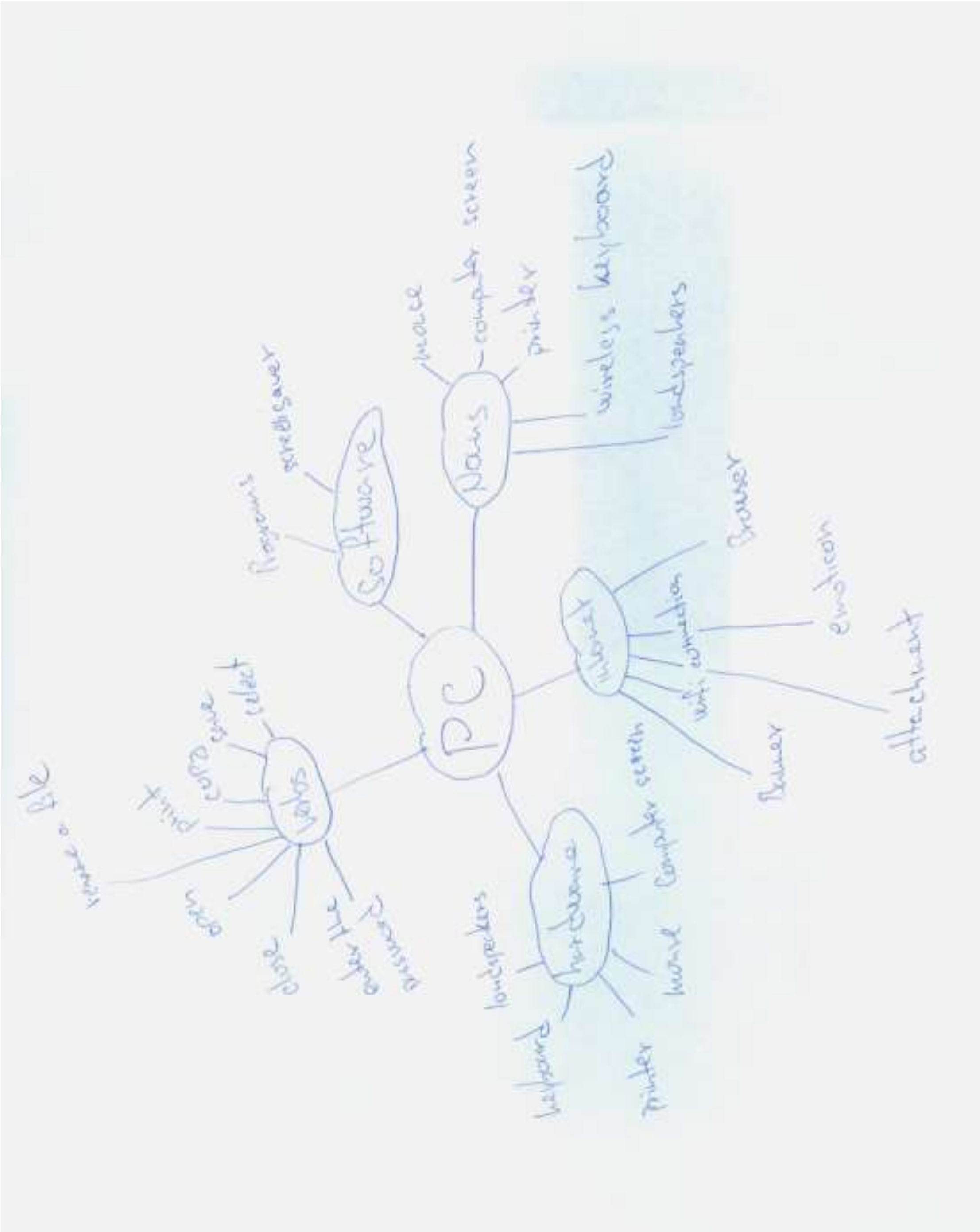
Appendix (I)

(Concept map)



Appendix (J)

Appendix (K)



PC
Software
Programs
screensaver
Nouns
mouse
computer screen
printer
wireless keyboard
loudspeakers
Verbs
save
copy
print
select
close
open
rename a file
enter the password
hardware
keyboard
loudspeakers
printer
mouse
computer screen
Browser
emoticon
attachment
wifi connection

Appendix (L)

Appendix (M)

Semantic Mapping the Word "Olympics"