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USING MNEMONICS STRATEGIES TO IMPROVE PRIMARY STAGE PUPILS' EFL VOCABULARY LEARNING AND RETENTION SKILLS

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ABSTRACT

Vocabulary has always been one of the significant issues that affect the English language learning and teaching. The current study aims to improve primary stage pupils' EFL vocabulary learning and retention skills through using mnemonics. Sixty four 6th grade primary school pupils were randomly assigned into experimental and control groups. The experimental group received vocabulary instruction using mnemonics strategies while the control group received instruction using the regular method. A pre-post test was administered to the two groups immediately after experimentation and a month after the last treatment session. Findings indicated that the experimental group participants outperformed those of the control group.

Key Words: Mnemonics strategies, primary stage pupils, EFL vocabulary learning and retention skills.

1. INTRODUCTION

Crystal (2003, p.25) believes that "vocabulary is the Everest of a language". Hoshino (2010) points out that vocabulary is not only an important element in language learning but also a necessary component for improving competency in all areas of communication. Vocabulary knowledge plays a critical role in people's lives and future possibilities. A large and rich vocabulary is the hallmark of an educated individual as it is strongly related to reading comprehension in particular and school achievement in general (Beck, McKeown et al. 2002, Godwin Jones 2010). According to Hedgcock and Ferris (2009, p. 285) "learning a word involves processing layers of meaning, a set of syntactic rules and constraints (that is, the word's grammar, as well as the socially constructed patterns governing how, where, and when to use the word appropriately (the word's use patterns, which involve pragmatic and sociolinguistic conventions)".

Meanwhile, Mohammed (2009, p. 19) defines vocabulary retention as "the ability to keep the acquired vocabulary and retrieve it after a period of time to use it in different language contexts". Unfortunately, a lot of the information one has to remember is presented in a way that makes it difficult for the learner to remember. Human brain is evolved to code and interpret complex stimuli. This interpretation could be done easily if a stimulus is accompanied by facilities such as images, colors, structures, sounds, smells, tastes,

touch, positions, emotions and language. Man's memory stores all of these very effectively.

Mnemonic strategies involve the use of both visual and verbal mental imagery to relate a word to be recognized and memorized with some previously learned knowledge. Mnemonics combine the use of different facilities that are relevant to the different learning styles.

1.1 Context of the problem

The researchers of the current study conducted a pilot study to investigate the existence of the problem. A test, designed by the researchers, was administered to 50 pupils in the sixth grade of the primary stage. The test consists of four questions that measured the pupils' vocabulary skills. The test was administered twice; the first time was a day after regular vocabulary instruction and the second administration was a month later. Findings showed that 43% of pupils answered the test items a day after instruction whereas only 27% could give correct answers a month after administration. The pilot study assured the weakness of pupils' EFL vocabulary skills.

1.2 Aim of the study

The current study aims at improving primary stage pupils' EFL vocabulary learning and retention skills through using mnemonics strategies.

1.3 Questions of the Study

The current study attempts to answer the following main question:

To what extent do mnemonics strategies improve the sixth grade primary stage pupils' vocabulary learning and retention skills?

Out of the main question, the following ones are stated:

I. To what extent do mnemonics strategies improve the sixth grade primary stage pupils' denotation skill?
II. To what extent do mnemonics strategies improve the sixth grade primary stage pupils' connotation skill?
III. To what extent do mnemonics strategies improve the sixth grade primary stage pupils' collocation skill?
IV. To what extent do mnemonics strategies improve the sixth grade primary stage pupils' word retention skill?

1.4 Hypotheses of the Study

I. There is a statistically significant difference between the mean scores of the experimental group and those of the control group regarding overall vocabulary learning and retention skills.
II. There is a statistically significant difference between the mean scores of the experimental group and those of the control group regarding denotation skill.
III. There is a statistically significant difference between the mean scores of the experimental group and those of the control group regarding the connotation skill.
IV. There is a statistically significant difference between the mean scores of the experimental group and those of the control group regarding the collocation skill.
V. There is a statistically significant difference between the mean scores of the experimental group and those of the control group regarding word retention skill.

1.5 Significance of the Study

The current study is significant as it directs teachers' attention to the importance of vocabulary skills as learners' lack of collocation and connotation knowledge deeply limits their ability to comprehend or express themselves. The current study sheds light on the use of mnemonics in a way that could encourage pupils to easily recognize and recall words. Besides, teachers could also benefit from mnemonics as it helps them use both visual and verbal mental imagery to help pupils relate a word to be memorized with previously learned material.

1.6 Delimitations of the Study

The study is confined to:

I. A sample of sixty four 6th grade primary stage pupils.
II. Five mnemonics strategies (Loci, word family, word network, use of imagery, and the reminiscent Strategy).

1.7 Definition of Terms

Mnemonics Strategies

The current study adopts Soanes' definition (2006) which views mnemonics strategies as learning techniques that aid information retention in the human memory. Mnemonics make use of elaborative encoding, retrieval cues, and imagery as

specific tools to encode any given information in a way that allows for efficient storage and retrieval.

Vocabulary Learning Skills

Alqahtani (2015) defines vocabulary as the total number of words that are needed to communicate ideas and express the speakers' meaning. The operational definition of the current study views vocabulary learning skills as denotation, connotation, collocation and retention skills.

2. Review of Literature

2.1 Importance of Vocabulary development

"If language structures make up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh" (Harmer 1993, p.153). Wilkins (1972, p. 111) believes that "without grammar, very little can be conveyed, without vocabulary, nothing can be conveyed". As the demand for advanced literacy skills increases, the ability to understand and use words increases in importance (Scott and Ytreberg 2001). To comprehend effectively what is read, readers need to have knowledge of word meanings, word concepts, relationships, and interpretations of vocabulary to comprehend larger amounts of text such as narratives, expository text, and other content related reading material (Sotoudehnama and Soleimanifard 2013, Chen 2014).

2.1.1 Types of Vocabulary

A student's ability to comprehend passages is facilitated or impeded by his/her skills with word meanings. In contrast, early deficits in vocabulary skills constitute a risk factor for later reading problems (Coyne, McCoach et al. 2009). As accurate and precise use of grammar and vocabulary are defining features of academic language proficiency, effective attention to vocabulary learning will definitely enhance student achievement and improve his/her academic success (Bryant DP., Goodwin M. et al. 2003).

For Nation (2001, p. 25), vocabulary is of two types; receptive and productive. The first "involves perceiving the form of a word while listening or reading and retrieving its meaning"; whereas the second type entails "wanting to express a meaning through speaking or writing and retrieving and producing the appropriate spoken or written word form".

FIGURE 1 Components of Word Knowledge

Dimension		Knowledge Category	Functions
Form	Spoken	Receptive	Phonology: What does the word sound like?
		Productive	Phonology: How is the word pronounced?
	Written	Receptive	Orthography: What does the word look like?
		Productive	Orthography: How is the word written and spelled?
	Word parts	Receptive	Morphology: What word parts (roots, derivational and inflectional affixes) are recognizable?
		Productive	Morphology: What word parts are needed to express meaning?
Meaning	Form and meaning	Receptive	Semantics: What reference, social, and affective meanings does the word represent?
		Productive	Semantics: What word form can be used to express these meanings?
	Concepts and referents	Receptive	Semantics : Pragmatics: What do the concepts associated with the word represent?
		Productive	Semantics : Pragmatics: To what referents can the concepts be linked?
	Associations (paradigmatic)a	Receptive	Synonymy, Polysemy, Hyponymy, Antonymy: What other words does the word evoke?
		Productive	Synonymy, Polysemy, Hyponymy, Antonymy: What other words could we use instead of this word?
Uses	Grammatical functions	Receptive	Syntax :Morphology: To what grammatical category(-ies) does the word belong?
		Productive	Syntax: Morphology: To what grammatical category(-ies) must this word be confined?
	Co-occurrence (syntagmatic)b	Receptive	Collocations: With what words or categories does this word co-occur?
		Productive	Collocations: With what words or categories must we use this word?
	Constraints on use	Receptive	Pragmatics, Register, Frequency: Where, when, and how often are we likely to encounter this word?
		Productive	Pragmatics, Register, Frequency: Where, when, and how can/should we use this word?

Sources: Nation (2001); Schmitt (2000).

Vocabulary Learning Skills

Harmer (1993); Ur (2000) emphasize that to enhance pupils' vocabulary learning and retention, the following skills should be developed:

Denotation skill

It means the ability to connect a word with its equivalent in the real world. It is the ability to understand the literal meaning of the word. Denotation skill does not only include comprehending the word root, but also understanding different word parts. Prefixes and suffixes completely change the word meaning and create new vocabulary. Training learners to understand word families is essential to acquire the denotation skill.

Connotation skill

Connotation skill refers to the ability to understand a value or meaning beyond the literal. It is the ability to get the implied meaning of a word without expressing it directly. For example, the following three sentences clarify what is meant by connotation:

- The building was very tall.
- The building was monstrous.
- The building was towering.

All three sentences mean the same thing literally. The word 'monstrous', however, has connotations of the building being scary and imposing. The word 'towering' may connote that the building was impressive in its height. According to Carter (2014), these connotations indirectly give learners impressions about characters or objects. Connotations allow the reader to come up with their own impressions through personal context. They can also reveal aspects of the writer and the writer's context.

Types of Connotations

Words may have similar meanings, but different connotations. There are mainly two types of connotation; positive and negative. For example, these four words: *cheap, frugal, miserly, economical* mean the quality of saving money by spending very little. The meaning is similar, but *cheap* and *miserly* have negative connotations whereas *frugal* and *economical* have positive ones.

Wilson (2013) points out that connotation can be understood from context as connotations may have several meanings depending on context. Associations and feelings which arise when the word is heard could deeply increase this skill. Using context helps learners to figure out the hidden meaning of an unknown word.

There are several types of context clues, including direct definition clues, synonym or antonym clues, and inferential clues. While direct definition clues provide an actual definition within the text, inferential clues require that the reader uses information from the text and his or her own background knowledge to make sense of the connotation. Synonym and antonym clues can be helpful only if the clue word is familiar to the student. Often, punctuation is used within a sentence to signal a definition, or examples are listed after signal words like *such as*. With explicit instruction and teacher modeling, students will begin to identify these connotations independently.

Collocation Skill

"Knowledge of collocation is fundamental for both receptive and productive use of the language. Collocation is often regarded as insurmountable obstacle to the attainment of native-like fluency" (Wu 2015, p. 215). Kim and Bae (2012) define collocation as the ability to make connection of words with each other. For example, when learning the word “picture”, the learner should be informed that one can *take* a picture, not *make* a picture.

Besides, collocation skill includes the ability to recognize when it is appropriate to use a particular word. Formal situations necessitate the use of words which are different from those used in informal contexts. Using collocations helps the learner's language to be more natural and more easily understood. Besides, it provides the learner with alternative and richer ways of expressing his/ her ideas. It is easier for our brains to remember and use language in chunks or blocks rather than as single words.

According to Firth (1957), fluency in the foreign language is determined by automation of collocation. The more the learner is capable of producing the correct collocations, the less hesitation pauses he makes in long sequences of words and consequently the more competent in the

language he becomes. When we focus solely on words' definitions, our students are less likely to be able to use vocabulary for expression, and they miss countless opportunities to recycle words they know. If we focus on collocation, students may be able to use words appropriately. Collocation is of much higher importance, however, in terms of use, acquisition and ultimate success in language learning and translation purposes. In a vocabulary presentation, one-tenth of our time should be spent on establishing a definition, and the rest of the time should be spent on collocation and use.

Types of collocation

There are several different types of collocation made from combinations of verb, noun, adjective etc. Some of the most common types are:

- **adverb+adjective:** completely satisfied (NOT downright satisfied)
- **adjective + noun:** excruciating pain (NOT excruciating joy)
- **noun + noun:** a surge of anger (NOT a rush of anger)
- **noun + verb:** lions roar (NOT lions shout)
- **verb + noun:** commit suicide (NOT undertake suicide)
- **verb + expression with preposition:** burst into tears (NOT blow up in tears)
- **verb + adverb:** wave frantically (NOT wave feverishly)

"You know a word by the company it keeps" (Firth, 1957). Knowledge of appropriate collocations is part of the native speakers' competence. Collocation, therefore, deserves to be a central part of vocabulary learning. Effective performance of EFL learners depend on their stock of conventional collocations. Pupils should know that using two lexical items belong to the same category does not mean that they can collocate. Moreover, the same item may have different collocation properties in different categories. For example, the following two words cannot collocate: If possible, post me a mail (Sadeghi 2010).

Vocabulary instruction

Vocabulary instruction should be programmed into all content area instruction on a frequent basis. However, past studies indicate that teachers only spend between 3-20% of instructional time on vocabulary development (Durkin 1978-79, Blachowicz 1987, Blanton and Moorman 1990, Watts 1995). Given that instructional time is often insufficient. Attention to the type of instruction and its alignment with effective vocabulary learning strategies is critical. Reviewing instruction within each study indicated that teachers tended to rely on rote learning and worksheet use rather than teaching effective vocabulary learning strategies.

Blachowicz and Fisher (2000) pose four main principles to guide vocabulary instruction. They believe that students need to:

1. Personalize word learning,
2. Be immersed in words throughout the day and in many forms,
3. Build on multiple sources of information to learn words through repeated exposure,
4. Be active in developing their understanding of words and should be encouraged to make connections between what they know and the vocabulary concepts they are to learn.
5. First make a prediction about the unknown word's meaning and then read to determine if the context clues found in the text support the prediction. Consequently, students can make inferences and develop vocabulary skills.

Word retention Skill

According to Esposito (2016), vocabulary is stored in the mind in a highly organized and complex web-like system, the so-called 'mental lexicon'. In the mental lexicon, words are stored, categorized and interconnected in many ways, according to their features such as meaning, form, collocation, syntactic properties, cultural background etc. Consequently, a word being retrieved is looked up through several pathways at once, which is extremely economical in terms of time needed.

Memory performance depends on the depth to which the stimulus is analyzed. In other words, "shallow" sensory processing, in which stimulus is analyzed in terms of its visual or acoustic properties, contributes to short–term memory. On the other hand, "deep" semantic processing in which stimulus is analyzed for meaning and related to existing cognitive strategy leads to long–term memory (Zahedi and Abdi 2012).

One of the important roles of the language teacher is to help pupils find the easiest way of conveying new information into the already existing system of the mental lexicon. Moreover, pupils need to acquire the ability to store the information for as long as possible. Alqahtani (2015) emphasizes that while practicing, learners should make decisions about words, e.g. match rhyming words or use new items to complete sentences. Moreover, personalizing in vocabulary practice has proved to be beneficial for remembering along with spacing, which means that presentation of new vocabulary is divided into more widely separated sequences.

How Children and/ or Pupils learn better (Concrete-Senses)

Children are born with a natural aptitude and interest for learning and their desire to learn should be fueled when they begin school (Cameron 2001). Teachers have the most important roles in creating an encouraging emotional atmosphere in the classroom. Thus, a cooperative rather than competitive atmosphere works better with young learners (Scott and Ytreberg 2001). The pupils should feel that they are winning and having fun altogether. Yet, this should not be understood as enjoying with little learning. The more fun the pupils have, the better they will remember the language learned(Mersinligil 2002).

As Scott and Ytreberg (2001) emphasize, children's understanding comes through hands, eyes and ears. The physical world is dominant at all times. Children are good observers and they make use of such contextual clues like movements (body language), intonation, mimics and gestures, actions, images and messages in order to understand and interpret the language itself (Cabrera and Martínez 2001, Slattery and Willis 2001, Brewster, Ellis et al. 2004, Savić and Shin 2013).

Mnemonics

Memory strategy instruction has become a growing area of research within language learning strategies over the last twenty five years. The collected studies indicate that providing language learners with some memory strategies on vocabulary learning which involve in deep processing will consequently lead to better retention.

In consequence, the effectiveness of vocabulary learning strategies is a significant element in both first language (L1) and second language (L2) pedagogy. In fact, students' literacy growth is totally dependent upon vocabulary knowledge. Research evidence indicated that students' English performance is related to the use of language learning strategies(Nisbet 2002, Alhaisoni 2012).

Memory strategies are considered vital in vocabulary teaching(Nation 2008). Oxford (1990, p.8) supports that they are considered "powerful mental tools" for language learners to deal with vocabulary learning difficulties. Such strategies "make learning easier, faster, more enjoyable, more self–directed, more effective, and more transferable to new situations". It should also be noticed that memory strategies could build up learners' learning autonomy, facilitate their vocabulary and develop a long–term retention of English vocabulary. Nation (2002); Hsiao and Oxford (2001) indicate that mnemonic devices help learners in moving information to long–term memory for storage purposes and retrieving it when needed for use.

To deal with the learning problem, memory strategies are of great help. They fell into ten sub-strategies including grouping, associating /elaborating, placing new words into a context, using imagery, semantic mapping, using keywords, representing sounds in memory, structured reviewing, using physical response or sensation, and using mechanical techniques (Wang and Lee 2007).

Johnson and Obi (1993) claim that the use of mnemonic strategies may help learning disabled students in the area of spelling and improve their long–term memory of vocabulary. Wu and Chang (2005) reveal that memory is the important medium for learning and gaining knowledge and also supported that teaching students memory strategies would enhance primary school pupils' English vocabulary learning.

Nowadays, mnemonics have occupied the lions' share of attention probably because vocabulary learning has largely been constructed as a memory problem (Yongqi Gu 2003). The only principle that these strategies reflect is that for learning and retrieving better, some “hook or memory aids" are needed. Imaging word form acts

as those hooks that will help learners retrieve better in the short run.

One of the most interesting areas for such research concerns the role of memory strategy instruction, an area which has been the focus of both theoretical and practical activity. Memory strategies involving deep semantic processing of target word have shown to be more effective than memorization techniques involving shallow processing such as oral rote repetition(O'Malley and Chamot 1990, Oxford 1990).

Mnemonics Strategies

1. Peg Word : The peg word mnemonic strategy consists of two steps. In the first one, the learner remembers the rhyming words for the number 1 to 10. In the second step, the learner visualizes the new word and the rhyming word and then associates these two things with other words with the related number(McCabe 2010).

2. Loci : Bakken and Simpson (2011) note that the loci method or mental walk can be performed through imaginations and pictures to organize and remember information. Learners imagine a familiar location such as a room, and then mentally place items to be remembered there. After that, they are asked to take an imaginary walk to recall these items.

3. Key word : This strategy helps learners to connect the new word to a keyword. The Keyword is a concrete English word which has some similarity in sound to some part of the foreign one. After that, the learner creates a memorable mental image of the keyword to the English equivalent (translation) to show their interactions and remember complex information(Keskinkiliç and Sünbül 2011).

Safa and Hamzavi (2013) investigate the effect of using key word strategy of vocabulary instruction on the learning and retention of vocabulary over long term in a normal EFL classroom context. Results indicated that participants in the key word group outperformed the memorization group at a significant level in both their learning and retention of the newly learnt vocabularies.

4. Acrostics: Acrostics support recall by creating an entire sentence with the first letter of each word to be remembered (Khabiri 2004). According to Dunphy (2010), acrostics can be more complex than just by making words from initials. A double acrostic, for example, may have words at the beginning and end of its lines.

5. Crossword Puzzles: Crossword solving involves several useful skills including vocabulary, reasoning, spelling, and word attack skills. To solve any crossword puzzle, a person must be able to identify and understand the terms being used. This often involves acquiring new vocabulary or terminology. It can also involve making differentiations between similar words or phrases. Correctly deciphering a crossword also requires exact spelling, which for students may mean practicing dictionary skills. Other important skills required for completing these puzzles include making inferences, evaluating choices, and drawing conclusions.

Another benefit of using crossword puzzles in the classroom is that they are associated with recreation, and can be less intimidating for students as review tools. Students who might normally balk at practice tests, flashcards, or review sessions with the teacher find puzzle solving to be much less threatening and more like game play. Puzzle solving is a much more active type of learning, and will engage students with the material more than passive types of review techniques do. Crossword puzzles also have the advantage of appealing to different learning styles. Visual learners often have strong puzzle-solving skills, and feel great satisfaction when they complete one. Auditory learners enjoy step-by-step reasoning, so they also benefit from the sequential steps of completing a crossword. Even kinesthetic learners enjoy the multi-task strategies required to solve a crossword (Ratnawati, Bindarti et al. 2013).

6. **Acronyms** & **backronym** : An acronym is a word or name formed as an abbreviation from the initial components in a phrase or a word, usually individual letters (as in NATO or laser) and sometimes syllables (as in Benelux). According to Oxford (1990), using acronyms is a kind of placing new words into a context in order to remember them better. Backronym is a specially constructed phrase that is supposed to be the source of a word.

Backronym is a combination of "backward" and "acronym" and has been defined as a "reverse acronym. For example, pupils

are given a word and asked to form a sentence where each word in the sentence starts with a letter stated in the given word.

7. **The Word Family**

According to Lavoie (2016), a word family is the set of words that include a root word (e.g., clear) and its inflections formed by addition of various suffixes (e.g., clear***ance***, clear***ing***, clear***ly***) and prefixes (e.g., ***un***clear). Words that belong to the same morphological family are related by meaning (e.g., family, familiar, unfamiliar, familiarity, familiarize). This process of word formation is also known as the derivational process or morphological derivation.

Word family strategy helps learners to gain the ability "to see how the meanings of the stem and affix combine to make a new but related meaning" (Nation 2001, p. 274). Learning this word part involves four types of vocabulary knowledge that are developed in the following order: receptive, relational, syntactic and distributional (Tyler and Nagy 1989, Roy and Labelle 2007). Receptive knowledge is the ability to recognize a number of common affixes (e.g., re-, de-, un-, -tion, -ful, -less). Receptive knowledge makes it possible to identify some words that appear similar, but do not belong to the same word family because they do not share a semantic connection (e.g., family and famine).

Relational knowledge is the ability to recognize that two words share a common morpheme (e.g., work**er** and danc**er**). Syntactic knowledge allows one to recognize the syntactic change that results when an affix is added, e.g., the verb *manage* becomes the noun *manag*er (Daviault 2012). Distributional knowledge is the ability to use affixes in the right context. Lavoie and Le (2014) assure that when students use the word family strategy, they can guess the meaning of an unknown word by combining the meanings of each morpheme.

8. **The Word Network strategy**

This strategy is concerned with eliciting the meaning relationships of words surrounding the new word. It helps associate different pieces of information with the word. Word networks go beyond semantic mapping (Tréville 2000) because the network of associations may be semantic but may also be phonemic, syntactic or morphological. The word network strategy involves a level of processing of lexical units that would be classified as "deep" according to the theory of Craik and Lockhart (1972). According to that theory, there are various levels of processing of lexical units, ranging from shallow to deep.

Shallow processing only involves attention to the form of the elements to be processed, including the sound, spelling or physical appearance, such as the number of vertical lines in a word. Deep processing requires attention to the meaning of the word being learned. Increasing cognitive effort by using active learning improves retention. As building word networks involves reasoning and manipulations, this strategy should leave a rich and detailed memory trace (Lavoie, 2016).

The word network strategy enables students to connect words in a chain. Aitchison (2012) and Tremblay (2009) recommend teaching vocabulary as a network of terms linked by various meaning relationships as the lexicon is structured and the acquisition and retention of new lexical elements is influenced by the creation of various associative links.

9. **The use of Imagery**

A picture is worth a thousand words. According to Kordjazi (2014), human memory (recall and recognition) for images is vastly superior to memory for other modes. Pictures can be semantically categorized faster than words. The recall and recognition superiority of pictures over text or auditory content has been well documented and is called the picture superiority effect (PSE).

The reasons for PSE are still being debated (Miller 2011), but it seems clear that somehow images are processed differently. "The memorial representation of pictures is in some way more elaborate, distinctive, or meaningful than the representation of words" (Hockley 2008, p. 1351). Kordjazi (2014) assures the effect of visual mnemonic support on students' reading comprehension.

One explanation is that images may be processed more semantically 'deeply'(Craik and Lockhart 1972). Another very widely accepted theory is Paivio's (1971) dual coding theory. According to this theory, when visual information

enters the brain via the eyes, it triggers the sound associated with the name of the thing in the image, leading to dual processing of both the visual and verbal information with one reinforcing the other. Thus, observers of images are getting multichannel and multiple representations of content information (Whitehouse, Maybery et al. 2006). Learners can easily draw diagrams with arrows to illustrate meanings. These visual products do not need to be artistic. Just about anyone can draw stick figures, sketches, or diagrams to communicate a concept worth remembering (Oxford, 1990).

Finally, using images can promote long-lasting retention which is the aim of education. In addition, as Oxford (1990) indicates, the mind storage capacity for visual information exceeds its information for verbal materials. Furthermore, a large part of learners have great interest for visual images.

The reminiscent Strategy

The reminiscent strategy connects new information to an old memory. The main idea is that context is important as anchoring new information to what is already known, like a past experience, helps storage. Besides, the context of associations increases the retention of words (Derwinger 2005).

3. Methodology

3.1 Participants of the Study

Sixty four 6th grade primary stage pupils from El Salam primary school were randomly assigned into experimental and control groups. The experimental group received vocabulary instruction using mnemonics strategies while the control group received instruction using the regular method.

3.2. Instrument of the Study

3.2.1. A Pre-Post Vocabulary Test

3.2.1.1. Test Description : It aimed to test the pupils' performance on the vocabulary skills which the study was concerned with (Denotation, Connotation, Collocation, and Retention). The test, designed by the researchers (Appendix A), consists of three questions: each question measured a skill. The first question is a multiple choice one where participants have to choose the word that best collocates with the sentence. The second question is a short story with missing words; participants have to write the words that best complete the meaning whether it is literal or implied. The third question is a matching one. The participants read a paragraph with some underlined words. They are given a list of words from which they match the word that reflects the meaning.

3.2.1.2. Test Validity: The test was given to a panel of jury in the field of teaching English as a foreign language to judge its validity. The panel of jury agreed that the test is valid and measures the intended skills.

3.2.1.3. Test Reliability: Test retest method was used to get the test reliability. The correlation coefficient was 0.83

3.2.1.4. Pre-testing: The test was administered as a pretest to the control and experimental groups. Table (1) shows that there were no significant differences between the two groups.

Table 1. The Significance of Differences between the Mean Scores of the Experimental and Control groups on the Pre-test

Skill	Participants	Mean	SD	t-Value	Significance
Denotation	Experimental Group Control Group	4.28 4.22	2.02 1.77	0.1315	Not Significant
Connotation	Experimental Group Control Group	5.81 5.38	1.67 1.39	1.1389	Not Significant
Collocation	Experimental Group Control Group	7.50 6.63	2.13 1.70	1.8192	Not Significant
Retention	Experimental Group Control Group	9.53 9.88	1.22	1.0856	Not Significant

			1.31		
Total	Experimental Group Control Group	15.77 14.91	3.87 3.61	0.3340	Not Significant

3.3 Teacher's Guide

3.3.1 Aim of the Teacher 'guide: A teacher's guide is designed by the researchers (Appendix B). The aim of the guide is to improve the pupils' vocabulary learning and retention skills through using mnemonics strategies.

3.3.2 The Content of the Teacher's guide: It consists of three units of the text book "time for English" for the sixth year of the primary stage. The activities used in the teacher' guide are based on the following mnemonics strategies:

Word network strategy
Word Family strategy
The Reminiscent Strategy
The use of Imagery
The Loci Strategy

3.3.3 Implementation of the Mnemonics Strategies: The participants' use of the mnemonics strategies is as follows:

First, participants are asked to work as one Class. Second, they are divided into small Groups of 8 (dependent practice). The researchers modeled the activities based on mnemonics strategies. The new words are presented in performing the activities. Participants share their ideas together and discuss the meaning of the new words. Third, the independent practice stage started where pupils help each other in carrying out these activities. Assessment is conducted continuously with each strategy to assure the achievement of the lessons' objectives.

4. Results and Interpretation: The vocabulary test was administered as a posttest to the control and experimental groups. It was re-administered a month after the last treatment session. SPSS (Statistical Package for the Social Sciences, version16) was used to analyse participants' scores on the pre and post-tests. Results are shown in the light of the study hypotheses and questions.

Findings indicated that the experimental group participants outperformed those of the control one. Table (2) shows that there are significant differences between the two groups in favor of the experimental group.

Table 2. The Significance of Differences between the Mean Scores of the Experimental and Control groups on the Post-test

Skill	Participants	Mean	SD	t-Value	Significance
Denotation	Experimental Group Control Group	18.19 13.47	1.35 1.59	12.7987	Significant
Connotation	Experimental Group Control Group	17.47 15.00	1.39 1.95	5.8286	Significant
Collocation	Experimental Group Control Group	17.91 15.66	1.15 1.68	6.2653	Significant
Retention	Experimental Group Control Group	13.53 12.09	3.08 2.04	2.2022	Significant
Total	Experimental Group Control Group	49.97 23.38	5.23 3.02	24.9119	Significant

As table (2) shows, the mean score of the experimental group on the overall vocabulary learning and retention skills was 49.97 whereas the mean score of the control group was 23.38. This difference, according to the calculation of t-test, is statistically significant. This result indicated the outperformance of the experimental group over the control one. The main hypothesis is accepted.

Besides, the differences between the two groups on the sub vocabulary skills (denotation, connotation, collocation, and retention) proved to be statistically significant. The sub-hypotheses are also accepted.

4.1 Interpretation of Results

The results of the current study might be due to the following:

I. Using mnemonics adds interest to studying by providing participants with new ways to work with vocabulary.
II. Using mnemonics allows participants to spend less time retrieving information from long-term memory.
III. Using Mnemonics provides participants with a memory bridge to help them recall vocabulary that otherwise, is difficult to remember.
IV. Using Mnemonics helps participants rearrange and reorganize information. It helped them personalize the information and be more active learners.
V. Using Mnemonics helps break monotony associated with rote learning, which make learning fun.
VI. Using Mnemonics helps learners relate the new material to information that is already stored in their long-term memory.
VII. Using Mnemonics provides retrieval cues to help students retrieve the information later from long-term memory.
VIII. Using mnemonics helps learners easily associate between words that best come together.
IX. Using Mnemonics makes it easy to participants to mentally imagine the literal and implied meaning of words.

5. Conclusion

Memorizing and acquiring vocabulary can be challenging, tedious, and ineffective for many learners. Learners' lack of knowledge of collocation patterns of lexical items makes them to be liable to all sorts of collocation errors, which can be more disruptive in communication than grammatical errors. On the other hand, connotation skill refers to the ability to understand a value or meaning beyond the literal. The current study aims to improve primary stage pupils' EFL vocabulary learning and retention skills through using mnemonics. The experimental group, 32 pupils in the sixth grade of the primary stage, received vocabulary instruction by using five mnemonics strategies (Word network strategy, Word Family strategy, The Reminiscent Strategy, The use of Imagery, and the Loci Strategy). Finding proved the outperformance of the experimental group over the control one.

6. Recommendations for Further Research

Based on the results of the current study, the following recommendations are stated:

- Further research is needed to investigate the use of mnemonics strategies in improving other English language skills.
- More attention should be paid to the development of students' vocabulary skills in the preparatory and secondary stages.
- Further research is also needed to investigate how to incorporate using vocabulary skills in real life situations.

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