

# Effectiveness of Mnemonic Strategies to Boost Vocabulary Retention in ESL Reading Classes: A Conceptual Paper

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i12/20173> DOI:10.6007/IJARBSS/v13-i12/20173

**Published Date:** 20 December 2023

## Abstract

Vocabulary acquisition and retention are two essential aspects that an English as Second Language (ESL) learner must acquire to master the four core skills of English, especially reading. One of the strategies that has been widely applied to improve vocabulary acquisition and retention is mnemonic strategy. Despite its wide use at enhancing reading skill, studies on the effectiveness of mnemonic strategies at improving reading skill among the ESL learners remains limited. Thus, this paper proposes a study to examine the effectiveness of mnemonic strategies and to determine the type of mnemonic strategy found to be effective in boosting vocabulary retention in ESL reading classes. This concept paper also proposes the conceptual framework, research methodology, data collection and analysis that are suitable to be employed in the study. Descriptive statistical analysis using SPSS software version 27 is propounded to calculate and analyse the data. A quantitative research employing questionnaire and tests will be used in this proposed study. The recommended participants for this study are 120 ESL primary pupils who will be selected through convenience purposive sampling method. Finally, implementation of mnemonics will enhance vocabulary retention, generate meaningful learning experience, and provide insight for the educators on the concept and effectiveness of mnemonic strategies in boosting vocabulary learning in reading classes.

**Keywords:** ESL Learners, Memory Retention, Mnemonics, Reading Skill, Vocabulary Acquisition

## Introduction

English is recognized as a global language which is widely used for multiple purposes such as communication, commerce, and education around the world (Suzina, 2021). Cognisant of the enormous importance of the English language globally and locally, the world language has been made a compulsory subject in primary and secondary schools in Malaysia (Adnan, 2017). Due to its unduly importance, many policies and programmes have been introduced in recent

years such as “Upholding the Malay language; Strengthening the English Language”, Dual Language programme (DLP) and Highly Immersive Programme (HIP) with the aim to enhance the English language proficiency among the Malaysian students.

This is in line with an aspiration for student's development as stated in the Malaysian Education Blueprint (MEB), which is bilingual proficiency that must be acquired by the student to be globally competent (Bush et al., 2018). Malaysian school students are expected to be proficient not only in their native language but also in the English language. For them to be proficient in the English language, it is necessary for these students to master the four core skills of the language which are listening, speaking, reading, and writing (Ahmadzai, 2021). Among these four skills, reading skill has always been one of the crucial skills and basis of language learning which manifests the language competency of an individual (Roe et al., 2019). Moreover, reading is the cornerstone of effective language learning, and it affects the learning and understanding of new information (Jacob, 2022). Yet, mastering the reading skill heavily depends on the learners' vocabulary knowledge (Brooks et al., 2021). "Without vocabulary, nothing can be conveyed" (Wilkins, 1972, p.111) and this is echoed by Widdowson (1989), declaring that vocabulary as the heart of the language. In fact, Schmitt (2019) stated that vocabulary knowledge is vital in grasping the reading skill and to acquire the second language (L2) successfully. Sotoudehnama et al. (2020) also explained that readers need to have knowledge of word concepts, meanings, relationships, and interpretations of vocabulary to comprehend what is effectively read.

Learning new words is a multifaceted process where it requires the learners to try various exercises to develop and use the words in different contexts to acquire and retain these new words successfully (Ahmadi, 2019). One of the strategies that are widely used by language learners and teachers is mnemonic strategies which have been recognized as an effective method in teaching and learning of vocabulary. Even though it is used widely in language learning, there is still a lack of references and studies done on the effectiveness of using mnemonic strategies in boosting vocabulary retention in ESL reading classes. In the Malaysian context, several studies have indicated that Malaysian ESL learners face difficulties in acquiring and retaining the vocabulary they learn in the reading classes (e.g., Leong et al., 2019; Apriliani, 2021). Thus, this paper addresses the information lacuna of the effectiveness of using mnemonic strategies in enhancing vocabulary retention in ESL reading classes.

This proposed study is guided by two questions

1. To what extent mnemonic strategies are effective in enhancing the retention of vocabulary among ESL learners?
2. What are the mnemonic strategies used to boost vocabulary retention among ESL learners?

A limited number of studies have been conducted on the effectiveness of mnemonics in the acquisition of L2 vocabulary words (Whitescarver, 2018). Thus, this conceptual paper sheds light on the utilisation of mnemonics in a way which could encourage the learners to recognize and recall words easily. Besides, educators would also benefit from this study where they will be able to get some insights on the implementation of mnemonic strategies in teaching and learning vocabulary. Lastly, it is also significant to scholars in conducting studies on mnemonic strategies to boost vocabulary retention among ESL learners.

## Literature Review

### Conceptual Analysis

Levels of processing theory by Craik and Lockhart (1972) is a theory that focuses on the processes involved in retaining the information in long term memory. Furthermore, this theory also suggests that the deeper the memory is processed, the easier the information is to be recalled. There are three stages involved in this process which are structural, phonetic, and semantic as shown in Diagram 1.

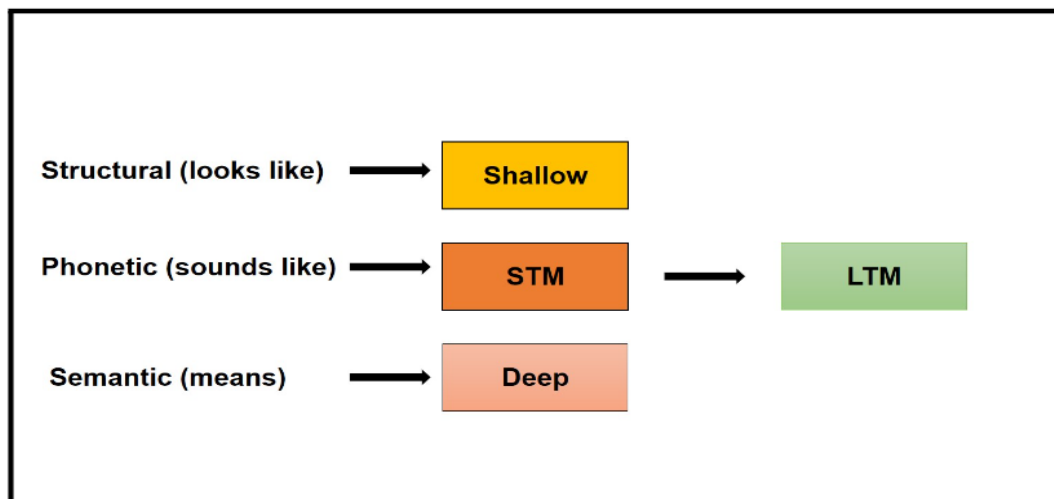


Diagram 1: Levels of processing model

This theory of memory uses a pyramid to show “hierarchy” of various levels of processing from shallow to deep. The first stage is known as structural where a learner recognizes the stimulus in terms of its physical appearance such as the colour of the written word, size and the type of font used. Next, the second stage is named phonetic (Parris et al., 2021). This stage is deeper than the structural stage but shallower than the third stage. Phonemic processing occurs when the learner encodes the word with sounds. For instance, the sound of the word and what does it rhyme with. Semantics is the last stage of processing in this theory. At this stage, the learner analyses the word deeply by associating the word with an elaborate meaning. Semantic processing involves more cognitive analysis and making connections with prior knowledge for the stimuli to be stored in the short-term memory and long-term memory successfully. Retaining the information in long term memory is essential as it will influence a learner's ability to recall and reuse the information effectively in different contexts. This theory explains well how mnemonic strategies work in aiding the learners to enhance their vocabulary retention in reading classes. Hence, the author proposes Level of processing theory to be used as guidance in devising the conceptual framework for the study.

### Vocabulary learning and retention

An individual's set of words is known as vocabulary (Damico & Ball, 2019). This set of words is argued to be necessary to be acquired by a language learner in order to master language skills effectively (Aminatun & Oktaviani, 2019; Novanti & Suprayogi, 2021). Hence, vocabulary is a range of words that are acquired and understood by a language learner in the target language. Researchers such as Susanto (2017) asserted that learning vocabulary is fundamental in any successful L2 learning and crucial to paving the way to grasp all the four macro skills of the language, especially the reading skill. When a new vocabulary is learned, it is stored in the mental lexicon of a person (It-ngam & Bahtiyarovna, 2020). One's mental

lexicon is his mental dictionary where the vocabulary is stored in a highly organised manner (Pranoto & Afrilita, 2018). Yu et al (2021) stated that words are stored, classified, and interconnected in various ways based on their features such as the meaning, form, collocation, syntactic properties and so on. This process is interrelated with the way a learner retains the novel vocabulary they have learned in their memory.

Vocabulary retention is the ability to retain the memories of what is learnt or known and able to recall the information after a period successfully (Tuyen & Huyen, 2019). Language learners must be able to retain and recall the information learned successfully in order to be able to utilise it in different contexts to enhance the reading skill (Stavy et al., 2019). According to Khany and Khosravian (2014), learners who do not have adequate vocabularies in the target language continue to struggle to be proficient in the language and it consequently impedes the learning of English language. Simamora and Oktaviani (2020) also affirmed that if learners want to be proficient in the English language, they must learn as much vocabulary as possible. As asserted by Bakar & Ismail (2021), Good grasp of breadth of vocabulary knowledge is crucial in order for the learners to be more fluent in the language. Hence, it is essential for the ESL learners to successfully acquire and retain adequate vocabulary knowledge if they wish to excel in learning the language.

### **Level of vocabulary knowledge in Malaysia**

English has been a mandatory subject in Malaysian national curriculum and being taught as an L2 from primary to secondary school. Thus, it is perceived that a typical Malaysian student would have received English education for 14 years and there is an underlying assumption that they would be equipped with adequate vocabulary knowledge by the time they complete their formal education. According to Lee et al (2019), the expected levels of vocabulary competency for a Malaysian student to possess is 3000 to 5000-word level upon completion of formal education (primary and secondary) to prepare them for tertiary level education. However, Mayadi and Yamat (2021) found out in a study conducted among a number of lower secondary students that the vocabulary level of the participants was at intermediate level. The participants were somehow aware of the words or vocabulary listed but they failed to remember the spelling or the meaning of the words. Similarly, another study by Wong et al., (2019) that was conducted in a rural school located in Johor pointed out that the level of vocabulary of the pupils were very low and they faced difficulties to even comprehend the most basic vocabulary. As asserted by Chiew and Ismail (2021), inadequate vocabulary knowledge will cause reluctance among the learners to comprehend the language in use. In general, these studies indicated that Malaysian students are unable to possess a good threshold level of vocabulary competency even though they have been learning the language for years.

### **Mnemonic Strategies**

The word "Mnemonic" originated from the Greek word *mnēmonikós* which means "relating to the memory" and it is a device aimed to scaffold information recall by linking the recently acquired information with the prior knowledge (Worthen & Hunt, 2011). Similarly, mnemonic strategies are methods that connect new information to prior knowledge (Scruggs et al., 2010). Hatch and Brown (1995) also asserted that mnemonic strategies are utilised to enhance memory retention and to form a meaningful connection in memory. Hence in the context of this study, mnemonic strategies can be defined as an instructional strategy that helps the learners to encode vocabulary meaning more effectively and make it easier for them to remember the vocabulary. According to Boon et al (2019), mnemonic strategies are

designed to improve learners' memory skills to retain and retrieve specific content area information.

Mnemonic strategies have been used in classrooms for decades to enhance learners' academic performance (Ahmadi et al., 2020). There are different types of strategies that promote better memory, which can be used in teaching and learning process, specifically in learning vocabulary. According to Thompson (2017), there are five classes of mnemonic namely linguistics, spatial, visual, physical response, and verbal methods. Several activities/strategies are listed under each of these main classes of mnemonics. Linguistics mnemonic is a strategy that involves association of the new concept to be learnt with familiar or priorly known words, phrases, and sentences to remember the concept. Pegword, keyword and letter methods are some of the techniques under Linguistics mnemonic. In spatial mnemonic, learners will link the new information to a familiar place, pattern or finger in memorising the new information (Krokos et al., 2018). For instance, Loci method, spatial grouping and finger methods are some of the methods that are listed under spatial mnemonics. On the other hand, visual mnemonics use association of pictures or visualisation with the target concepts (Chang et al., 2022).

Next, the Physical response method makes use of the body parts and gestures (e.g. physical sensation, movements) to help in the remembrance process (Kurniati et al., 2021). Finally, verbal mnemonics utilises meanings, songs, stories to aid in the memorization of the new concept (Whitescarver, 2018). These are some of the most used types of mnemonic strategies by the teachers and learners in the learning process.

Mnemonic strategies proven to be effective in enhancing vocabulary retention of ESL learners through several studies conducted in Malaysia. Intan (2021) conducted a study to investigate the effectiveness of mnemonics keyword method on students' vocabulary mastery. 193 students participated in this study and tests were used to collect the data. The results of this study revealed that the mnemonics keyword method was very effective in enhancing the students' vocabulary mastery. In another study conducted by Bahrami (2019), the impact of musical mnemonics on vocabulary recall was investigated using experimental research design. The participants of this study were 90 Iranian students who are learning English as Foreign Language. The participants were divided into two groups namely control and experimental group. The findings of this study show that participants who were exposed to musical mnemonics outperformed the non-musical group and were able to acquire the vocabulary better. In a similar research conducted by Fasih et al (2018), to study the effect of mnemonic vocabulary instruction on content vocabulary learning of students consisting of 256 senior high school students revealed that mnemonic vocabulary instruction improved the content vocabulary learning for students excellently. Through these studies, it is evident that mnemonic strategies do have a positive impact on vocabulary learning and retention.

### **Implementation of Mnemonic Strategies - Guidelines**

Mnemonic strategies are proven to be beneficial to be implemented in ESL reading classes. There are a few guidelines that should be taken in consideration when adapting mnemonic strategies in ESL classrooms. Firstly, learners' learning styles and personal characteristics such as prior knowledge, attitude, proficiency level, motivation and level of personal control should be paid attention to when selecting which mnemonic strategies to be applied in the classroom (Siagian et al., 2023). Next, the learners should be involved in the process by teaching them how to use the mnemonic strategy and allow them to use trial and error to discover which strategy suits them. The learners should be given the autonomy to find the most apt mnemonic strategy as not all the mnemonic strategies work the same for the same

task or learners. For instance, the loci method might be beneficial for those who have a spatial learning style but not quite useful for those who are musically inclined. Finally, learners should evaluate and evolve to achieve better results. The learners should be encouraged to evaluate and re-evaluate the strategies they are using currently from time to time to ensure the strategies are still suitable for them and have not become ineffective and boring.

### The Conceptual Framework

This paper strives to delineate a conceptual framework to assist the educators in gathering the necessary data to investigate the effectiveness of using mnemonic strategies in enhancing vocabulary retention among ESL learners in reading classes. The conceptual framework is expected to enlighten and guide the educators to interpret the conceptual scope, systemize relation between mnemonic strategies and vocabulary retention as well as identifying gaps in the literature. The conceptual framework is as shown in Figure 1 below.

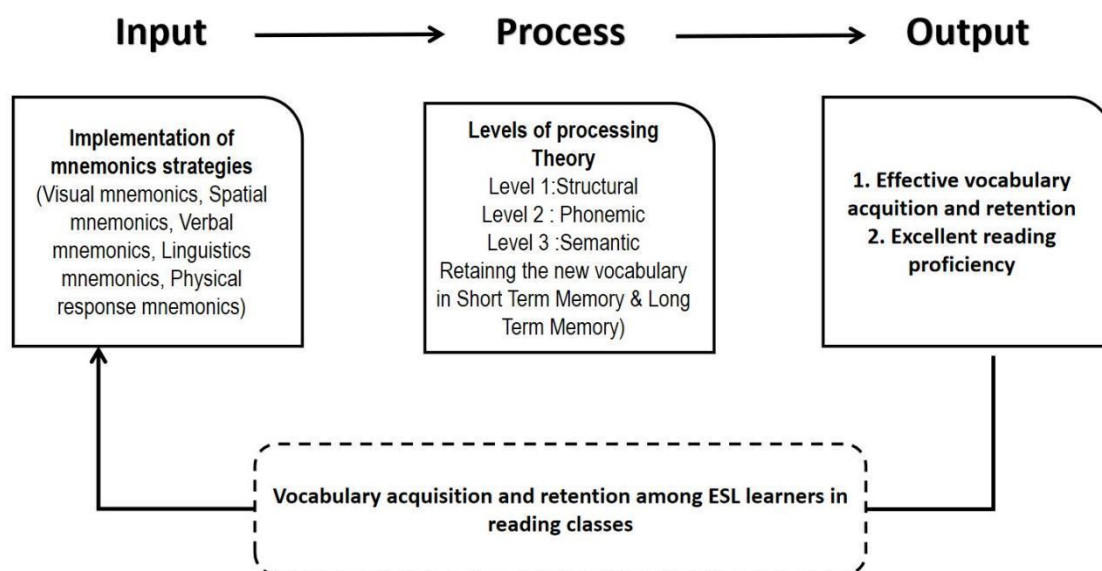


Figure 1: Conceptual Framework

The conceptual framework was devised based on the Input-Output table (IOT) model which was introduced by (Leontief, 1970). This model consists of three features which are Input, Process and Output. As shown in Figure 1, the context of this framework is the vocabulary acquisition and retention among ESL learners in reading classes. The input is the implementation of mnemonic strategies which will act as the stimulant that will affect the context. Furthermore, the cognitive process that is involved in the process of acquiring, retaining and recalling the vocabulary is analysed and explained using the Level of processing theory. As a result (output), the ESL learners' vocabulary acquisition and retention will improve and the learners will be able to be proficient in reading. In conclusion, the conceptual framework will act as an outline to gain better understanding about the research and to carry out the research efficiently.

## **Suggested Research Methodology**

### **Research Design**

This quantitative research will be conducted to obtain accurate and reliable measurements that allow a statistical analysis (Bloomfield & Fisher, 2019). There are a few reasons why quantitative research design will be appropriate to be employed in the study. Firstly, it enables the researcher to study the causal relationship between the two variables which are mnemonic strategies and vocabulary retention among ESL learners in reading classes. Next, use of quantitative research design to conduct this research will enable the researcher to obtain a more reliable and valid result to determine the effectiveness of mnemonic strategies in enhancing vocabulary retention.

### **Population and Sampling**

One of the important steps in conducting the research is specifying the population of the study.

The sampling method recommended to determine the sample is convenience purposive sampling method where the targeted participants will be chosen based on certain criteria and accessibility to them to achieve the purpose of this study. The criteria that will be used to select the participants are a) Year 6 primary ESL pupils, and b) has Performance Level (PL) of 3 and lower in the Mid-Year "*Pentaksiran Bilik Darjah*". The targeted respondents for this study are 120 Year 6 ESL primary pupils from two national primary schools located in Kulim, Kedah. Kedah is a state up north from Kuala Lumpur, the capital city of Malaysia and has a population of 2.2 million people (MyCensus, 2020). The state is well known for its paddy fields, and it is well known as the "rice bowl" of the country. However, the city of interest in this study, which is Kulim is a district or a town located on the southeast of Kedah composed mostly of industrial workers. The two schools selected for this study which is School A and B has enrolment of 360 and 300 respectively. School A has 98 year 6 pupils whereas school B has 92 Year 6 pupils. The participants who have met the criterias for this study are 120 pupils combining both schools.

Pupils from these two schools were selected particularly because they are easily accessible to the researcher and year 6 pupils who obtained PL 3 or less than PL 3 were selected due to the requirement of the school syllabus which is to acquire strong vocabulary knowledge and display accurate spelling of their words by the end of the year 6 primary schooling. This study will help the pupils to determine if mnemonic strategies are effective in vocabulary acquisition and retention for them. Therefore, it is believed that these participants will be suitable to participate in this study, which is to investigate the effectiveness of mnemonic strategies in enhancing vocabulary retention. After the selection of the participants, they will be divided into two groups: Control group and Experimental group. The experimental group will be exposed to mnemonic strategies to enhance their vocabulary retention whereas the control group will be using the traditional method which is "chalk and talk" method to learn the same vocabulary. This is to enable the researcher to compare the data between the groups and determine if the integration of mnemonic strategies is beneficial in boosting vocabulary retention.

### **Data Collection Method**

Using the correct data collection method is crucial in a study to obtain accurate data and to answer research questions (Mohajan, 2020). This research will use two instruments: Tests and questionnaires. A pre- and post-test adapted from Sundram (2017) will be administered to test and compare the participants' vocabulary knowledge before and after the use of

mnemonics strategies. The test is adapted to suit the year 6 school syllabus and participants' proficiency level as the original test was designed to assess the vocabulary knowledge of young adults to achieve the purpose of this study. Both of the tests (pre and post-test) are similar in terms of the constructions of the questions, numbers of the questions and marks assigned for the questions. The tests comprise 2 sections where section A has 7 questions and section B has 7 questions assessing the pupils vocabulary knowledge. The total mark of the test is 14 where each of the questions is allocated 1 mark. In section A, pupils will have to fill in the blanks with correct vocabulary whereas in section B, participants will have to match the vocabulary and its definition correctly. The time allocated to answer the test is 45 minutes and all the questions are compulsory for the respondents to answer.

As for the questionnaire, a 3-point Likert Scale questionnaire adapted from Susser et al., (2013) will be employed in the study to gather data to determine the type of mnemonic strategies used by the learners to boost vocabulary retention. The questionnaire is divided in two main sections namely section A and B. In section A, information on the demographic profile of the participants will be collected for the purpose of the study. In the same section, there is a free response format question regarding the participants' knowledge and understanding of mnemonics. For instance, the participants will be asked, "What is a mnemonic strategy?" to determine the participants knowledge regarding mnemonics strategies. Next, the second part of the questionnaire presents the five types of mnemonic strategies (A: Linguistics; B: Spatial; C: Visual ; D: Physical response; E: Verbal) as shown in table 1 and followed by the Likert type rating scale for each of the items listed under the categories inquiring the level of use of the mnemonic strategies. Participants are required to rate the level of use using likert scale. The scales are aided by scale from 1 to 3 to investigate the participants' response to each of the statements provided. The description of the scale is as shown in table 2. The total number of items under the five categories are 15 where each of the categories consists of 5 statements/items.

Table 1

*Description of section 2 of questionnaire*

<b>Aspect</b>	<b>Mnemonic strategies</b>
A	Linguistics
B	Spatial
C	Visual
D	Physical response
E	Verbal



Table 2

*3-point Likert Scale Description*

Scale	Description
1	Never
2	Sometimes
3	Often

The data collected from the test will be used to answer the RQ1 whereas the data from the questionnaire will be used to answer RQ2. Both the test and questionnaire were asked for validity and reliability checks from an expert teacher. The expert is a senior English teacher who has a Masters degree in Teaching English as Second Language) and 10 years of teaching experience. Content validity, criterion validity and construct validity are the factors that were taken into consideration and used as the scale to determine the validity of the research.

A few amendments were made to the test and questionnaire based on the expert's feedback to ensure the validity of the test and questionnaire.

**Suggested Research Analysis**

The proposed research analysis for this study is descriptive statistical analysis using SPSS software version 27 to calculate, analyse and summarise the collected data. Descriptive analysis is used to summarise a set of data to communicate and to present the information as simply as possible by describing basic features of the data in the study such as mean and standard deviation (Molder et al., 2021). Mean, mod, median, standard deviation and range can be obtained from the descriptive statistics. Thus, use of descriptive analysis allows the researcher to evaluate and determine the effect of mnemonic on the vocabulary acquisition and retention among ESL learners in reading classes. Additionally, quantification of data will enable the researcher to analyse accumulated data and the derived result from the selected sample to generalise the population (Perez, 2019). Moreover, Independent t-Test and ANOVA also can be utilised to analyse the data garnered from the instruments. The t-Test can be conducted to compare the data from the post test and pre test whereas ANOVA will enable the researcher to compare the variance of the means.

**Research Ethics**

There are a few ethical measures that need to be adhered to while conducting this research. Informed consent should be obtained from all the participants before conducting the research. The participants should be informed clearly of the details of the research such as the objectives, instruments and procedures before asking for their consent to participate in the study. Next, the participants' privacy and confidentiality should be respected and maintained throughout the study. Lastly, any cultural insensitivity should be avoided while carrying out the study. These measures should be strictly followed in order to ensure there will be no ethical issues while conducting the study.

**Conclusion**

Mnemonic strategies are found to be an incredible method to develop strong vocabulary acquisition and retention. Mnemonic strategies cater to different learning styles, needs and preferences such as visual, auditory and kinaesthetic. Besides, it provides mental triggers

which serve as a reliable prompt to access stored information and to maximise retention. Thus, it will be highly beneficial for the language learners to utilise it for vocabulary acquisition and retention. It is important for the pupils to build a strong foundation of vocabulary knowledge in order to excel in grasping the reading skill. It is hoped with this conceptual paper that it provides some insight onto the use of mnemonic strategies in enhancing vocabulary retention.

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