
Using Word Recognition Instruction and Visual Aids to Enhance Malaysian Primary ESL Learners' Vocabulary Achievement

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ABSTRACT

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Vocabulary is considered as an essential component of language teaching and learning, and its mastery is significant for all language learners. The process of learning vocabulary is sometimes referred to as vocabulary acquisition. In light of this, teachers need to conduct appropriate and enjoyable activities when teaching vocabulary. Effective techniques and interesting vocabulary materials are imperative especially for primary school ESL learners. This study aimed to determine the efficacy of employing word recognition instruction and visual aids in teaching action verbs to primary school learners in one of the primary schools in Semporna, Sabah, Malaysia. The overall number of participants in the research was 50, and they represented a mixed abilities group of learners. They were randomly assigned into experimental and control groups of 25. The experimental group used word recognition instruction and visual aids to learn new vocabulary (action verbs), while the control group used traditional memorisation instruction to learn the same vocabulary. Following these instructions, the two groups were evaluated (Post-test). The study's findings indicated that the experimental group outperformed the control group. Additionally, it recommends that English language teachers consider word recognition instruction and visual aids as successful vocabulary teaching strategies.

1. INTRODUCTION

To start, the Malaysian Education Blueprint 2013-2025 emphasises the importance of the English language in schools and introduces innovative teaching and learning strategies in the curriculum to enhance learners' English proficiency. Some of the learning strategies suggested in the curriculum are mastery learning, contextualised learning, constructive learning, project-based learning and inquiry-based learning (MOE, 2020). In teaching English language, teachers know that words and vocabulary strongly impact learners' performance in using language skills namely speaking, writing, reading and listening. Individuals who have adequate knowledge in language skills are often identified by their written and spoken vocabularies (Blachowicz & Fisher, 2004). However, learning vocabulary could be complex for some ESL learners as they have limited opportunities to apply the vocabulary taught in the classroom. Boualleg (2016) stated that ESL learners, especially primary students, face many challenges to memorise and retain new words because of the surroundings that they live in. Next, Çelik & Toptaş (2010) supported that learning vocabulary as an essential communication tool is considered the most challenging field in second language acquisition. When reading English materials, ESL learners seem to encounter many

unknown words. Unknown words appeared in textbooks or any reading materials due to insufficient vocabulary knowledge among ESL learners (Chai & Swanto, 2020). Hence, teachers play an important role in assisting ESL learners by increasing their lexical items meaningfully. To achieve this, teachers have to find the best methods or strategies to enhance learners' learning and understanding in the classroom and among these methods or strategies are word recognition instruction and visual aids, mainly pictures.

Throughout primary schooling, Malaysian learners are expected to master specific vocabulary that is listed in the curriculum. The vocabulary comprises of different parts of speech such as adjectives, nouns, verbs and adverbs. One of the vocabulary items is action verb. Action verb is used to describe an action. According to MOE (2015), pupils' understanding of action verbs allow them to use English both in formal and non-formal contexts. In referring to this, the pupils' vocabulary knowledge particularly in using action verbs was concerning as their past assessment results showed they had minimum knowledge on the usage of action verbs in contexts either in speaking or writing. This is also supported by Narinasamy et al., (2013) who assert that Malaysian learners often face difficulties in manipulating action verbs either especially in answering vocabulary tasks. This is due to the fact that verbs are not marked for persons, tense and number to indicate types of tenses particularly in the Malay language. This complexity affects their understanding in choosing the correct vocabulary to construct English language sentences.

Generally, this study is dominantly significant to the ESL teachers and ESL learners at different levels. The results obtained were expected to find the effectiveness of word recognition and visual aids that learners could use in learning vocabulary independently in various contexts. Using word recognition and visual instruction in the teaching of vocabulary made learning more meaningful and enjoyable for the learners. In addition, the intervention has the potential to provide teachers with new options for managing classrooms in vocabulary lessons. As for English teachers, the results obtained from this study would be beneficial for them in facilitating as well as strengthening learners' vocabulary learning according to certain factors such as social-economic background, language proficiency and maturity.

The term "word recognition" refers to the summation of the precision with which meaning is accessed through the process of deciphering written words (Wolf & Katzir-Cohen, 2001). Jeon, (2009) also added that word recognition involves two processes, the first one is visual decoding of orthographic forms and knowing links between graphic and phonological codes and the second one is understanding semantic resources using the mind, also known as mental lexicon. Hence, word recognition permits ESL learners to quickly gain rapid access to the meanings of printed words by looking at the letters or spelling patterns of written words. In making meaning of any words that a learner encounters in reading any text, he or she must be able to identify the words quickly and effortlessly. In past studies, although word recognition has been traditionally associated with reading abilities, recent developments prove that word recognition can also affect vocabulary acquisition among ESL learners (Han, 2015). Nagy et al., (2006) portrayed that word recognition skills significantly contributed to reading vocabulary and comprehension. Thus, in increasing the ESL learners' vocabulary achievement, word recognition is used as one of the strategies to teach the targeted vocabulary. Limited research has been done to examine the relationship between word recognition and vocabulary acquisition (Han, 2015).

Next, many studies have been done on the effectiveness of using visual aids such as pictures and realia in explaining the meanings of new vocabulary in ESL lessons. According to Harmer (2006) visual materials are widely used in language teaching with the purpose to make the learning process effective and enjoyable. In addition, Wileman (1993) emphasised the importance of visual

components such as images in assisting ESL students in interpreting and comprehending information contained in textual texts. Teachers discovered that visual features may help students study more effectively. This study used visual materials and word recognition to instruct vocabulary to help learners acquire vocabulary effectively. Thus, this study aimed at finding out whether word recognition instruction and visual materials have significant effects on the ESL Primary school learners' vocabulary achievement.

1.1 Vocabulary Achievement

Vocabulary plays a significant role in language teaching and learning. Adequate vocabulary impacts an individual in language skills, namely listening, speaking, writing and reading. Vocabulary is a component of language proficiency and accounts for a large portion of how effectively learners speak, listen, read, and write (Richards & Renandya, 2013; Tarkashvand, 2015). Vocabulary is a component of a language and a list of words that people have used to communicate. The only method to evaluate the effectiveness of vocabulary acquisition is to examine the process of teaching and learning as well as by conducting assessment. Tarkashvand (2015) noted that there are numerous strategies for increasing pupils' vocabulary achievement. The only method to acquire vocabulary is to memorise vocabulary that has been taught. Other methods of learning vocabulary include keeping a note or list of words or repeatedly memorising the words through exercises.

According to Shokrpour et al., (2019), vocabulary acquisition has become increasingly crucial for foreign and second language learners. However, incidental vocabulary acquisition has a number of drawbacks, including the fact that it is time-consuming and unpredictable. On the other hand, Yassin (2012) asserted that individual learning styles significantly affect students' academic progress. Numerous initiatives have been made to address the issue of low academic accomplishment, and several elements have been recognised as contributing factors to academic achievement. Additionally, teachers must understand students' learning styles and their impact on academic accomplishment, as this is the first step toward ensuring students' achievement.

One study conducted by Kee & Ting (2019) has investigated the impact of using vocabulary journals to enhance vocabulary learning among Malaysian primary school learners. This study stated that many pupils especially those from rural areas had problems with vocabulary acquisition. The researchers explained that the pupils were unable to recall the vocabulary learned previously due to minimum opportunities of practising the vocabulary in a variety of contexts. This study is supported by Ong & Rahim (2021) who found out that most Malaysian learners committed errors in choosing the correct form of action verbs in constructing sentences because they did not understand the meanings of the words.

To conclude, based on the literature above, individuals with a broad vocabulary are more linguistically skilled than those with a limited vocabulary. An extensive vocabulary contributes significantly to practically every aspect of language and this is also known as vocabulary achievement. According to Hamada & Koda (2008; Umurova (2018) in Melek et al., 2020), there is a strong connection between the amount of vocabulary acquired and the communication ability of language learners. the above literature also highlighted the issue of vocabulary achievement that happened in Malaysian primary school context.

1.2 Related Studies

A growing body of literature has contributed to the discussion that using word recognition instruction and visual instruction were able to enhance ESL learners' achievement in

vocabulary. The exposure of word recognition and visual instruction in teaching vocabulary comes in various types and contexts. Below are the studies that have been reviewed and relevant to the purpose of this study.

1.3 Word Recognition

Although word recognition is always associated with reading activities, recent research showed that word recognition significantly affected vocabulary acquisition, especially among ESL learners. First, Hamada & Koda (2008) studied the effects of phonological decoding on vocabulary learning. This study selected second language learners (L2) from both Korean and Chinese college students as research participants. Their word recognition consisted of decoding efficiency was measured by a pseudoword task. Based on this study, extracting phonological information, which is one of the word recognition skills, helps learners learn and remember vocabulary. This was because a quick and efficacious capacity for converting graphic symbols into corresponding sounds facilitated newly obtained information (e.g., sounds and spelling of a new word) integrated into working memory. The results of this study are supported by Fuchs et al., (2011) who stated that word recognition increases ongoing comprehension of a reading text as the reader can make meaning of the words that appeared on the reading text.

Next, focusing on spelling, Rosenthal & Ehri (2008) showed word recognition improved students' memory for pronunciation and knowledge of meanings especially in learning new vocabulary. Their participants were taught with two sets of unfamiliar words which were then being depicted into sentences. These written sentences were a part of the visual technique in learning new vocabulary. Using four different methods: Woodcock Reading Mastery Test-Revised, PPVT-III, Boder Test of Word Reading (TOWRE), Test of Phonemic Decoding Efficiency, and Garske Spelling Inventory, this study exposed the written form of the words during instruction which allowed both groups of students to memorise better in terms of pronunciation as well as the meaning of new vocabulary. However, their research showed that learning the definition of new vocabulary is less challenging than learning correct pronunciation.

1.4 Visual Aids

The previous study reported a visual instruction technique named colouring pictures activities helped in teaching spelling. Mutya & Isyam (2013) proposed this dictation method by showing picture vocabulary to the participants and followed up by drilling. Then, the researcher hid the picture vocabulary and distributed uncoloured pictures to the respective participants. Instructions in the form of dictation were given for the participants to colour the uncoloured pictures, which were later discussed and compared with the original picture vocabulary at the end of the sessions. Teaching vocabulary indirectly using this dictation method enabled the participants to enjoy learning vocabulary. Plus, it acted as a promising instrument that made learning vocabulary more exciting and helpful for young learners.

Another study by Sadeghi & Farzizadeh (2012) investigated vocabulary teaching by using visual instruction that had been rebranded as Visually-Supported Vocabulary Instruction. This type of visual instruction was used on beginner English Foreign Language (EFL) learners to improve their vocabulary. The visual aids method conducted towards the experimental group focused on providing vocabulary with the additional help of illustrative pictures. Later, this group needed to describe scenes with the present vocabulary. Meanwhile, a traditional technique used remedial tests during pre and post as its instrument with the same vocabulary as its main focus. The most interesting part of this research is even though both groups used the same vocabulary

lists, and statistical evidence proved that visually-supported learning leads to better performance of their achievement in acquiring vocabulary. To prove that, an independent t-test was used in the data analysis, which showed that the experimental group outperformed significantly better than the control group in the post-test. Thus, this research is valid to promote a visual-supported approach in vocabulary teaching and learning.

Next, one study aimed to prove that vocabulary knowledge can be achieved via Picture Word Inductive Model (PWIM). This study of quasi-experimental was conducted by Lee et al., (019) used a modified version of Emily Calhoun’s PWIM. Focusing on Malaysian Year 1 pupils in a rural national primary school as their main targets, acquiring English vocabulary has never been more accessible. Using extracted pictures and enlarged ones from Year 1 textbook showed that this model could efficiently be conducted with the help of any kind of material. The researchers also used printed word cards as an aid to cater to the additional needs of teaching vocabulary. The pre-test result showed there was no significant difference between the experimental and the control group in terms of vocabulary breadth. The post-test further revealed that the experimental group experienced a higher level of vocabulary breadth recall than the control group. To conclude, the interactive version of YNRT supported pupils who formed the experimental group to achieve higher recall and retention of vocabulary items taught, as indicated in their post-and delayed post-test scores.

Based on the explanation above, This study is aimed to answer the following question:

- 1) Do word recognition instruction and visual aids have significant effects on the ESL primary school learners’ vocabulary achievement.

Based on the research question, the research objective is formulated below:

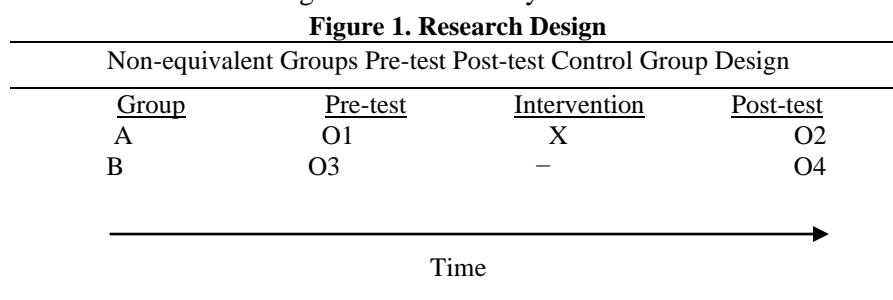
- 1) To find out whether word recognition instruction and visual materials have significant effects on the ESL Primary school learners’ vocabulary achievement.

2. METHODOLOGY

1.1 Research Design

This study employed a quasi-experimental design of pre-test and post-test of comparison group design. Accordingly, the research participants of this study were randomly assigned to the experimental group and control group. Both groups were pre-tested using a set of test questions. After the pre-test, the experimental group was taught using word recognition instruction and visual materials. The control group was taught using a conventional memorisation strategy for eight weeks. According to Chwo et al., (2016), studies conducted with a duration of eight weeks or more should be considered generalisable.

After the lessons, both groups were post-tested to find out the effects of the strategies used. Non-equivalent comparison group design is common and prevalent in education particularly to investigate teaching and learning activities (McMillan & Schumacher, 2010). Below is the illustration of the research design used in this study:



A:	Experimental Group
B:	Control Group
O1	Pre-test of Experimental Group
O2	Post-test of Experimental Group
O3	Pre-test of Control Group
O4	Post-test of Control Group
X	Intervention (Word Recognition Instruction and Visual Aids
-	No treatment.

(McMillan & Schumacher, 2010)

1.2 Research Hypothesis

Null hypothesis (H0): *Word recognition instruction and visual aids are not effective in enhancing ESL primary school learners' vocabulary achievement.*

1.3 Research Participants

The research participants of this study were the Year 4 ESL learners of a primary school in Semporna, Sabah, Malaysia, aged 10 years old. They learn English as a second language. The pupils would be assessed formatively and summative throughout their primary schooling. There were 50 research participants selected in this study and they were chosen by using purposive sampling. Purposive sampling is defined as a sampling strategy when a researcher hand-picks research participants based on certain judgements or they have particular characteristics (Wolf & Katzir-Cohen, 2001). In other words, in purposive sampling, the researchers selected the research participants as they shared certain criteria such as level of proficiency, socioeconomic background and learning styles. These 50 research participants were from two different classes in the same school. The level of proficiency of the research participants was low to intermediate based on their mid-semester examination results. Below is the background information of the research participants:

Table 1. Background information of the research participants

Group	Gender	Level of Proficiency	of Years of Learning English Formally	Socioeconomic background	Learning Styles
Experimental (N=25)	Girls: 13 Boys: 12	Low:13 Intermediate:12	6 years	High:0 Middle:12 Low: 13	Visual: 10 Auditory: 5 Kinaesthetic:10
Group (N=25)	Girls:15 Boys: 10	Low:13 Intermediate:12	6 years	High:0 Middle:13 Low:12	Visual:11 Auditory:4 Kinaesthetic:10

1.4 Research Instrument

The research instrument used in this study was a test (pre and post). The test paper was used for both pre-test and post-test. This was to evaluate the effectiveness of the teaching strategies in vocabulary achievement. The test contained two-sections labelled as Section A and Section B. Each section contained one picture and a cloze-passage. The research

participants were required to fill in the blanks with the target vocabulary item (action verbs). Options of answers were also given in the form of A, B and C. The topics of all the questions were taken from Year 4 Get Smart English textbook. To ensure the validity of the research findings, three raters were chosen to assess the vocabulary tests for both experimental and control groups. The raters were chosen on the basis of having two specific qualifications (graduated with at least a Bachelor Degree in English language field and had achieved the CEFR level of C1). The raters worked as English language teachers in the selected school.

1.5 Intervention Procedure

According to Blachman & Tangel (2008), word recognition instruction is a reading strategy where a teacher teaches spelling and pronunciation of vocabulary. In other words, when a learner recognises a word, he or she knows how to sound a word and spell the word correctly. In addition, visual aids can be conceptualised as instructional aids that graphically show information for the purpose of teaching and learning and classroom use (Chai & Swanto, 2020). Lau et al., (2021) state that visual instruction has an imperative role in engaging learners effectively via the simplification of concepts in the process of learning and understanding an input.

During the treatment for the experimental group, word recognition instruction and visuals were provided to all research participants for eight weeks. Below is the teaching and learning steps in the intervention for the experimental group:

- 1) Teacher introduces the target vocabulary.
- 2) Learners learn how to pronounce and spell the vocabulary repeatedly.
- 3) Learners learn the meaning of the vocabulary by using visual aids such as pictures, real objects.
- 4) Learners are tasked to pronounce and spell the vocabulary learned.
- 5) Learners use the vocabulary in context.

1.6 Data Analysis

For data analysis, IBM SPSS (Version 23) software was used to analyse quantitative data in the form of marks acquired by research participants in their pre-test and post-test. The mean scores were then compared for both the experimental and control groups. The researchers reported the mean scores and the findings of the independent-samples t-test (or independent t-test) in this study because they desired to compare the means of two unrelated groups on the same continuous, dependent variable.

3. RESULTS AND DISCUSSIONS

The findings of this study will be discussed in close reference to the research question. Research question: Do word recognition instruction and visual aids have significant effects on the ESL primary school learners' vocabulary achievement.

The scores obtained by the research participants were collected and analysed and compared using SPSS Software Version 23 to determine whether the treatment (word recognition instruction and visual aids) was effective. To be more precise, the experimental and control groups' pre-test results were compared using independent sample t-Test.

The results indicated that there was no statistically significant difference in the means of the experimental group (M=52.92) and control group's (M=51.08) scores. Additionally, there was a 1.84-point difference in the mean score. This indicates that the experimental and control

groups had equal levels of vocabulary mastery prior to the treatment. Thus, the post-test results were also compared using the independent sample t-Test. The comparison of means between the two groups involved in this study is illustrated in Table 2.

Table 2. Descriptive Statistics of Experimental Group and Control (Pre-Test)

GROUP	N	Mean	Std. Deviation	Std. Error Mean
CONTROL	25	51.0800	6.87944	1.37589
EXPERIMENTAL	25	52.9200	7.10587	1.42117

According to Table 2, there was no significant difference between the pre-test's means for the experimental and control groups. The experimental group's mean was 51.08, while the control group's mean was 52.92. Thus, both the experimental and control groups were homogeneous prior to the intervention being carried out in this study as a treatment.

Table 3. The Results of Independent Samples t-Test in Pre-Test.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MAR	Equal variances assumed	.030	.862	.930	48	.357	1.84000	1.97808	5.81720	2.13720
KS	Equal variances not assumed			.930	47.930	.357	1.84000	1.97808	5.81730	2.13730

The data in Table 3 show that there was no significant difference in pre-test scores between the experimental and control groups, indicating that the two groups were homogeneous prior to the intervention (p-value=0.357>0.05).

On the contrary, the experimental group's post-test results were statistically significant compared to the control group. Table 4 compares the analyses performed on the experimental and control groups during the post-test.

Table 4. Descriptive Statistics of Experimental Group and Control (Post-Test)

PARTICIPANTS	N	Mean	Std. Deviation	Std. Error Mean
CONTROL	25	53.3600	8.27083	1.65417
EXPERIMENTAL	25	70.9200	6.76338	1.35268

Table 5. The Results of Independent Samples in Post-test

		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MAR	Equal variances assumed	.726	.398	8.218	48	.000	17.56000	2.13682	21.85636	13.26364
KS	Equal variances not assumed			8.218	46.180	.000	17.56000	2.13682	21.86074	13.25926

According to Table 4 and Table 5, the mean of the marks acquired by the experimental group is 53.36, whereas the mean obtained by the control group is 70.90. A substantial difference (17.54) between these two means indicates that the experimental group outperformed the control group in the post-test after being taught using word recognition instruction and visual aids, thus answering the first research question. Besides, the results of the independent *t-test* ($t = 0.000$, $P < 0.05$) indicate that there was a significant difference between the experimental and control groups' mean scores in the post-test of vocabulary test.

By comparing the means of the two groups, it is clear that the intervention implemented in this study on the experimental group improved the learners' vocabulary performance. To determine the significance of the mean differences between the two groups, an Independent Samples T-Test was used to test hypothesis one, which stated that students in the treatment group who received word recognition instruction and visual aids achieved significantly higher levels of vocabulary achievement than students in the control group who did not receive treatment.

When the independent samples T-test was run on the statistical data, the findings indicate that there were no significant differences in the pre-test scores for the experimental and control groups. This reflects the fact that the first scores for both groups demonstrated there was no statistically significant difference in terms of the mean score. On the other hand, the mean difference (17.54) in post-test scores between the experimental and control groups was significant. Hence, the difference between the means of the experimental and control groups is substantial. The researchers infer from these findings that the teaching and learning of using word recognition instruction and visual aids considerably aided the experimental group's vocabulary learning. Thus, the study's research hypothesis is rejected. Pupils in the treatment group who received word recognition instruction and visual aids achieved considerably greater levels of vocabulary achievement than pupils in the control group who did not receive treatment.

The experimental group's scores suggest that the intervention employed in this research had a beneficial effect on their vocabulary performance. This result is consistent with previous studies

(Hamada & Koda, 2008; Rosenthal & Ehri, 2008). The researchers utilised word recognition instruction in these studies, including vocabulary abilities such as spelling and pronouncing words. The statistical evidence demonstrates that phonological information extraction is a critical component of acquiring and remembering vocabulary in a language session (Hamada & Koda, 2008). Additionally, Rosenthal & Ehri (2008) reinforce the efficacy of word recognition training in vocabulary teaching and learning by stating that word recognition increases students' recall for pronunciation and understanding of meanings, particularly in learning new vocabulary items.

In addition, based on the statistical data of this study, the use of visual aids was effective in teaching vocabulary in the experimental group. This is emphasised by Lai (2019), who said that visual aids offer a fresh viewpoint for learners by allowing them to internalise and understand words via the use of visuals, thus increasing retention. Next, according to (Bates & Son, 2020), using images as a teaching tool can help students recall more, be more amazed, be more interested, and be more concentrated at various levels of language learning. Dakhi & Maritha (2018) discovered that the usage of visuals dramatically increased pupils' vocabulary achievement. According to Harmer (2006), media can be utilised to explain language meaning and contraction, engage students in a topic, or serve as the foundation for an entire activity. For ESL learners, pictures are extremely beneficial in the teaching and learning process because it creates a dynamic and lively classroom environment, which encourages pupils to be highly motivated and have a good time during the lesson. Additionally, the teacher should establish conditions conducive to teaching vocabulary. To summarise, language acquisition can be facilitated by using relevant images that aid pupils in memorising new vocabulary or structures.

4. CONCLUSION

In conclusion, this study examined the effectiveness of two strategies for improving vocabulary achievement among the research participants, who were Year 4 ESL students in a Malaysian primary public school. The present study's findings indicate that when visual aids and word recognition instruction are combined, students' ability to recall vocabulary improves and helps them use the vocabulary in variety of contexts. Previous literature also supports the findings of this study. This research demonstrates how the combination of the two methods may aid learners in successfully acquiring and utilising language particularly vocabulary acquisition. In other words, the usage of word recognition instruction and visual aids are effective to be used in vocabulary instruction. This study provides a new insight to ESL teachers to plan and carry out their teaching and learning activities focusing on vocabulary acquisition.

This study has focused on both word recognition instruction and visual aids to help Year 5 Malaysia primary learners to acquire vocabulary focusing on the topic of action verbs. There are some limitations of this study. Firstly, this study did not study the teacher's skills and knowledge in conducting vocabulary instruction using word recognition technique and visual aid, which may impact the teaching and learning. Hence, future research is recommended to give attention to this aspect. Furthermore, this study only involved a group of research participants (Year 5 ESL learners) and thus the results may only be relevant to this group of learners. Future studies may investigate the effects of using word recognition instruction and visual aids to teach vocabulary to different groups of learners such as preschool children or secondary school students.

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REFERENCES

- Blachman, B. A., & Tangel, D. M. (2008). *Road to reading: A program for preventing and remediating reading difficulties*. Paul H. Brookes Pub. Co.
- Blachowicz, C. L., & Fisher, P. R. (2004). Vocabulary lessons. *Educational Leadership*, 61(6), 66.
- Boualleg, R. (2016). *The use of pictures in teaching vocabulary in EFL middle school classes* [Mohamed Kheider University of Biskra]. <http://archives.univ-biskra.dz/bitstream/123456789/8814/1/a133.pdf>.
- Çelik, S., & Toptaş, V. (2010). Vocabulary learning strategy use of Turkish EFL learners. *Procedia - Social and Behavioral Sciences*, 3, 62–71. <https://doi.org/10.1016/j.sbspro.2010.07.013>
- Chai, Z. F., & Swanto, S. B. (2020). The effects of environmental problem-based learning method on Malaysian primary ESL learners' vocabulary achievement. *Indonesian TESOL Journal*, 2(1), 59–70. <https://doi.org/10.24256/itj.v2i1.1086>
- Chwo, S.-M. G., Marek, M. W., & Wu, W.-C. V. (2016). Curriculum integration of MALL in 11/12 pedagogy: perspectives on research. *Journal of Educational Technology & Society*, 19(2), 340–354.
- Dakhi, S., & Maritha, E. (2018). The effectiveness of picture: an empirical evidence in vocabulary mastery. *JET (Journal of English Teaching)*, 3(3), 163. <https://doi.org/10.33541/jet.v3i3.757>
- Fuchs, D., Compton, D. L., Fuchs, L. S., Bouton, B., & Caffrey, E. (2011). The construct and predictive validity of a dynamic assessment of young children learning to read: implications for RTI frameworks. *Journal of Learning Disabilities*, 44(4), 339–347. <https://doi.org/10.1177/0022219411407864>
- Hamada, M., & Koda, K. (2008). Influence of first language orthographic experience on second language decoding and word learning. *Language Learning*, 58(1), 1–31. <https://doi.org/10.1111/j.1467-9922.2007.00433.x>
- Han, F. (2015). Han, F. (2015). Word recognition research in foreign language reading: A systematic review. University of Sydney Papers in TESOL, 10, 57-91. *University of Sydney Papers in TESOL*.
- Harmer, J. (2006). *The practice of English language teaching* (3. ed., completely rev. and updated, 8. impr). Longman.
- Jeon, E. H. (2009). *Effects of repeated reading on L2 reading fluency and comprehension*. Northern Arizona University.
- Kee, L. L., & Ting, J. C. W. (2019). Using vocabulary journals to improve vocabulary learning among primary school pupils in Malaysia. *Journal of English Education*, 4(2), 108–120. <https://doi.org/10.31327/jee.v4i2.1111>
- Lai, Y. H. (2019). *Journal of Kao Ying Industrial & Commercial Vocational High School*. 1–5.
- Lau, S., Joshi, N., & Pang, M. F. (2021). Visual instruction to enhance teaching of technical subject to design students. *International Journal of Art & Design Education*, 40(1), 165–183. <https://doi.org/10.1111/jade.12343>
- Lee, B. C., Pandian, A., Rethinasamy, S., & Tan, D. A. L. (2019). Effects of PWIM in the ESL classroom: vocabulary knowledge development among primary Malaysian learners. *3L The*

- Southeast Asian Journal of English Language Studies, 25(4), 179–197.
<https://doi.org/10.17576/3L-2019-2504-11>
- McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-based inquiry* (7th ed). Pearson.
- Melek, Y., Alparslan, & Akcayoglu, M. (2020). *Investigating the importance level and utilization of vocabulary learning strategies among turkish efl learners*.
- MOE. (2015). *Standard-based Curriculum and Assessment Document Year 6*. Putrajaya :Curriculum Develop Vision.
- MOE. (2020). *Standard-based Curriculum and Assessment Document Year 5*. Putrajaya :Curriculum Develop Vision.
- Mutya, S., & Isyam, A. (2013). Teaching vocabulary to elementary school students through coloring pictures activity. *Journal of English Language Teaching*, 1(2), 464–471.
<https://doi.org/10.24036/jelt.v1i2.1983>
- Nagy, W., Berninger, V. W., & Abbott, R. D. (2006). Contributions of morphology beyond phonology to literacy outcomes of upper elementary and middle-school students. *Journal of Educational Psychology*, 98(1), 134–147. <https://doi.org/10.1037/0022-0663.98.1.134>
- Narinasamy, I., Mukundan, J., & Nimehchisalem, V. (2013). The use of progressives among Malaysian ESL learners. *English Language Teaching*, 6(11), p39.
<https://doi.org/10.5539/elt.v6n11p39>
- Ong, C. S. B., & Rahim, H. A. (2021). Analysis of light verb construction use in L1 and L2: Insights from British and Malaysian student writing. *Teaching English as a Second Language Electronic Journal (TESL-EJ)*, 25(2). <https://tesl-ej.org/pdf/ej98/a1.pdf>
- Richards, J. C., & Renandya, W. A. (Eds.). (2013). *Methodology in language teaching: An anthology of current practice* (1st publ., 17. print). Cambridge Univ. Press.
- Rosenthal, J., & Ehri, L. C. (2008). The mnemonic value of orthography for vocabulary learning. *Journal of Educational Psychology*, 100(1), 175–191. <https://doi.org/10.1037/0022-0663.100.1.175>
- Sadeghi, K., & Farzizadeh, B. (2012). The relationship between multiple intelligences and writing ability of Iranian EFL learners. *English Language Teaching*, 5(11), p136.
<https://doi.org/10.5539/elt.v5n11p136>
- Shokrpour, N., Mirshekari, Z., & Moslehi, S. (2019). Learning vocabulary electronically: does computer assisted language learning (CALL) instruction have any impacts on Iranian EFL learners? *Cogent Education*, 6(1). <https://doi.org/10.1080/2331186X.2019.1702827>
- Tarkashvand, Z. (2015). Male learners' vocabulary achievement through concept mapping and mind mapping: differences and similarities. *Educational Research and Reviews*, 10(7), 790–798.
- Wileman, R. E. (1993). *Visual communicating*. Educational Technology Publications.
- Wolf, M., & Katzir-Cohen, T. (2001). Reading fluency and its intervention. *Scientific Studies of Reading*, 5(3), 211–239. https://doi.org/10.1207/S1532799XSSR0503_2
- Yassin, B. (2012). The academic effects of learning styles on ESL (english as a second language) students in intensive English language centers. *Graduate Theses and Dissertations*. <https://scholarworks.uark.edu/etd/614>