

**THE EFFECTIVENESS OF USING SEMANTIC
MAPPING FOR VOCABULARY DEVELOPMENT
TO IMPROVE READING COMPREHENSION
ABILITY AMONG YEAR FIVE PUPILS**

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**THE EFFECTIVENESS OF USING SEMANTIC MAPPING FOR VOCABULARY
DEVELOPMENT TO IMPROVE READING COMPREHENSION ABILITY
AMONG YEAR FIVE PUPILS**

THIRUCHELVY A/P THIRUVALUVER

**THIS DISSERTATION IS SUBMITTED IN FULFILMENT OF THE
REQUIREMENT OF THE DEGREE MASTER IN EDUCATION (TESL)
(MASTER BY MIXED MODE)**

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SULTAN IDRIS EDUCATION UNIVERSITY**

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ABSTRACT

This study aimed to investigate the effectiveness of using semantic mapping to develop pupils' vocabulary development to improve their reading comprehension ability. The instruments used in this study was adapted from Word Association Test (WAT), Vocabulary Size Test (VST) and a reading comprehension test prepared by the Selangor Education Department. A total of 30 Year five pupils from a primary school in a district of Klang participated in this study. This quasi-experimental research design involved one experiment group. Pupils were given a pre-test and post-test on reading comprehension, VST and WAT. It was analysed using paired sample t-test and Pearson's correlation coefficient. The t-test result on WAT was statistically significant with a p-value of .00 ($p < 0.05$). The t-test result on VST 1000 was statistically significant with a p-value of .00 ($p < 0.05$). However, the t-test result on VST 2000 was not significant as the results were .842 ($p < 0.05$). Similar results were obtained from VST 3000. The t-test results on VST 3000 was not significant with the p value of .816 ($p < 0.05$). The Pearson's correlation coefficient results showed that there was a significant relationship between the pupils' vocabulary size and pupils' reading comprehension ability with a p-value of .009 ($p < 0.05$). The correlation coefficient also showed that there was a significant relationship between vocabulary depth and reading comprehension with a p-value of .007 ($p < 0.05$). In conclusion, it shows that the use of semantic mapping has a positive effect on pupils' reading comprehension ability. The implication of study shows that the use of semantic mapping can develop vocabulary which improves reading comprehension ability.





KEBERKESANAN PENGGUNAAN PEMETAAN SEMANTIK TERHADAP PENINGKATAN PERBENDAHARAAN KATA UNTUK MENINGKATKAN TAHAP KEBOLEHAN DAN KEFAHAMAN BACAAN DALAM KALANGAN MURID TAHUN LIMA

ABSTRAK

Kajian ini bertujuan untuk meneroka keberkesanan penggunaan pemetaan semantik terhadap peningkatan perbendaharaan kata yang diperlukan untuk memahami teks bacaan. Instrumen yang digunakan dalam kajian ini telah diadaptasi dari ujian hubungan perkataan (WAT), ujian perbendaharaan kata (VST) dan ujian pemahaman bacaan yang ditetapkan oleh Jabatan Pendidikan Selangor (JPS). Pendekatan kuantitatif dengan reka bentuk kuasi eksperimen digunakan dalam kajian ini. Kuasi eksperimen yang dipilih untuk kajian ini ialah satu kumpulan reka bentuk eksperimen. Sejumlah 30 murid tahun 5 dari sebuah sekolah di daerah Klang dipilih menggunakan kaedah pensampelan bertujuan. Murid-murid tersebut diberi satu pra-ujian pemahaman bacaan, VST dan WAT. Data dianalisis menggunakan ujian T, statistik deskriptif dan korelasi Pearson. Penemuan kajian menunjukkan bahawa terdapat peningkatan dalam kebolehan dan kefahaman bacaan dalam kalangan murid selepas penggunaan pemetaan semantik. Keputusan ujian WAT menunjukkan bahawa penggunaan pemetaan semantik meningkatkan kefahaman perkataan pada nilai p sebanyak .00 ($p < 0.05$). Keputusan ujian VST juga menunjukkan bahawa penggunaan pemetaan semantik meningkatkan saiz perbendaharaan kata untuk tahap 1000 perkataan pada nilai p sebanyak .00 ($p < 0.05$). Walau bagaimanapun, pemetaan semantik tidak menunjukkan peningkatan pada tahap 2000 perkataan yang memperolehi nilai p sebanyak .842 ($p < 0.05$) dan tahap 3000 perkataan yang memperolehi nilai p sebanyak .816 ($p < 0.05$). Keputusan korelasi Pearson menunjukkan bahawa terdapat hubungan yang signifikan antara ukuran perbendaharaan kata pada tahap 1000 dan kefahaman bacaan yang memperolehi nilai p sebanyak .009 ($p < 0.05$). Terdapat juga hubungan yang signifikan antara pengetahuan perkataan dengan kefahaman bacaan murid yang dapat dilihat melalui nilai p yang diperolehi sebanyak .007 ($p < 0.05$). Kesimpulannya, kajian ini menunjukkan bahawa pemetaan semantik mempunyai kesan positif terhadap tahap kefahaman bacaan murid. Implikasi kajian ini membuktikan bahawa pemetaan semantik dapat mengembangkan perbendaharaan kata yang diperlukan untuk kebolehan kefahaman bacaan.





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LIST OF ABBREVIATIONS

DBP	Dewan Bahasa dan Pustaka
DSKP	Dokumen Standard Kurikulum dan Pentaksiran
EFL	English as a Foreign Language
ESL	English as a Second Language
ESOL	English as Speakers of Other Languages
EPT	English Proficiency Test
JPS	Selangor State Education Office
MOE	Ministry of Education
MOHE	Ministry of Higher Education
NICHD	National Institute of Child Health and Human Development
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Students' Assessment
RC	Reading comprehension
UPSR	Primary School Achievement Test
VLT	Vocabulary Level Test
VST	Vocabulary Size Test
WAT	Word Association Test



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CHAPTER 1

INTRODUCTION



1.0 Introduction

The education system in Malaysia is governed by the Ministry of Education (MOE). The Ministry is responsible of the development of education in the country. The education system consists of six levels; the pre-school, lower primary school, upper primary school, lower secondary school, upper secondary and tertiary education.





The focus of this research is on the upper primary school. However, the lower primary school education is also discussed because it is a transition to the upper primary school education. Children ranging from 7 to 12 years of age attend primary school and the MOE made it mandatory for children to attend primary school in an attempt to eradicate illiteracy among citizens of Malaysia.

Public primary schools are divided into two categories based on its medium of instruction. The first category is the National Primary School or the Sekolah Kebangsaan (SK) and the second category is the vernacular schools or the Sekolah Jenis Kebangsaan Cina SJK(C) and Sekolah Jenis Kebangsaan Tamil SJK (T). The medium of instruction of the national primary school is Bahasa Melayu and English is taught as a second language. On the contrary, in the vernacular schools, the medium of instruction is Chinese and Tamil respectively while Bahasa Melayu and English are taught as compulsory subjects in the vernacular schools.

English is a compulsory subject regardless of the type of school. Much emphasis is given to the English language as it is the gateway to acquire information that is written in English (DSKP Year 1, 2 & 3, Ministry of Education, 2011). In view of its importance, teachers are required to teach pupils the listening, speaking, reading and writing skills along with language arts and grammar (DSKP, 2011). Grammar is integrated in the four language skills and the curriculum further place the importance on the development of literacy and critical literacy. This is to ensure that pupils have a solid foundation in literacy when they enter secondary education.





The National Reading Panel Report (National Institute of Child Health and Human Development [NICHD], 2000) listed five essential components needed for effective reading. These five components are phonemic awareness, phonics, fluency, vocabulary and comprehension. In order to be proficient in reading comprehension, these components of reading must be mastered.

Phonemic awareness is considered to be a high priority skill for learning to read written words. It is the ability to manipulate language at the phoneme level (Hoover, SEDL Letter, 2002). Children have to be aware of the sound system and how it works before they learn how to read (Armbruster et al., 2001). Phonemes are the smallest parts of sound in a speech. This means if a phoneme is changed, the meaning of the word will change as well. For example, the word 'hop'. If the last phoneme /p/ is changed to /t/, the sound changes from 'hop' to 'hot' and the meaning will change as well.

Phonics is the relationship that exists between letters in a word and the sounds produced by them (Kessler & Treiman, 2001). Phonemic awareness is the ability to manipulate the language whereas phonics is the decoding of words through the sound they make. It is impossible to decode words if there is difficulty in identifying the sounds each letter produces. However, not all words sound the same. There are regular words which pupils can identify the letters and pronounce them out loud but there are also irregular words that do not sound the same as the spelling and these words cannot be decoded by just pronouncing them (Kosanovich et al., 2007).





The English language is complex and children who are learning English as a second language (ESL) need to be exposed to the language and allowed to listen to materials such as newspaper reading, listening text provided with the textbook or videos that have rich input in English (MOE, 2011). This is further supported by Skibbe et al. (2015) who claims that phonics should be taught systematically where the pupils have to sound out and then read out words. This is consistent with Ehri (2004) who claims that seeing the word triggers its pronunciation. According to Ehri, words with no sound does not retain in the brain's memory as much words with sound. This clearly shows the strong relationship between letters and sounds. Without phonics instruction in reading, pupils will face difficulties in comprehending text (Armbruster et al., 2001). Therefore, it is clear that phonics instruction is important to enable children to become independent readers (Ministry of Education, 2011; Hulme et al., 2012) and it is beneficial in teaching children to read (Clark, 2013).



Fluency is the ability to read a text with speed, accuracy and expression (Rasinski, 2006). It can only be achieved after the pupils have mastered phonemic awareness and phonics (Ruskey, 2011). It is essential to read as it plays a vital role in reading success (Rasinski, 2004). Fluency is important because without proper speed and accuracy the pupils will not be able to make sense of the text. Pupils who take a long time to decode a word tend to struggle with the meaning of the words that are in the text and this in turn leads to the inability of comprehending the text (Cotter, 2012). Fluency is considered as the ability to read with speed. However, speed alone is not sufficient to become an effective reader. A pupil who reads fast with no proper expression of words and accuracy cannot be considered a fluent reader. Additionally, a





pupil who reads accurately with proper expression cannot be termed as fluent reader if it is not read at a considerable speed (Cotter, 2012). Therefore, fluency instructions must be taught in order to help children to become independent readers.

Vocabulary plays a crucial role in reading. It is regarded as the most significant factor in reading comprehension (Biemiller, 2003; Laflamme, 1997). The development of vocabulary involves the process of learning new words which is much needed to learn a language (Weiser, 2013). Joshi (2005) believes that there is a salient connection between vocabulary and comprehension as pupils who have poor vocabulary will not be able to comprehend a text. Stanovich (1986) came up with the ‘Matthew Effect’ theory in reading which refers to the rich getting richer and the poor getting poorer.



Stanovich related this effect to reading by arguing that the more pupils read the richer their vocabulary development will be and this will develop their reading skills. In contrast the lesser they read the poorer their vocabulary development and this in turn leads them to become poor readers (Cunningham & Chen, 2014). Thus, vocabulary instruction should be conducted to prevent the Matthew Effect from occurring as lesser reading leads to slower growth of vocabulary and this hinders the development of reading (Cunningham & Chen, 2014; Cain & Oakhill, 2011). Therefore, by providing pupils with vocabulary instruction, positive effects on reading comprehension can be achieved (Kame’enui & Baumann, 2012).





Comprehension is the last component in reading and reading comprehension is an interactive process. Pupils react to the text and comprehend the meaning of the words they read using their previous knowledge of vocabulary (Muhammad Javed et al., 2015). So, in order to comprehend a text, pupils must use their previous knowledge. However, at times pupils do encounter words that they do not recognize. When this happens, they will have to use their prior knowledge together with the information provided in the text to make new knowledge (Safitri, 2016). According to Torgesen (2000) word recognition plays a vital role in reading comprehension. He claims that children with poor word recognition skills are unable to read and therefore unable to understand the reading text. Wagner and Ridgeway (2009) suggests that children's inability in comprehending reading text is connected to their inability to decode words. However, Perfetti, Landi and Oakhill (2005) state that reading comprehension is not limited to the ability of decoding words but also the knowledge of meaning of words.

Comprehension plays a pivotal role in later stages of education (Sweet & Snow, 2003) because it is the basis for further learning (Butler et al., 2010). Reading comprehension is much needed for learning as it provides the knowledge one needs. Therefore, teachers have to use applicable and dynamic reading strategies to enhance reading comprehension (Brown, Armbruster & Baker, 1986).

Sanusi (2009) claims that there are several techniques in teaching vocabulary. The three techniques suggested are (1) visual techniques (2) verbal techniques and (3) use of dictionary in class. Sweeny and Mason (2011) suggest that vocabulary learning





must involve cognitive skills and they proposed ten active learning strategies that teachers can use to teach vocabulary. The ten strategies are (1) reading (2) writing (3) listening (4) discussing words and language (5) acting out words (6) visual imagery (7) classifying words by parts of speech (8) semantic word mapping (9) semantic feature analysis and (10) morphemic analysis.

From the above it is evident that in order to master reading comprehension pupils must be able to recognise the sound of each letter, understand the relationship between letters of a word and the sound, able to read with speed, accuracy and proper expression as well as learn and acquire a vast amount of vocabulary. Pupils in the early stages of schooling (Year One to Year Three) should master the phonemic awareness through phonics and fluency with appropriate amount of vocabulary. From Year Four onwards more attention should be given to vocabulary and reading comprehension. This is clearly stated in the curriculum specification (MOE, 2011).

1.1 Background and Justification

According to the Malaysia Education Blueprint (2012) all students have to develop their inquiry skills and practice lifelong learning. Students should also be able to make connection to previous knowledge as well as make new knowledge. Despite its





importance to lifelong learning and academic growth, reading is still a problem among students all over the world (OECD, 2010). Results from the international students' assessment programme shows that this is an ongoing crisis. The Malaysian Education system (MOE) recognises the importance of reading and therefore took the initiative to take part in the Programme for International Students' Assessment (PISA).

PISA is an assessment for students aged 15 and 16 years old and it assess students on three subjects; reading, maths and science (Amnah Abdullah & Peters, 2015). It is conducted once every three years. In 2015, over half a million of 15 year - old students sat for the test. This two-hour test represents the level of Science, Mathematics and Reading of 28 million students from 72 countries and economies. In 2009, countries like Indonesia, Thailand and Brazil had a mean score lesser than the Organisation for Economic Co-operation and Development (OECD) average for reading (OECD, 2010). Malaysia, in 2009 had a mean score of 414 and this is below the OECD average which was at 493. In the year 2012, 74 countries participated in PISA and Malaysia ranked in the bottom three out of those 74 countries with a mean score of 398 (OECD,2014). The OECD mean score was 496. There were 0.1% advance readers in Malaysia whereas the OECD average is 8% (Malaysia Education Blueprint 2013 – 2025). These statistics show that Malaysians need to improve their reading skills.

Many research on reading comprehension shows that second language learners (L2) face difficulties in reading (Medjahdi, 2015). There are several problems faced by





L2 learners in reading. Medjahdi states that vocabulary is the main problem which leads to reading inability. It is found that even native speakers in the United States face difficulties in reading. The US Department of Education reported that around 30 million adults aged 16 and above could not fill up their job application as they had poor literacy skills (Sanford, 2015). Recently, a research conducted by Shehu (2015) in Albania shows that students who were good in phonics still had difficulties in reading comprehension. Similarly, in Indonesia, graduates in general are unable to use the English language fluently and encounter problems pertaining to reading (Shehu, 2015). It is also reported that junior high school students are performing unsatisfactorily in reading comprehension (Wibisana, 2011). This is further supported by a research conducted by Zuhana Mohd Zin, Wong and Shameem Rafik-Galea (2014). They conducted a research on Critical Reading Ability and its Relation to L2 Proficiency of Malaysian ESL learners. It was concluded in their research that the reading development practices for students in Malaysian schools do not prepare them for academic reading at the university level and students were unable to read and think critically. The mastery of the reading skills is vital because the primary cause for poor academic performance in South Africa is the unsatisfactory level of reading comprehension (Cekiso, 2012). It is clear that reading is important for academic success (Puteri Rohani Megat Abdul Rahim et al, 2017; Bernhardt, 2011; Alvermann & Earle, 2003). It is also clear that reading is a common problem in many parts of the world. Past studies as well as results from the PISA and OECD support this claim.





1.2 Problem statement

Reading is considered the most important skill to be mastered (Mwanamukubi, 2013) to determine one's academic success (Alvermann & Earle, 2003; Bernhardt, 2011; Puteri Rohani Megat Abdul Rahim et al, 2015). However, there are many students who face problem with reading. According to Medjahdi (2015) students often have problem with reading comprehension because they lack vocabulary knowledge. She claims that students who have larger vocabulary are able to comprehend reading text easily. This shows that inability to comprehend texts is caused by the lack of vocabulary. Students often give irrelevant answers when they do not understand a particular text. Therefore, vocabulary knowledge is important in understanding a text (Nezami & Raihan, 2012).

Hu and Nation (2000) in their research have put forth a claim that reading comprehension and vocabulary knowledge have a relationship that is both multifaceted and dynamic. They state that reading comprehension and vocabulary knowledge have effects on each other. In other words, vocabulary knowledge affects reading comprehension and reading comprehension affects vocabulary knowledge.

In 2008, Mando claims that primary school students have reading difficulties because of their inability to recognise words needed for decoding a reading text. On the contrary, Ojanen (2007) asserts that reading difficulties amongst students are caused by inadequacy in teaching reading comprehension. Mwanamukubi (2013) claims that teachers do not pay attention to the different students' needs in the classroom. She states that teachers use one method to teach all children regardless of their proficiency level.





Teachers may have all the required materials needed for teaching reading comprehension but their incompetency in providing for the poor readers will halt any improvement in students' reading skills (Kalindi, 2005). Besides, teachers' incompetency, there are also the problem of inadequate reading materials as well as teachers over-working that contribute to problems in teaching reading comprehension (Kalindi, 2005).

In answering open ended comprehension questions students tend to lift complete sentences from text when they do not know how to paraphrase. Paraphrasing strategy increases reading comprehension (Hagaman & Reid, 2008) and insufficient vocabulary and grammar hampers successful paraphrasing (Choy & Lee, 2012). This clearly shows that students lift answers from the passage when answering questions because of their insufficient vocabulary knowledge needed for paraphrasing.

According to Salah (2008) there is a significant correlation between known words and comprehension score. In his study on 'The relationship between vocabulary knowledge and reading comprehension of authentic Arabic texts' it was evident that the higher the percentage of known words, the higher the comprehension score. He conducted this study on 23 Arabic as foreign language learners (EFL). These students were exposed to two reading passages and an analysis was conducted to investigate the relationship between known words and their comprehension score. From the analysis, it was found that a 62.5%-word knowledge does not guarantee any comprehension of a text. Students in the study who had a 70%-word knowledge showed no comprehension





of text and they scored 0 out of 20 points in the test given. This proves that vocabulary knowledge is needed in order to comprehend text and answer reading comprehension questions.

According to Danga (1999) ESL readers' major problem are their inadequate vocabulary and grammar. Danga conducted a study on proficient and low proficient Malaysian ESL readers. The researcher employed think-aloud technique to investigate the use of reading comprehension strategies on comprehension of text. They were then tested by oral retelling. The results of the research showed that proficient readers had a higher comprehension level than the low proficient readers. Through qualitative analysis, the researcher found that insufficient vocabulary knowledge and grammar was a problem among low proficient readers.

Shamini Balakrishnan (2013) conducted a study entitled 'Extensive reading and its impact on students' comprehension, vocabulary and reading attitude'. This study was conducted on 30 Year Five Malaysian ESL learners. The participants were chosen based on their final year examination results. The researcher stated that pupils' lack of vocabulary knowledge was one of the causes they were unable to comprehend the given text and therefore unable to answer reading comprehension questions. The researcher used extensive reading strategy. 12 sessions of extensive reading were conducted. The results of the post- test showed that after extensive reading, pupils' comprehension level as well as their vocabulary knowledge increased.





Chang, Lin and Abdul Rashid Mohamed (2014) recently conducted a research on 'Benchmarking Year Five students' reading abilities. This research was conducted to develop a set of indicators to inform ESL teachers about students' ability in reading comprehension. It was conducted on 788 primary students in a district in Malaysia. The results of the reading performance were categorised into three groups which are below expectations; meets expectations and exceed expectations. Out of the 788 pupils only one pupil achieved Band 6 and exceeded the expectation of the reading performance. 770 pupils were below expectations and achieved Band 1 to Band 3.

Lin, Abdul Rashid Mohamed and Shaik Abdul Malik Mohamed Ismail (2016) conducted a research on 'Systematic tracking of Malaysian primary school students' ESL reading comprehension performance to facilitate instructional processes'. This research was conducted to track and to benchmark upper primary school pupils' reading comprehension ability. It was conducted on 1514 Year Five students in a northern state in Malaysia. Pupils in this research were from both rural and urban schools. The reading performance was categorised into four categories which are below standards, meets standards, exceed standards and academic warning. Based on the results of the research, it was concluded that most of the students were in the 'below standards' and 'academic warning' level. A total of 1133 pupils were in the 'below standard' and 'academic warning' which is equivalent to 75% of the participants. The researchers have calculated the scores and have come up with the level of reading comprehension for Year Five pupils. According to the researchers, Year five pupils should achieve Band 3 which will indicate that they have meet the standards of reading comprehension. Only





264 pupils met the standard and 114 pupils exceeded the standard as they achieved Band 4.

Dara (2019) conducted a research on 'Investigating English Reading Comprehension Problems of Cambodian High School Students'. The research was conducted on 223 high school students and six English teachers. The results of the study showed that lack of language knowledge was one of the problems students had with reading comprehension. This was further supported by Ganie and Rangkuti (2019) who conducted a research on 'Reading Comprehension Problems on English Texts Faced by High School Students in Medan'. The result of the study showed that one of the main problem students faced was caused by their poor basic English ability.



Results from past studies are in line with the PISA results of Malaysian students in the year 2009 and 2012. Malaysian students were not able to achieve the OECD average. In 2012, there were only 0.1% of advanced readers whereas the OECD average was 8%. Based on previous studies, it shows that there is a need to investigate development of vocabulary for reading comprehension. For the purpose of the study the researcher has opted to investigate the development of vocabulary for reading comprehension through the use of semantic mapping. This is because, most of the research using semantic mapping has been conducted on secondary and university undergraduates. Nevertheless, problem with reading comprehension starts from primary school. Therefore, conducting a study on the use of semantic mapping on





primary school pupils would enhance its reliability in improving reading comprehension ability.

1.3 Research Method

The research was conducted using the quasi-experimental design. This design involves selecting groups, upon which a variable is tested, without any random pre-selection processes (Shuttleworth, 2008). This design is similar to an experimental research except for the randomization of participants. This design is very useful for education research where randomization cannot be done (Ary et al., 2010). For example, when the Principal in school would not allow a researcher to randomly change a student's class for the purpose of a research, the quasi experimental design can be employed.

This research uses a quantitative approach and it involves one class of pupils who are of lower intermediate level. These pupils have similar problems in which they have problems in reading and comprehending texts based on their year-end examination results. The researcher used a one group pre-test post-test design. Hence, the researcher carried out a pre-test, treatment and the post-test procedure. A pre-test of vocabulary size test (VST) was given to find out the vocabulary size of the pupils before the treatment. Pre-test of word association test (WAT) was given to measure the depth of





vocabulary knowledge of Year Five pupils before the treatment. The pre-test of reading comprehension test was given to find out the pupils reading comprehension score before the treatment.

The treatment was given to the pupils is semantic mapping. Post-test of VST was given after the treatment to find out if employment of the treatment increased pupils' vocabulary size. Post-test of WAT was given after the treatment to find out if the treatment increased the depth of vocabulary knowledge and the post-test of reading comprehension was given to find out if the use of semantic mapping indirectly increased pupils' vocabulary and reading comprehension abilities. The participants of this study are from an all-girl school in the district of Klang, Selangor. The school is located in an inner-city area and students of this school mostly live in the nearby area. Therefore, the socioeconomic status of the students is considered to be low.

1.4 Significance of the Research

This research is conducted to help teachers and students understand the importance of vocabulary teaching and learning and how it affects reading comprehension ability. Mastery of a language is significantly difficult for second language learners without mastery of its vocabulary (Mofareh Alqahtani, 2015). This research will help teachers





understand that through the teaching of vocabulary, students' reading comprehension ability can be improved. Vocabulary is also needed for effective communication in the classroom. There will be little to no participation in class if students are not exposed to new words often because vocabulary is needed for classroom talk (Anglin et al., 1993).

The result of this study can benefit English language teachers. This is because if the current study yields positive results, English language teachers can use this strategy to improve their students' vocabulary. As mentioned earlier, vocabulary is strongly associated with reading comprehension, therefore, by improving students' vocabulary, teachers can improve their reading comprehension ability as well.



The findings of this study will also benefit pre-service teachers because it will assist them in showing what problems to look for in students and how to help them with their vocabulary knowledge. Pre-service teachers are student teachers who have not been exposed to school children. These teachers have the knowledge of theories but do not have the first-hand experience. Therefore, this study will be of help to them to decipher problems related to vocabulary.

This study is important to prove that the teaching of vocabulary can have positive impacts in reading comprehension. Many research have been conducted on vocabulary and reading comprehension and most of the research conducted have positive impacts. These positive impacts, therefore show that vocabulary knowledge is





directly related to comprehension of reading texts. For example, a research conducted by Glende (2013) shows that vocabulary strategies such as direct instruction, using dictionary, watching videos and using words in sentences showed enhancement in reading comprehension. Students who used the vocabulary strategies achieved a higher score in the reading comprehension.

Hadjer (2015) conducted a research on the effects of teaching vocabulary in improving reading comprehension and the results found that vocabulary is important to improve reading comprehension. A research conducted by Sen and Kuleli (2015) showed that there was a positive relationship between the vocabulary size and the reading performance. Similarly, in a research conducted by Harison Mohd Sidek and Hazrimah Ab.Rahim (2015) the researchers found that vocabulary knowledge is important and it determines the success of reading and the lack of previous knowledge on meanings of words were the cause of the inability in comprehending texts.

In contrast, Albrechtsen, Haastrup and Henriksen (2004) state that vocabulary is not the sole determinant of reading performance as there are other external factors that affect reading. In addition to this, Cotter (2012) believes that reading fluency is the determinant of reading success. She states that students who are unable to read fluently will not be able to make meaning of the text.





This study clearly shows that it is therefore necessary to conduct a more extensive research on teaching vocabulary to enhance reading comprehension ability. If more research is conducted on teaching vocabulary for reading comprehension, the effects of such approach will be evident. This will result in a more appropriate teaching strategy which can be employed to enhance vocabulary development among Malaysian students. The writer's internet research indicate that this study appears to be the first of its kind in using semantic mapping strategy for vocabulary development to enhance reading comprehension on Year Five lower intermediate level of proficiency ESL learners.



1.5 Research Objectives

The objectives of the study are:

- a) to investigate how semantic mapping can help pupils to develop their depth of vocabulary knowledge.
- b) to investigate how semantic mapping can develop pupils' vocabulary size at 1000, 2000- and 3000-word level.
- c) to examine the relationship between vocabulary size and reading comprehension abilities.
- d) to examine the relationship between vocabulary knowledge and reading comprehension abilities.





1.6 Research questions

The study is conducted to answer the following research questions:

- i. Does semantic mapping develop pupils' depth of vocabulary knowledge?
- ii. Does semantic mapping develop pupils' vocabulary size:
 - a) At 1000-word level?
 - b) At 2000-word level
 - c) At 3000-word level?
- iii. What is the relationship between vocabulary size and pupils' reading comprehension abilities?
- iv. What is the relationship between vocabulary depth of knowledge and pupils' reading comprehension abilities?





1.7 Research hypotheses

The following are the hypotheses of this study:

Research Question 1:

H₀: Semantic mapping does not develop pupils' vocabulary knowledge.

Research Question 2:

- i. H₀: Semantic mapping does not develop pupils' vocabulary size at the 1000-word level
- ii. H₀: Semantic mapping does not develop pupils' vocabulary size at the 2000-word level
- iii. H₀: Semantic mapping does not develop pupils' vocabulary size at the 3000-word level

Research Question 3:

H₀: There is no significant relationship between vocabulary size and pupils' reading comprehension abilities.





Research Question 4:

H₀: There is no significant relationship between vocabulary depth of knowledge and pupils' reading comprehension abilities.

1.8 Purpose of the Study

The purpose of this study is to investigate the effectiveness of using semantic mapping for vocabulary development to improve pupils' reading comprehension ability. The researcher intends to use semantic mapping to develop pupils' vocabulary size and depth. The researcher will not be teaching reading comprehension. Pupils will not be exposed to any reading comprehension strategies. Through the development of vocabulary, the researcher will discover the relationship between vocabulary knowledge and reading comprehension ability.





1.9 Definition of terms

The following are list of terms that will be used in this study.

a) Vocabulary

Vocabulary is a set of words that is vital in the understanding of sentences (Miller, 1999 as cited in Mukoroli, 2011). Vocabulary is the knowledge of words and its meanings (Butler et al, 2010). Vocabulary can also be classified into two dimensions which are the receptive vocabulary and receptive vocabulary.

Receptive vocabulary is words recognized through listening and reading. Productive vocabulary is the words that is used in speaking and writing. In this study, vocabulary refers to all words that exist in the English language.

b) Vocabulary Size

Vocabulary knowledge have-two dimensions of the receptive vocabulary size and productive vocabulary size. Receptive vocabulary size is the number or words that one recognizes through listening and reading whereas productive vocabulary size is the number of words one uses in speaking and writing from one's background



knowledge (Putra,2009). It is also defined as the number of words and word families that one knows in a particular language (Nebbe, 1999; Schmitt, 2014). In this study, vocabulary size refers to the number of words pupils know in the English language.

c) Vocabulary Depth

Depth of vocabulary knowledge is how well a person knows a word. This includes spelling of the word, synonym of the word, antonym of the word, pronunciation of the word as well as several meanings the word might have (Qian, 1999). In this study, vocabulary depth refers to how well pupils know the meaning of words.

d) Reading Comprehension Ability

Reading comprehension is the ability to read and comprehend a particular text. It involves the process of interacting with the text to make meaning (Kruger, 2008 as cited in Khor, 2014). Reading comprehension is also considered as the process that involves interpreting text and making meaning based on previous knowledge within the context of social that will help readers establish the purpose of reading (Anthony et al., 1989). In this study, reading comprehension ability refers to

pupils' ability to decode individual words and make meaning of the whole reading text.

e) **Teaching Strategy**

Teaching strategy is the method teachers would use in the teaching and learning process. Shinn (1997) states that a teaching strategy is a sophisticated teachers' behaviour that involves the use of techniques and approaches to accomplish educational goals as well as learning objectives. In this study, teaching strategies refers to the use of semantic mapping in teaching vocabulary.

f) **Semantic Mapping Technique**

Dilek and Yuruk (2013) state that semantic mapping technique is a process of making connection and establishing relationships between categories that fit together under one main theme. It is a visual interpretation of written words. Semantic mapping technique also helps in activating background knowledge. In this study, semantic mapping refers to maps of words that visually represent the connections that each word has with each other in terms of meanings and association.



1.10 Limitations of Study

The following are the limitations of the study that should be noted. The first limitation of this study is that the participants of the study are not randomly assigned. Therefore, the results of this research are only applicable to other students who have similar problems which are lower intermediate proficiency and lack of vocabulary knowledge. It will not be able to represent the entire Year Five primary school pupils.

The second limitation of this study is the time constraint. According to Mcleod (2008), extraneous variable is a variable that is not a part of the study but could affect the dependant variable of the study and thus affecting the validity of the results. To minimise extraneous variable effect in this study, the researcher limits the duration of study to only four weeks. The researcher also has to limit the study to four weeks because second term examination in school starts in July. If the study is conducted for more than 4 weeks, it might affect the validity of the results. Besides, the researcher will not be able to control the vocabulary acquisition of students outside the classroom. There are chances for students to acquire new vocabulary without the use of semantic mapping.

The third limitation of this study is the research instrument. The VST and WAT used in this research are shortened to accommodate students' level. The original version of the VST test is inclusive of 140 questions measuring 14000-word families.





However, for the purpose of this study and taking into account participants' proficiency level, only 30 questions which cover 3000-word families were used. The WAT test on the other hand were also shortened and amended to suit the students' proficiency level. The 1998 version of WAT test consists of 40 questions and each question have 8 options. For the purpose of the study, 40 questions were reduced to 25 questions and the 8 options were reduced to 6 options. Therefore, the results obtained from the research instrument cannot be compared with other studies that used these tests.

1.11 Summary



This chapter presents the structure of the thesis in general. It begins with an explanation on how the topic was chosen and moves on to the roles of semantic mapping on vocabulary development to improve reading comprehension. This is then followed by a discussion on the background and justification of the research, problem statement, explaining of the research method, discussion on the significance of the study, and the research objectives and research questions.

In the year 2012, around 74 countries participated in PISA and Malaysia ranked in the bottom three out of those 74 countries with a mean score of 398. The OECD mean score was 496. There were 0.1% advanced readers in Malaysia whereas





the OECD average is 8% (Malaysia Education Blueprint 2013 – 2025). These statistics show that reading is in dire need of help. Based on the PISA results in the year 2012, it can be seen that appropriate teaching strategy must be employed to enhance the competency and proficiency of students' English language mastery. Many research were conducted pertaining to vocabulary and reading comprehension by researchers such as Engku Haliza Engku Ibrahim et al (2016), Li (2015), Harison Mohd Sidek and Hazrimah Ab.Rahim (2015), Glende (2013) and Yildirim et al. (2011) Zhang and Suaini Annual (2008).

Therefore, the researcher intends to conduct a study on the use of semantic mapping technique for vocabulary development to improve reading comprehension abilities. This study is conducted to aid students to acquire word meaning incidentally through indirect exposure to words. It also intends to find out the vocabulary size and depth of Year Five pupils and investigate if there is an underlying relationship between vocabulary size and the ability to comprehend reading texts as well as between vocabulary depth and the ability comprehend reading texts.

The purpose of this study is to investigate the effectiveness of using semantic mapping technique to develop in pupils' vocabulary acquisition and improve their reading comprehension abilities. This study intends to help pupils acquire words incidentally through the use of semantic mapping. It is carried out to examine the relationship between vocabulary size and depth of pupils' vocabulary knowledge and their ability to comprehend reading text. Through the study, the researcher also aims





to develop students' vocabulary knowledge as well as improve their comprehension of text with the acquisition and retention of vocabulary.

This chapter has provided the research method that has been employed by the researcher, definition of terms as well as the limitations of the study. The next chapter discusses the relevant literature on the semantic mapping technique, vocabulary size test (VST) and word associate test (WAT) as well as the theoretical and conceptual framework employed in this study.

