



**UNIVERSITI PUTRA MALAYSIA**

***RECEPTIVE BREADTH AND DEPTH OF VOCABULARY KNOWLEDGE  
AS PREDICTOR VARIABLES OF MUET READING COMPREHENSION  
PERFORMANCE OF MALAYSIAN MATRICULATION STUDENTS***

**YENNY CHEE FONG YEUN**

**FBMK 2016 28**



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**By**

**YENNY CHEE FONG YEUN**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,  
in Fulfilment of the Requirements for the Degree of Master of Arts**

**May 2016**



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## DEDICATION

To my God...

To my mum and dad...



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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment  
of the requirement for the Degree of Master of Arts

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**YENNY CHEE FONG YEUN**

**May 2016**

**Chair : Assoc. Prof. Wong Bee Eng, PhD**  
**Faculty : Modern Languages and Communication**

This study aims to investigate whether Malaysian pre-university students' vocabulary breadth or depth is significantly correlated to their MUET (Malaysia University English Test) reading comprehension scores and to determine a vocabulary breadth threshold level that can assist the learners in comprehending MUET reading component. This is motivated by the issues of less than 7% of candidates managed to obtain Band 5 and 6 in MUET reading component from March 2012 to Nov 2014 and inadequacy of vocabulary which has been repeatedly pointed out by researchers and educators as one of the factors in the unsatisfactory performance of students in their exams. The possibility that lack of vocabulary knowledge may ultimately lead to poor MUET Reading Comprehension results lends credence to the investigation of relationship between learners' vocabulary knowledge and MUET Reading Comprehension. There is still no research on whether breadth or depth of vocabulary knowledge is related to the MUET reading comprehension component among matriculation students, although there have been many studies that investigated how L2 Malaysian learners' vocabulary knowledge can be improved (e.g. Chang, 2011; Kanthimathi & Tan, 2012; Naginder Kaur, 2013b; Ng & Sheila, 2011; Prema & Rycker, 2012; Rafiah, 2008). The sample comprised of 225 matriculation students who had taken the MUET. They sat for Read's Word Associates Test (WAT) Version 4.0 (Read, 1993, 1998) in order to determine their depth of vocabulary knowledge; and Vocabulary Size Test (VST) (Nation & Beglar, 2007) which assessed their breadth of vocabulary knowledge. These test batteries were administered to all the students in one session during their free period in Matriculation College. The findings revealed that: 1) vocabulary breadth itself played a critical role in predicting reading comprehension ability even after controlling for their depth of vocabulary knowledge; 2) compared to vocabulary depth, vocabulary breadth played a relatively more important role in predicting reading comprehension as indicated by the

standardised beta value of 0.92; and 3) learners' vocabulary breadth of 7000 might be sufficient to assist them to score above average (i.e. 56) in the MUET reading comprehension component and this view of threshold is perceived as “probabilistic boundary”. Implications can be drawn from the findings for the Malaysian pre-university ESL classroom in terms of whether vocabulary knowledge is an effective decision-making tool to determine the students' band in reading to prepare them for the MUET.



Abstrak tesis dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sastera

**KELUASAN DAN KEDALAMAN KOSA KATA SEBAGAI PREDIKTOR  
DALAM KEFAHAMAN PEMBACAAN MUET DI KALANGAN PELAJAR-  
PELAJAR MATRIKULASI**

Oleh

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**Mei 2016**

**Pengerusi : Prof. Madya Wong Bee Eng, PhD**  
**Fakulti : Bahasa Moden dan Komunikasi**

Kajian ini bertujuan mengkaji sama ada kedalaman ataupun keluasan kosa kata pelajar prauniversiti di Malaysia mempunyai hubungan yang signifikan dengan komponen pemahaman dalam MUET. Selain daripada itu, kajian ini juga akan mengenal pasti tahap ambang keluasan kosa kata yang dapat membantu pelajar dalam pemahaman. Kajian ini dijalankan kerana terdapatnya isu di mana hanya 7% daripada calon MUET yang memperoleh Band 5 dan 6 dalam komponen pemahaman pembacaan dari Mac 2012 hingga November 2014. Di samping itu, terdapat juga penyelidik dan pendidik yang sering kali mengaitkan kelemahan penguasaan kosa kata dengan kelemahan komponen pemahaman dalam ujian MUET. Hal ini mencetuskan inspirasi kepada hubungan antara penguasaan kosa kata dengan pemahaman dalam MUET. Sehingga kini belum ada kajian yang menyelidik sama ada keluasan / saiz ataupun kedalaman / kualiti perbendaharaan kata yang mempunyai hubungan dengan komponen pembacaan MUET pelajar-pelajar matrikulasi. Namun begitu, terdapat banyak kajian yang mengkaji cara-cara untuk meningkatkan penguasaan kosa kata dalam kalangan pelajar L2 di Malaysia (e.g. Chang, 2011; Kanthimathi & Tan, 2012; Naginder Kaur, 2013b; Ng & Sheila, 2011; Prema & Rycker, 2012; Rafiah, 2008). Sampel kajian seramai 230 pelajar matrikulasi yang telah menduduki ujian MUET dipilih secara rawak. Bagi mencapai matlamat kajian, Word Associates Test (WAT) Versi 4.0 (Read, 1993, 1998) untuk menentukan kedalaman / kualiti kosa kata dan Vocabulary Size Test (VST) (Nation & Beglar, 2007)) untuk menilai keluasan / saiz kosa kata dikendalikan dalam satu sesi sewaktu mereka tiada kelas atau kuliah. Dapatan kajian menunjukkan saiz / keluasan perbendaharaan kata adalah peramal yang kukuh walaupun selepas kedalaman / kualiti perbendaharaan kata dikawal. Oleh itu, keluasan kosa kata dapat meramal pemahaman dengan nilai beta sebanyak 0.92. Kajian ini juga mendapati pelajar-pelajar memerlukan saiz / keluasan kosa kata sebanyak 7000 untuk membantu mereka mencapai skor melebihi paras

sederhana dalam komponen pemahaman MUET. Oleh itu, hasil dapatan boleh memberi implikasi terhadap kelas Bahasa Inggeris sebagai bahasa kedua (ESL) di peringkat pra-universiti. Kajian ini dapat mengenal pasti bahawa kosa kata adalah salah satu faktor yang juga perlu diberi tumpuan dalam pembelajaran kefahaman pembacaan yang sejurusnya boleh memberi petunjuk bagaimana untuk meningkatkan pemahaman dalam bacaan.



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To Him, my faithful provider, be the glory!

## APPROVAL

I certify that a Thesis Examination Committee has met on 11 May 2016 to conduct the final examination of Yenny Chee Fong Yeun on her thesis entitled “Receptive Breadth and Depth of Vocabulary Knowledge as Predictor Variables of MUET Reading Comprehension Performance of Malaysian Matriculation Students in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Arts in English.

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Associate Professor Dr. Wong Bee Eng

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Name of Member of  
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Committee:

Associate Professor Dr. Mardziah Hayati Abdullah

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## LIST OF ABBREVIATIONS

AWL	Academic Word List
CGPA	Cumulative Grade Point Average
CEFR	Common European Framework of Reference
DV	Dependent Variable
DVK	Depth of Vocabulary Knowledge
EPRD	Education Planning and Research Division
ESL	English as a Second Language
EVST	Eurocentres Vocabulary Size Test
IELTS	International English Language Testing System
KR	Kuder-Richardson
L1	First Language
L2	Second Language
MPM	Majlis Peperiksaan Malaysia
MPS	Maximum Possible Score
MUET	Malaysian University English Test
OECD	Organisation for Economic Co-operation and Development
PERMATA	Pintar Education Programme
PISA	Programme for International Student Assessment
PVLT	Productive Vocabulary Levels Test
SD	Standard Deviation
SE	Standard error of the estimate
SM	Standardised Mean
SSD	Standardised Standard Deviation
STEM	Science, Technology, Engineering and Mathematics
TOEFL	Test of English as a Foreign Language
UPM	Universiti Putra Malaysia
UWL	University Word List
VKS	Vocabulary Knowledge Scale
VLT	Vocabulary Levels Test
VST	Vocabulary Size Test
WAF	Word Associates Format
WAT	Word Associates Test

# CHAPTER 1

## INTRODUCTION

This chapter starts with a brief overview of the role of vocabulary knowledge in reading comprehension. It then discusses the problems or issues in vocabulary knowledge and reading. The objectives, research questions and hypotheses of the study are also listed in this chapter. The notions of depth and breadth of vocabulary knowledge that provide the framework for this study are also described briefly under the heading of conceptual framework in this chapter. Furthermore, the benefits of this study on various sectors and individuals will also be discussed here. However, this study has its own limitations which will be clarified in scope of study. The definitions of key terms pertinent to the study will be explained at the end of this chapter.

### 1.1 Background of the Study

Vocabulary knowledge has become an integral aspect of language proficiency or competency for second language (L2) learners; in fact, it is just as important as the four skills which are reading, writing, listening and speaking (Folse, 2010; Milton, 2013). Therefore, insufficient vocabulary knowledge may lead to distortion in reading, writing, speaking and listening skills of the language among learners. In 1993, Nation reviewed the relationship between vocabulary size, language skills (e.g. reading, writing, speaking and listening) and content knowledge. He stressed the importance of vocabulary by stating that vocabulary is the building block of languages and it is a quintessential part of acquiring and developing world knowledge or information. Nation's (1993) review is summarized as:

Vocabulary knowledge enables language use, language use enables the increase of vocabulary knowledge, knowledge of the world enables the increase of vocabulary knowledge and language use and so on (Nation and Waring, 1997, p. 6).

Vocabulary has long been acknowledged as a significant component and strong indicator of L2 acquisition, performance and proficiency. In this regard, numerous studies on associations between L2 vocabulary and L2 skills have been conducted (e.g. J. Lee, 2010; Phoon & Anna Christina, 2014; Stæhr, 2008). In addition, there are also specific examples of studies which have found that vocabulary plays a key role in predicting scores for reading (e.g. Laufer & Ravenhorst-Kalovski, 2010; Qian & Schedl, 2004; Qian, 2002; Schmitt et al., 2011), writing (e.g. Daller, Van Hout, & Treffers-Daller, 2003; Olinghouse & Wilson, 2012; Shanthi Nadarajan, 2011), speaking (De Jong, Steinel, Florijn, Schoonen, & Hulstijn, 2012; Koizumi & In'nami, 2013; Koizumi, 2005),

listening (e.g. Stæhr, 2009; van Zeeland & Schmitt, 2012) and also in general academic performance (e.g. Harrington & Carey, 2009). However, vocabulary knowledge is obviously associated to reading (Folse, 2010) and many experts concur that reading is the single most vital skill for academic achievement (Grabe, 1991). So, we should pay heed to these early researchers' observations and findings and look at approximates of vocabulary size and their significance for L2 learners, in particular Malaysian ESL learners. The current study focuses on the association between vocabulary knowledge and the reading component in the Malaysian University English Test (MUET) even though the connection between vocabulary size and the other language skills (writing, speaking and listening) are relatively strong.

Although reading is a basic skill for lifelong learning and a vital way for gaining information in language learning, it is a complex and difficult process because it involves more than the matching of linguistic knowledge (Broady, 2005). So, it is also possible that a large vocabulary knowledge is not always a prerequisite to language skills' performance (e.g. L. Li & MacGregor, 2010; Nation & Waring, 1997; N. Schmitt et al., 2011). Since a reader who knows the meanings of words in isolation might also face difficulties in knowing how to put them together to get the gist of the sentence or text as a whole, how much more would inadequate vocabulary knowledge hamper the reading process? Inevitably, it seems commonsense that more developed levels of vocabulary knowledge will help readers in the effort of processing and discerning meanings of sentences or clauses as Roche and Harrington (2013) state that the greater the learner's vocabulary knowledge, the lesser the effort or cognitive skills are demanded in reading. This scenario will cause 'Matthew Effects' or rich-get-richer and poor-get-poorer effects in the academic context (Stanovich, 1986) because students with lesser vocabularies will read less and this will disrupt the students' learning process as higher level and more complex academic world requires greater mastery of vocabulary.

Reading fluently demands word identification skills because it enhances comprehension (Grabe, 1991). Unfortunately, most L2 readers read L2 materials more slowly (Chang, 2010; Fraser, 2007) due to slow word recognition. Put simply, the reciprocal relationship between vocabulary and reading is true (Chou, 2011; Stanovich, 1986; Verhoeven, van Leeuwe, & Vermeer, 2011) because knowing more words will assist readers in comprehending written texts at a greater speed. Besides, Carver (2000) asserts that reading performance should be measured by reading efficiency, and that efficiency is made up of accuracy and rate. In view of this, to test the students' reading proficiency, there is always a reading comprehension section in examinations, such as TOEFL, IELTS and MUET, that require learners to read and answer all the questions correctly within the time allocated where the ultimate goal is comprehension.

When a reader's vocabulary knowledge is inadequate, s/he might be below the threshold of vocabulary knowledge<sup>1</sup>. So, adequate comprehension may be possible for a reader who has passed the threshold, otherwise the reader might not comprehend sufficiently. So, without passing the threshold of vocabulary knowledge, L2 learners may encounter frustrations in reading comprehension (Li & MacGregor, 2010). Based on literature, it is suggested that between 97% and 99% coverage of word tokens or running words in a text are needed (Hirsh & Nation, 1992; Hu & Nation, 2000; Nation, 2006; Schmitt et al., 2011) for learners to decipher an unassisted written text without major obstacles caused by unfamiliar words. On the other hand, research studies conducted by Laufer (1989, 1992); and Liu Na and Nation (1985) estimated a lower coverage by 2% to 4% (i.e. 95%) of running words needed for reasonable understanding of a text. Therefore, empirical research done by Laufer & Ravenhorst-Kalovski (2010) could be a congruent summation of the threshold perspectives where they proposed two useful coverage points: an ideal one at 98% (8000 word families) coverage including proper nouns and a minimal one at 95% coverage including proper nouns (4000-5000 word families).

To sum up, one of the primary factors which consistently affects reading is vocabulary knowledge although some studies (e.g. Guo & Roehrig, 2011; Nergis, 2013) have also determined that there are other skills and knowledge resources (e.g. syntactic awareness) which are significant contributors to reading performance (see also Grabe, 2009). Overall, research has increasingly shown that vocabulary is the core aspect in language and this is what practitioners have known (for more on this, see Hirsh, 2012; Lee, Tan, & Pandian, 2012; Milton, 2013; Moghadam, Zainal, & Ghaderpour, 2012; Nation, 2006; Schmitt, 2008). Empirical studies have found that proficiency of reading comprehension is often ascribed to one's vocabulary knowledge with correlations ranging from 0.50 to 0.85 (e.g. Huang, 2006; Laufer & Ravenhorst-Kalovski, 2010; Laufer, 1992; Qian, 1999, 2002; Rashidi & Khosravi, 2010; Tannenbaum, Torgesen, & Wagner, 2006; Varandi & Faezi, 2013). The range of the correlations varies due to factors such as format of the tests; age, background knowledge and proficiency level of the participants; and the dimensions (e.g. morphology, phonology, pragmatic, semantic and syntax) of vocabulary knowledge measured by the tests.

## **1.2 Statement of the Problem**

The MUET is a high-stakes examination. Its results are employed as benchmark in determining the pre-university students' proficiency level in Malaysia (Souba Rethinasamy & Chuah, 2011). The credibility of the MUET even expands to

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<sup>1</sup> Threshold of vocabulary knowledge refers to vocabulary size that a learner should possess at the very least for him or her to be able to comprehend texts.

employment sectors where employers will use the MUET results to determine the job applicant's English proficiency (Mohd Faisal, 2004). There are four components in the MUET namely reading, listening, writing and speaking. Overall, the reading component (RC) has the heaviest weight because students at university level are expected to read more (Lee, 2004). To add weight to Lee's (2004) statement, Alderson, Clapham, and Wall, (1995) also mentioned that heavier weighting on a particular language component shows that it plays a central role in the curriculum or to the concept of proficiency. Based on this view, reading plays a central role in the Malaysian educational curriculum. However, not more than 6% out of 79468 candidates who managed to obtain Band 5 or Band 6 in the MUET Reading Comprehension component based on Malaysian Examination Council's statistics in November 2014 (Siti Ruhani, examination officer, personal communication, January 26, 2015).

In addition to the issue that many students did not do well in the MUET Reading Comprehension component, studies by Ahmad Azman Mokhtar (2010), Ahmad Azman Mokhtar et al. (2010), Leele Susana Jamian, Gurnam Kaur Sidhu, and Muzaireen Muzafar (2008), and Naginder Kaur (2013a) show that majority of Malaysian tertiary students' (L2) vocabulary knowledge is insufficient or below the minimum of L2 level required (which will be further discussed in Chapter 2 under 'vocabulary size and threshold in reading'). In a fairly current study on Malaysian L2 learners, between the ages of 17 and 18 from 12 secondary schools in a district, Khairi Izwan Abdullah, Fatimah Puteh, Awis Rumaisya Azizan, Nurul Na'immah Hamdan, and Sergio Saude (2013) found that Bands 1,2 and 3 (n= 369) students' vocabulary average scores did not reach the cut-off point (15 out of 18 questions) at the 2000-word level or Productive Vocabulary Levels Test (PVLТ) 2000. This phenomenon has led to the need of an easier vocabulary test (PVLТ 500) with higher word frequency compared to PVLТ 2000 in order to discriminate the lower proficiency learners who obtained Bands 1 and 2. Interestingly, a qualitative study conducted by Melor Md Yunus, Ainil Sulaiman, Mohd Hasrul Kamarulzaman, and Noriah Mohd Ishak (2013) among 16-year-old gifted students from PERMATA Pintar Education Programme who have exceptional skills in mathematics and science revealed that one of the problems faced by these students in the English language is lack of vocabulary. Overall, the researchers found that their participants could not do well in reading comprehension with poor vocabulary knowledge.

Asian researchers like Fan (2003), Naginder Kaur (2013b), Noom-ura (2013), and Reza (2010) stated in their studies that the students' inadequacy of vocabulary has been repeatedly pointed out by researchers and lecturers as one of the factors in the unsatisfactory performance of students in their exams. Many teachers have asserted that vocabulary is the first challenge when their students come across a difficult text. The predicament of lexical incompetence among Malaysian L2 learners has been a matter of concern because it continues to create problems as mentioned by a few local researches (e.g. Normazidah Che Musa, Koo, & Hazita Azman, 2012; Rosemala Ismail, 2008; Zaira Abu Hassan Shaari, 2008). Therefore, the possibility that lack of vocabulary knowledge may ultimately lead to poor MUET Reading Comprehension results lends credence to

the investigation of relationship between learners' vocabulary knowledge and their MUET Reading Comprehension scores.

Vocabulary knowledge is generally a good predictor of language proficiency. Hence, many researchers, language teachers and educators have realized the need to look into more effective ways to gauge L2 vocabulary which in turn would assist better L2 instruction for vocabulary development in the Malaysian curriculum. Although there are many studies that measure L2 learners' vocabulary knowledge, Li and Kirby (2014) assert that depth of vocabulary has been less researched compared to breadth of vocabulary. Besides that, the research on the effects of breadth and depth of vocabulary knowledge in relation to the MUET reading comprehension component is still scarce. There is also an absence of studies exploring the extent to which vocabulary size of different levels of L2 learners is associated with their reading proficiency in the MUET reading comprehension component based on the aggregated scores descriptors provided by Malaysian Examinations Council. There is still paucity in the field of studies that investigate the role of vocabulary in reading comprehension although understanding of this relationship is vital for the teaching and learning of the English language (Akbarian & Alavi, 2013).

To the best of my knowledge, there has not been any study that investigated the effects of breadth and depth of vocabulary knowledge in relation to the MUET Reading Comprehension component among matriculation students. Further, the researcher has access to these students in Matriculation colleges as she is an English teacher in one. Matriculation students are top notch students who have successfully completed the *Sijil Pelajaran Malaysia* (SPM). However, Matriculation students are still unable to perform well in the MUET especially in the reading component. Thus, it would be interesting to investigate the matriculation students' achievement in the MUET reading comprehension component (as this has the heaviest weighting in the exam) and their average vocabulary level. Matriculation students, similar to the pre-university students in form six, are also taught the four skills, namely, speaking, listening, writing and reading to prepare them for the MUET.

### **1.3 Purpose, objectives and Research Questions of the Study**

The major purpose of this quantitative, correlational study was to explore the association of vocabulary knowledge (breadth and depth) and MUET reading comprehension scores performance among matriculation students. The aim of this study is to determine the relationship between Malaysian matriculation students' vocabulary knowledge (breadth and depth) scores and their MUET reading comprehension scores. The objectives of this study are as follows:

1. to compare the matriculation students' scores on the word associations test, vocabulary size test and MUET Reading Comprehension component (descriptive analyses)
2. to relate the participants scores on depth and breadth of vocabulary knowledge and their MUET Reading Comprehension component
3. to determine the link between the participants' scores on vocabulary depth and their MUET Reading Component scores after controlling for vocabulary breadth
4. to determine how well vocabulary breadth can explain MUET Reading Component scores after controlling for vocabulary depth
5. to determine which of the vocabulary knowledge type, depth or breadth, is the more powerful predictor of the MUET reading comprehension scores
6. to determine a vocabulary size threshold which learners are likely to perform above average in reading (i.e. reading scores higher or equivalent to 56)

Based on the objectives above, the following research questions have been formulated to guide this study:

1. What are the matriculation students' scores on the vocabulary size test, word associations test, and the MUET reading comprehension component?
2. Are there inter-correlations between the participants' MUET reading comprehension scores and breadth and depth of vocabulary knowledge scores (as measured by the Vocabulary Size Test (VST) and Word Associates Test (WAT) respectively)? If yes, to what extent do scores on the MUET reading comprehension component, correlate with the depth and breadth of vocabulary knowledge?
3. Controlling for vocabulary breadth, how well do the measure of vocabulary depth explain the MUET Reading Comprehension component?
4. Controlling for vocabulary depth, how well do the measure of vocabulary breadth explain the MUET Reading Comprehension component?
5. Which aspect of the matriculation students' vocabulary knowledge as measured by the WAT or the VST is the strongest predictor of the MUET reading comprehension scores?
6. What is the possible vocabulary breadth threshold for students to perform greater than or equal to average level (or  $\geq 56$ ) in the MUET Reading Comprehension component?

Therefore, this study also intends to find out which aspects of vocabulary knowledge has more significant relationship and to what extent with matriculation students' MUET reading comprehension performance. The results and discussions in chapter 4 would explain the statistical terms used in the research questions 3 and 4. To explain briefly here, hierarchical regressions were used to answer research questions 3 and 4. Meanwhile, the term 'controlling for' indicates that at the initial stage, the independent variables that we want to control for are entered into the regression. Then, at the second stage, the independent variables whose relationship we want to examine after the controls

are entered. A statistical test of the change in  $R^2$  from the first stage is used to evaluate the importance of the variables entered in the second stage.

#### 1.4 Theoretical Framework

Vocabulary knowledge is complex and its construct is multidimensional. There are generally two major theoretical distinctions being addressed in the previous studies: breadth versus depth and receptive versus productive. Numerous existing vocabulary tests assessed one of the four categories of the proposed taxonomy: “receptive vocabulary breadth,” “productive vocabulary breadth,” “receptive vocabulary depth,” and “productive vocabulary depth” (Cervatiuc, 2007). Cervatiuc (2007) also stated that an ideal research on vocabulary assessment should have an instrument from each of the four categories presented: receptive vocabulary breadth, productive vocabulary breadth, receptive vocabulary depth, and productive vocabulary depth. However, this approach may be impractical and time-consuming. So, this study adopted only vocabulary assessments with the taxonomy of receptive vocabulary breadth and receptive vocabulary depth because it explores the relationship among receptive vocabulary knowledge (breadth and depth) and reading.

Schmitt, Wun and Garras (2010) pointed out that the nature of vocabulary knowledge in applied linguistics and language teaching has evolved into a more complicated understanding including the incremental process of vocabulary acquisition. Numerous but complementary frameworks have been developed to study lexical knowledge (e.g. Henriksen, 1999; Nation, 2001; Qian, 1998, 1999; Read, 1993, 2000; Richards, 1976; Vermeer, 2001; Wesche & Paribakht, 1996). In all the frameworks, researchers regard vocabulary knowledge as a multidimensional construct. Vocabulary knowledge is often being distinguished between two influential paradigms: breadth (how many words are stored in memory) and depth (how well is a word acquired). Anderson and Freebody (1981) are the first to distinguish vocabulary knowledge into these two dimensions. In their views, breadth of knowledge means the number of words known at superficial level by the user while depth of vocabulary knowledge refers to the quality of knowledge.

Nation (2001) defined receptive vocabulary as that being used when comprehending the form of a word while listening or reading and retrieving its meaning while productive vocabulary is used when expressing a meaning through speaking or writing and retrieving and producing the appropriate spoken or written word form. Waring (2002) illustrated the receptive/productive continuum and explained that one should have receptive knowledge before productive knowledge as a learner would be able to produce the word after encountering it receptively. However, up to date, there is no measure which can clearly document the continuum of productive and receptive vocabulary of a learner. Productive knowledge is usually associated with speaking and writing while receptive knowledge is associated with listening and reading (Laufer & Goldstein, 2004).

In the 21st century, the dimensions of breadth and depth as well as receptive and productive are still seen in the models proposed by researchers. For instance, Qian (2002) developed a framework of vocabulary knowledge which comprises four dimensions: (a) vocabulary size, (b) depth of vocabulary knowledge, (c) lexical organization, and (d) automaticity of receptive-productive knowledge. Another example of a framework which includes both breadth and depth is lexical space proposed by Daller, Milton, and Treffers-Daller (2007). In lexical space, a learner's vocabulary knowledge is described as a three-dimensional space (i.e. breadth, depth and fluency), where each dimension represents an aspect of knowing a word. They define breadth as vocabulary size or the number of words known; depth as word knowledge of the relevant concepts and referents, associations, grammatical functions, collocations and constraints on use of given words; and fluency refers to the ability to use given words both receptively (i.e. in reading or listening) or productively (i.e. in writing or speaking) (see Figure 2.1 for detailed explanation). In measuring vocabulary knowledge, numerous researchers (e.g. Batty, 2007; L. Li & MacGregor, 2010; M. Li & Kirby, 2014; Nassaji, 2006; Nurweni & Read, 1999; Ordóñez, Carlo, Snow, & McLaughlin, 2002; Qian & Schedl, 2004; Qian, 1998, 1999, 2002; Read, 1993; Richard, 2011; Schmitt et al., 2010; Shanthi Nadarajan, 2007, 2008; Vermeer, 2001; Yusun, Hey, & Jieun, 2012) have focused on breadth and depth. Thus, in all the frameworks mentioned, there is an obvious agreement in the literature that vocabulary knowledge should have at least two dimensions which are breadth and depth. In congruent with Ishii and Schmitt (2009), breadth and depth of vocabulary knowledge must be taken into consideration simultaneously when assessing lexical competency.

This paper concentrates on the concept of vocabulary as receptive breadth and receptive depth as these two notions underpin the instruments used. The Vocabulary Size Test (VST) (Nation & Beglar, 2007) has 140 items to measure learner's vocabulary size from the 1st 1000 to the 14th 1000 word families of English and it is becoming a widely-used instrument for measuring vocabulary size/breadth, more specifically the written receptive vocabulary knowledge required for reading (e.g. Beglar, 2010; Bennett & Stoeckel, 2012; Elgort, 2012; Lucovich, 2013; Martinez, 2011; Reza, 2010; Richard, 2011). On the other hand, the WAT is the most common test of vocabulary depth in the literature (Batty, 2012; Beglar & Nation, 2014; Read, 1988), that assesses knowledge of synonyms and collocations.

From the vocabulary dimensions of receptive/productive and breadth/depth, the researcher decided to study the link between receptive breadth and depth of vocabulary knowledge and reading comprehension. Vocabulary knowledge has long been an important source of variation in reading comprehension (e.g. Thorndike, 1917a, 1917b, 1917c). It has been recognized as a critical feature of reading ability (e.g. Akbarian & Alavi, 2013; Davis, 1944; Fruchter, 1948; Spearritt, 1972; Stahl & Fairbanks, 1986; Stanovich, 1986; Tannenbaum et al., 2006; Thorndike, 1917a). There are several hypotheses such as instrumentalist, verbal aptitude and knowledge (R. C. Anderson & Freebody, 1981); access (Mezynski, 1983) and vocabulary threshold in reading (first

attempted by Laufer in 1989) which reaffirm the connection between vocabulary and reading directly or indirectly.

### **1.5 Significance of the Study**

Malaysian students will spend about 11 to 13 years in learning English at schools as they have to undergo six years in primary school and five years in secondary school or up to about seven years if the two years of sixth form (pre-university) is included. Unfortunately, starting from 2006 the issue of fresh graduates' poor English proficiency has been raised consistently and it ranked as one of the top five problems faced by Malaysian employers (Ministry of Education, 2013). Hence, it is vital to determine the cause of poor English proficiency and then, take steps to remedy the situation. One of the ways to find the cause is through measuring language proficiency. Measuring language proficiency is important for educators and researchers because it is the key to improve teaching and learning for English language learners.

One of the crucial aspects is vocabulary size knowledge because it provides valuable information for teaching and learning. According to Hsu (2006), Izura, Cuetos, and Brysbaert (2014) and Schmitt (2000), vocabulary tests can function as placement tests because they help to assign learners to a learning group that fits them and to determine a level to start a lesson or programme; achievement tests because they assess learning progress and what have been learned; diagnostic tests because they determine learners' vocabulary knowledge for better classroom planning; and proficiency tests because they estimate learners' linguistic skills. So, it is hoped that this study might give an insight into the effects of vocabulary knowledge upon reading comprehension scores of ESL matriculation or pre-university students in the MUET. For instance, the vocabulary tests may provide insight into breadth and depth of vocabulary knowledge that learners have which could assist in reading comprehension. The findings of such a study will benefit ESL teachers, lecturers, researchers, curriculum planners, syllabus designers and textbook or material writers.

This study will benefit the teaching and learning process as findings will aid educators to decide if vocabulary size is indeed an issue in poor performance of reading comprehension. When the root cause is not identified then the problem cannot be handled effectively by the pre-university educators and the students will remain incompetent in reading. This will definitely affect the learners' chances to perform well in universities as reading is their main source of acquiring knowledge. Thus, it is very important for the researchers to measure the learner's vocabulary knowledge and find out how much it affects their reading performance in order to ascertain whether they need more vocabulary or other skills to assist them in their reading. There are other findings that contradict the relationship between vocabulary knowledge and reading performance. For example, an empirical research using six year-old non-native speakers of English who live in an English-speaking country as participants found that their poor reading

performance was typically not the result of an inadequate vocabulary size but was caused by other factors (Ruffell, 2008, as cited in Nguyen & Nation, 2011) such as subject matter knowledge, discourse markers and syntactic structure. This research will reveal whether vocabulary is one of the main factors that affect MUET reading comprehension as there are many candidates who did not do well in the reading component (Siti Ruhani, examination officer, personal communication, January 26, 2015).

Identifying learners' difficulties will assist ESL teachers and lecturers to take the necessary action to improve and consolidate their lesson plans in the teaching of reading in preparation for the MUET. The teaching of vocabulary in a reading class might help students to master at least the 2000 and 3000 word level before entering university. This is because knowing 2000 and 3000 word level which consist of high-frequency words would help learners in reading when they are in university. The results of the study may also provide valuable information on whether to stress more on breadth of vocabulary or depth of vocabulary in the teaching and learning of reading comprehension. This is an instructional dilemma as stressed by Sung (2011) where educators contemplate whether to teach more words with lesser depth or less words but in greater depth.

According to Laufer, Elder, Hill, and Congdon (2004), Laufer and Nation (1999), and Nguyen and Nation (2011), learners' vocabulary size can provide insights into the determination of appropriate language teaching programmes for certain groups of learners. So, this study will also be beneficial to the curriculum planners in designing and developing a pedagogically sound MUET educational programme especially the reading component. It creates awareness among school organisations and curriculum planners of the value of emphasizing the learners' vocabulary knowledge level (i.e. placement test) before they plan the activities for educational programmes. Further, MUET textbook and material writers will also emphasize on vocabulary exercises or glosses or any kinds of materials which enable the learners' to gain more vocabulary especially in reading.

The Malaysian Examinations Council is responsible for administering the MUET and the crafting of the syllabus since its commencement in 1999. After about 8 years (2006), the MUET specifications underwent a minor change; i.e. the MUET syllabus was revised to ensure that it maintains its pertinence in assessing the test-takers' English language proficiency. This is because a syllabus comes from a test's specifications (Alderson et al., 1995). Actually, syllabus provides a vital function for classes as Parkes and Harris (2002) suggest that a syllabus serves as a contract, a permanent record, and the learning tool. It is often simplified as a document which indicates to test users what the test will contain (Alderson et al., 1995). Due to the importance of the syllabus, the results of this study is hoped to be beneficial for the Malaysian Examinations Council in revising the curriculum which includes the content of the syllabi and assessment of skills. Moreover, the findings of this study may also assist the Malaysian Examinations Council in considering whether to overtly put vocabulary as one of the skills in the MUET test specifications that equip learners for better learning at the tertiary level.

If this study shows significant effects of vocabulary knowledge on reading comprehension, it is important to dispel the myth about vocabulary. Milton (2009) highlights three misconceptions that show why some educators, educational administrators and learners think that vocabulary is unimportant in pedagogy:

- i. there is the staunch belief that limited vocabulary may lead a person to be proficient in another language
- ii. there is the focus on structural approaches in learning where acquisition of language rules and systems are the main concern as opposed to word learning
- iii. the time spent in explicit vocabulary teaching is futile because learners can only retain few words while “most L2 words are learnt incidentally through communication/oral input” (Ellis, 1994, p. 24).

In the Malaysian context, educators also tend to focus on structural signals and grammatical patterns of the language (Naginder Kaur, 2013b) so, perhaps these ESL practitioners believe that structural approaches are more important than vocabulary instruction. To further support this view, the investigation on teachers’ perceptions of reasons for low English proficiency students by Fauziah Hassan and Nita Fauzee Selamat (2002) found that vocabulary exercises were ranked fourth out of nine language tasks employed in the class. Since lexical acquisition has traditionally been neglected in L2 learning research (Segler, Pain, & Sorace, 2002), hopefully this study will enlighten the educators, educational administrators and learners to the importance of vocabulary teaching and learning in the classroom.

In sum, determining whether learners’ difficulties in MUET reading comprehension is related to vocabulary level will help the language teachers, lecturers, linguistics or pedagogical researchers, and textbook writers, curriculum planners or syllabus designers to design or select more appropriate materials (books or textbooks), lesson plans and programmes for reading. Besides that, the learner’s vocabulary knowledge at pre-university level may be estimated accurately and how many words needed correspond to reading comprehension. Therefore, findings from this study would also help to determine whether receptive vocabulary breadth or receptive vocabulary depth is relevant to the needs of MUET Reading Comprehension component. This MUET reading comprehension component is selected because it is a validated reading test paper which can be considered as certified instruments to measure the learners’ reading ability (Ong & Yuen, 2014).

## 1.6 Scope of the Study

This study only investigates the link between the receptive vocabulary achievement and MUET Reading Comprehension. The other components namely writing, speaking and listening in MUET are not the focus in this study.

In assessing the learners' vocabulary knowledge, it is ideal for a lexical assessment to consist of receptive vocabulary breadth, receptive vocabulary depth, productive vocabulary breadth and productive vocabulary depth. Unfortunately, it is impractical and time consuming to assess all the four categories (Cervatiuc, 2007). Cervatiuc (2007) added that the lexical test chosen should depend on the learning context and purpose of lexical assessment. Therefore, in this study, to determine the learners' vocabulary knowledge in reading comprehension, it uses receptive vocabulary breadth and receptive vocabulary depth.

Degree of word knowledge is hard to define; thus, researchers have designed various vocabulary assessments that lead to very different results (Waring & Nation, 2004). In this study, which focuses only on reading, the measurement of vocabulary selected will assess the receptive breadth and receptive depth.

Reading comprehension is a dynamic, complex and multifaceted process as readers draw upon a wide range of cognitive abilities, such as inferencing and attention, motivational strategies, such as setting a purpose for reading, and knowledge, such as vocabulary and prior knowledge of the topic (Snow, 2002). Even though reading comprehension is a complex process where comprehending a text depends on a confluence of factors, this study only focuses on vocabulary factor as an independent variable.

In a correlational study, researchers can only predict the behavior of variable(s)/ outcome from the behavior of another variable(s)/predictors. So, the predictor and outcome can be associated without mentioning a causal relationship between them. If X and Y are related, it could mean that X caused Y, or Y caused X, or some third variable caused both X and Y without there being any causal relationship between X and Y.

## 1.7 Definition of key terms

### **Breadth of Vocabulary Knowledge:**

Breadth of vocabulary knowledge is also known as vocabulary size, and this refers to the number of words known at the level of at least some of the important aspects of meanings

(R. C. Anderson & Freebody, 1981) or at least some minimum knowledge of meaning (Qian, 1999).

### **Depth of Vocabulary Knowledge:**

Depth of vocabulary knowledge relates to the quality of word knowledge (R. C. Anderson & Freebody, 1981), or how well a learner knows a word (Milton, 2009; Schmitt, 2014).

### **Receptive Vocabulary Knowledge:**

Another significant dimension of vocabulary knowledge is receptive (passive) and productive (active) vocabulary knowledge (Milton, 2009). Receptive vocabulary knowledge enables the learner to understand all the words through listening and reading. Meanwhile, productive vocabulary refers to words that a learner can express or produce in speaking and writing. Generally, receptive vocabulary is larger than productive vocabulary in general.

### **MUET Reading Comprehension component:**

One of the skills tested in MUET is reading comprehension. Candidates are given 90 minutes to answer 45 multiple-choice questions with either three or four alternative answers. This test has five texts and a text with graphic representations to be comprehended by test-takers. The maximum score for Reading Comprehension component is 120. It is important for students to do well in this component because it contributes 40% of the overall score for the MUET and thus the highest weighting compared to Listening, Speaking and Writing components. According to Malaysian Examinations Council (2008), the length of each passage in the test is around 200 - 700 words from various possible genres like journals, newspapers, magazines, academic and electronic texts with different rhetorical styles such as analytical, descriptive, persuasive, argumentative and narrative.

### **Word family:**

It includes the inflected and the derived forms of a word even the part of speech or lexical category (noun, verb, adverb, etc.) is not the same. For example, the word families for the headword, 'add' may include 'added', 'adding', 'addition', 'additional', 'additive', 'additions' and 'adds'. So, the whole family has eight members consisting of the headword, its inflected forms, and its derived forms. Bennett and Stoeckel (2012) stated

that the term 'word families' is often used to measure vocabulary size that a learner knows. The headword or base word of a family must be a free form. That is, it can stand as a word in its own right, and the derived forms can only consist of affixes added to free forms.

## **1.8 Summary**

There are five chapters in this thesis, namely, introduction; literature review; methodology; findings and discussions; and conclusion. Chapter 1 consists of the background of the study, statement of the problem, purpose and objectives, theoretical framework, significance of the study and definition of key terms. Chapter 2 begins with the role of MUET Reading Comprehension component in Malaysia and the importance of reading in Malaysia. Then, it reviews the theoretical hypotheses underlying the vocabulary and reading comprehension show and confirm that the two variables (i.e. vocabulary and reading comprehension) are closely corresponding to each other. Further, it will focus on the frameworks of vocabulary knowledge specifically the distinction between breadth and depth of vocabulary knowledge. It also reviews the underpinning theory for measuring receptive vocabulary breadth and receptive vocabulary depth. In view of this, tests to measure receptive vocabulary breadth and receptive vocabulary depth are compared. Chapter 2 will also review relevant previous studies on vocabulary and the reading relationship, vocabulary threshold in reading. Finally, the number of words that an L2 learner at pre-university should have in comparison to the L1 learner are also discussed. Chapter 3 describes the research design, sample / participants, instruments, pilot testing, variables (i.e. independent and dependent variables) and procedures utilised in this current study. In addition, the sample size is also justified because this study used regression analysis. In pilot testing, time allocated for tests and scoring methods were examine for the use in the main study. Besides, assumption check for hierarchical regression and assumption check for independent samples T-test provide the basis for Chapter 4. Chapter 4 are divided into two main parts which are results / findings and discussion. Altogether, there are six research questions since there are six objectives in this study. Each result or finding is discussed by comparing with the past studies stated in Chapter 2. Finally, Chapter 5 summarises the findings of the study. It also discusses the contributions and implications of these findings for language teaching and learning. This chapter ends with suggestions for future research.

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