Vocabulary Size of Malaysian Secondary School Students

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Abstract:

Vocabulary plays a vital role in second language acquisition and is crucial in comprehension of various texts. Without a threshold level of vocabulary proficiency, English Language Learners (ELLs) will have difficulties in processing texts. Indeed, it is well conceded that vocabulary is a good predictor of second language proficiency. While sizable studies have examined ELLs reading skills, little is known about the vocabulary size of Malaysian secondary school students. The current work is part of a larger study that examines the relationship between vocabulary size and critical reading ability. It aims to investigate ELL secondary school students' vocabulary level and determine whether they are equipped with sufficient vocabulary proficiency for tertiary level education. Eighty-five (85) participants from a public school in Kota Kinabalu, Sabah were involved in the study. A set of receptive vocabulary test was administered during a two-period lesson. Results showed that most of the participants have not mastered vocabulary proficiency beyond the 2000-word level. The findings have pedagogical implications for the teaching of vocabulary at the secondary school level.

Keywords: *vocabulary size, second language learners, (L2) vocabulary acquisition, college preparedness, Malaysian students*

There is a consensus among researchers of language learning that vocabulary is a strong predictor of second language (L2) success. Within the context of L2 research in reading, findings on the reading processes and vocabulary threshold have consistently indicated the importance of vocabulary knowledge in reading comprehension (Alderson, 2000; Bernhardt, 2005; Fukkink, Jan, & Annegien, 2005; Garcia 1991; Koda 1994, 2005; Laufer, 1997; Nation, 2001; Zhang, 2000). In order to understand text meaning, one must be able to decode the printed message (Adams, 2004; Alderson, 2000; Day & Bamford, 1998) as the presence of high density of unknown words in a text may seriously hinder comprehension (Curtis, 1987; Nation, 2001). In this sense, a higher level of meaning construction depends on fast and efficient word recognition, word encoding, and lexical access (Adams, 2004). What differentiates skilled and less skilled readers is the speed of lexical access and semantic processing ability (Bernhardt, 2005; Grabe & Stoller, 2002). Although vocabulary has often been linked to reading skills, measures of vocabulary proficiency has also been associated with writing, speaking and listening skills (Milton, 2013). Stæhr (2008) who investigated the relationship between vocabulary size and the skills of reading, writing and listening among secondary EFL learners found that there was a strong correlation between vocabulary size and the three language skills. Similarly, Milton, Wade and Hopkins (2010) found significant correlations between vocabulary size and language performance measures in their study. These results further support the hypothesis that vocabulary knowledge is important in all aspects of language learning.

The need to measure L2 students' vocabulary size
English is a compulsory subject in the Malaysian national curriculum and is taught at pre-school, primary and secondary levels. A typical Malaysian student would have received an average of 14 years of English education upon completion of his formal education. Since English is taught at all levels, there is an underlying assumption that students would be equipped with an adequate level of vocabulary proficiency by the time they graduate from high school. This expected level of competency which falls between 3000 to 5000-word level would presumably prepare them for tertiary level studies. However, a review of the literature has shown that Malaysian university students possess low threshold vocabulary level (Mathai, Jamaian, and Nair, 2004; Mokhtar et al., 2010) and struggle with academic texts. Harji, Balakrishnan, Bhar and Letchumanan (2015) found that Malaysian undergraduates only possessed a 2000-word level and none of them achieved mastery level at University Word List (UWL) of Nation and Laufer's (1999) Vocabulary Levels Test. In a more recent study, Sulaiman, Salehuddin and Khairuddin (2018) claim that even high proficiency university students showed a higher percentage of not knowing most of the common academic words. In general, these studies suggest that Malaysian students have been unable to achieve a threshold level of vocabulary competency despite having gone through years of English education.

With such findingsin the literature, it seems realistic to expect more research on L2 vocabulary at all levels. Current literature however has proven otherwise. Although there seems to be an agreement among educators on the significant role of lexicon in the mastery of English, vocabulary has been neglected not only in classrooms, but also in scholarly activity (Milton, 2013; Kaur, 2013). In the local context, research on the subject has been mostly restricted to tertiary level students and far too little attention has been paid to the vocabulary proficiency of Malaysian secondary students. This poses a gap in the literature as no pattern of vocabulary development from secondary to tertiary level can be assessed. The question is, do L2 learners develop their vocabulary size as they mature like their Western counterparts? Literature on the vocabulary size of first language speakers (L1) report that vocabulary knowledge increases with age (e.g., Biemiller & Slonim, 2001; Coxhead, Nation, & Sim, 2015; Farkas & Beron, 2004). Likewise, Schmitt (2000) assert that vocabulary acquisition is incremental in nature. What is not yet clear is the vocabulary size and growth of L2 learners at the secondary levels.

Hence, investigating the vocabulary size of L2 secondary students is deemed relevant in the current education scenario. Working with vocabulary size as a parameter is useful for teachers to gauge students' knowledge of word and to determine whether they are able to perform various language tasks such as read newspaper and academic texts as well as listening to conversations. Furthermore, as Nation and Beglar (2007) affirmed, measuring vocabulary size enables instructors to chart the growth of students' vocabulary.

Theoretical Basis
The current work draws on schema theory which was introduced by educational psychologist Richard C. Anderson in 1977. Schema theory in relation to reading describes how readers use background knowledge to understand and learn from text (Rumelhart, 1980). Within this theory, different types of schemata have been suggested; content, formal, cultural and linguistic (Carrell, 1984). Content schema is prior knowledge about the topic, formal schema is concerned with awareness of the structure of the text and language schema is knowledge of the vocabulary and relationships of the words in a text. Language schema or linguistic schemata also describes readers' existing language proficiency in vocabulary and grammar. In relation to the role of vocabulary in reading, schema theory suggests that students with limited linguistic knowledge will find it difficult to decode and comprehend a text. As postulated by Carrel (1984), in order to comprehend a text in a second language, readers must first acquire certain linguistic proficiency. Indeed, it is well established that linguistic knowledge plays an essential part in text comprehension as the more linguistic knowledge a reader possesses, the faster the reader processes the text and better comprehension can be achieved. In short, accumulated linguistic knowledge, particularly vocabulary, is signifi-

cant for L2 readers as it is crucial in decoding the meaning of a passage.

This study addresses the following question:

1. What is the secondary school students' vocabulary size according to Vocabulary Level Tests (VLT)?

2. Are final year secondary school students equipped with sufficient vocabulary knowledge for tertiary level education?

Method

Samples

The data from this study were collected from 85 secondary school students in Malaysia. The school is in an urban area. Since the current study aimed to gauge secondary students' vocabulary level in relation to college or university preparedness, the target population of this study was ELL learners who were in their final year of secondary school. All participants were 17 years old and homogeneous in respect of their mother tongue and background. The participants can be best represented by the general population of Form 5 students in the country. Written informed consent was obtained from head teachers and the principal, and verbal assent was also obtained from the students.

The present work used Laufer and Nation (1990) receptive vocabulary tests to measure participants' vocabulary knowledge. The test consists of five sections of five frequency bands; 2000, 3000, 5000, 10000 levels and academic vocabulary that is not frequency-based. For each section, the participants were provided with six target words and three meanings. They were asked to choose the right target words to go with each meaning and each correct answer was given one point. The maximum score for each section was eighteen. In this study, a score of 24 out of 30 or 80% is considered as reaching mastery level. In the data analysis, the participants' overall scores were used. One of the reasons for selecting this test among alternative vocabulary size tests was the coverage of this test involves all four-word frequency levels as well as academic vocabulary. Furthermore, the measure is a reliable tool for determining vocabulary knowledge. The test was administered in a single testing session which took about 40 minutes. Data were analysed using SPSS 24.0 programme.

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Results

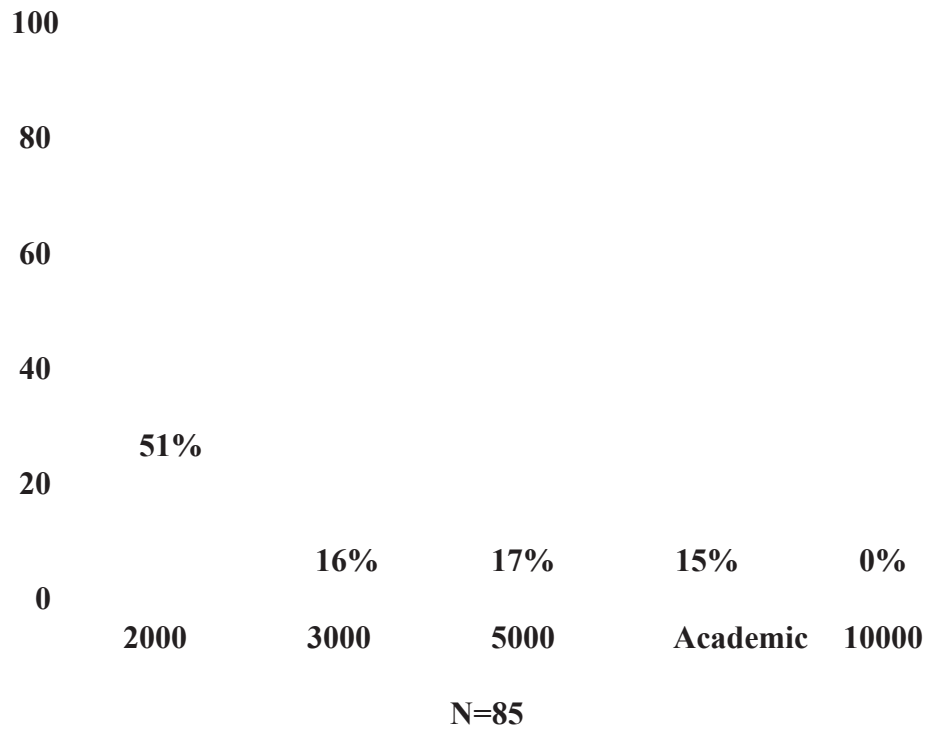|				
51%				
	16%	17%	15%	0%
2000	3000	5000	Academic	10000

N=85

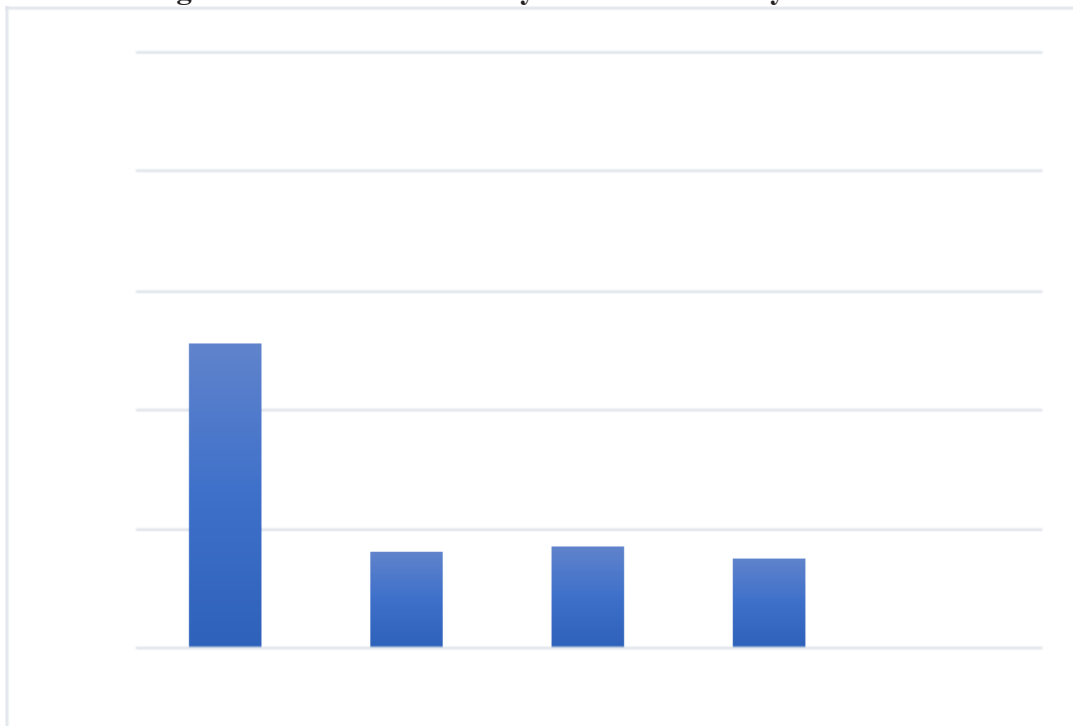**Figure 1: Pattern of mastery of the Vocabulary Level Tests**

Figure 1 presents the pattern of mastery of the receptive vocabulary level test among participants in the study. As presented, there is a stairstep pattern of mastery of the ascending frequency levels. A majority of participants (51%) mastered the 2,000-word level. However the percentage declines as the level increases. Only 16% of participants reached the criteria of mastery for the 3,000-word-level, 17% achieved mastery level for the 5000 level and 15% achieved mastery level for the academic vocabulary test. No one achieved mastery level in the 10,000-word level test. Overall, it can be concluded that most participants have not acquired vocabulary proficiency beyond the 2000-word level.

Table 1: Students' Performance in the Vocabulary Level Test

	Minimum	Maximum	Maximum possible score	Mean	SD
2000 Level	0	30	30	21	7.9
2000 Level	0	29	30	15	8.5
2000 Level	0	29	30	14	8.0
Academic Level	0	27	30	12	8.5
10000 Level	0	19	30	6	4.7

Table 1 presents students' performance in the vocabulary level test. As can be seen, scores for 2000 level test ranged from 0 to 30, with a mean of 21.2 and a standard deviation of 7.9. For the 3000-level test, scores ranged from 0 to 29, with a mean of 15 and a standard deviation of 8.5. For the 5000-level test, scores ranged from 0 to 29, with a mean of 14 and a standard deviation of 8. For the academic level test, scores ranged from 0 to 27 with a mean of 12 and a standard deviation of 8.5. For the 10000-level test, scores ranged from 0 to 19 with a mean of 6 and a standard deviation of 4.7. These distributions suggest that the 2000 level vocabulary test was not difficult for the students given the relatively high mean scores and that some individuals achieved maximum possible scores. Results further suggest that the 3000 level, 5000 level and Academic level tests were difficult for the students given the relatively low mean scores and the fact that some individuals scored 0. The 10000-level test proved to be the most difficult for the students given the relatively low mean scores and that the highest score was only 19. Corresponding to the students' vocabulary levels and size presented in Table 1, it is not surprising that the mean scores decreased by the levels, with lower mean scores and wider standard deviations for the Academic Word Level (AWL) (M=12, SD=8.5) and 10000 Level (M=6, SD=4.7). The minimum scores were clearly consistent across all levels with 0points being the lowest scores; full scores were recorded at only Level 1 (2000 level).

Discussion

The present work was conducted to determine secondary students' vocabulary size and whether they were prepared for tertiary levelstudies. Based on students' performance on the VLT, two conclusions can be deduced. Firstly, it is proven that students had weakness recognizing words beyond the 2000 level. Most students could only perform well in the 2000-word level tests and had a serious problem in the higher-level tests. This finding is consistent with that of Harji, Balakrishnan, Bhar and Letchumanan (2015) who found that Malaysian undergraduates were only at 2000-word level. This vocabulary deficiency may seriously affect students' ability in decoding the meaning of academic text at the secondary school and tertiary level. Seminal studies by Laufer (1992) and Hirsh and Nation (1992) have attested that it took 3000-word families or 5000 individual words to read texts. The second conclusion is that most students have not mastered a threshold level of vocabulary needed for college level education. Since only a minority of students reached mastery level, those who were less successful would

struggle with college academic texts and would not be able to cope with studies at the university. This is considered a worrying issue as the mastery of the 3000 level, 5000 level and academic level is deemed necessary for a student to comprehend reading texts, perform exercises, tests and exams in the target language. According to Nation and Warring (1997), words at 3000 level and 5000 level are considered vital for basic comprehension in English as a second language.

Limitations

As with any study, findings from the current work study are limited to the level of the participants as well as the vocabulary measures used in the study. Hence, the results should be considered with caution. A major limitation was that the data collected from 85 participants may not be able to represent the vocabulary size of ELL university students in Malaysia. A replication of the same study with a larger sample size would provide more reliable and generalisable results. A second limitation was that this study examined only students' receptive vocabulary size. Future studies could possibly include a productive vocabulary measure to yield a more conclusive representation of students' vocabulary knowledge. Future research that considers investigation of effective vocabulary instruction to develop students' mastery knowledge of high-frequency words should be considered as well.

Conclusion

The findings of this study were parallel to studies conducted on university students e.g., Harji, Balakrishnan, Bhar and Letchumanan (2015). It appears that in Malaysia, the secondary school students' vocabulary size is the same as the university students. Put simply, both secondary students and university students' pool of vocabulary has not increased but remains static after three years at university. It seems to imply that unlike native speakers of English, the vocabulary knowledge of Malaysian students does not increase with age. Overall, from the findings in this study, some general pedagogical implications could be drawn for the teaching of vocabulary in secondary schools.

It is important to highlight the role of teachers to provide students with the opportunities to learn and master vocabulary knowledge in and out of the classroom. Given the students' vocabulary size, it is recommended that specific vocabulary instruction be given to students to develop their knowledge of high-frequency words at the 5,000 and 10,000-word levels. In this regard, instruction in vocabulary goes beyond just looking up words in a dictionary or using the words in a sentence. This means that teachers should give explicit instruction in teaching specific words and word-learning strategies. The best way to do this is to give opportunities to students to learn new words in context as it is more effective than isolated vocabulary drills. Students cannot place a word firmly in their long-term memory after seeing a word once. Noticing a word in different and multiple contexts helps students encounter vocabulary repeatedly and thereby fostering vocabulary learning.

Furthermore, teachers need to play a more active role in creating awareness of the importance of vocabulary related activities in building students' vocabulary size. Teachers should also encourage students to engage in extensive reading activities (e.g.,Zhang, 2001, 2003), as there is strong evidence indicating the benefit of extensive reading in vocabulary development.

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