

A Study on the Relationship between English Vocabulary Threshold and Word Guessing Strategy for Pre-University Chinese Students in Malaysia

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Abstract

This survey aims at studying the relationship between English vocabulary threshold and word guessing strategy that is used in reading comprehension learning among 80 pre-university Chinese students in Malaysia. T-test is the main statistical test for this research, and the collected data is analysed using SPSS. From the standard deviation test results, the large of vocabulary is proportional to the higher score of the reading test. The standard Pearson correlation coefficient of .750, and $P < .01$ indicated that there is a positive relationship between word guessing and vocabulary learning. T-test results showed that the vocabulary of the students should reach about 3500 words, only then can the students consciously and flexibly use the word guessing strategy in the reading process. Based on the students' different vocabulary level, the English teacher should provide opportunities for more learning.

Keywords: vocabulary learning, vocabulary threshold, word guessing strategy

1. Introduction

Word guessing strategy is one of the effective ways of learning new vocabulary. According to Papadopoulou (2011), there is a small chance of getting the correct meaning of a word when guessing the meaning of a new word, especially for some slow readers. Even after having been trained in the word guessing strategy, students still have a poor reading comprehension because they have insufficient vocabulary. The main reason for poor word guessing ability is the lack of vocabulary. Research on reading generally agrees that there is a need to master a wide range of vocabulary when students are using the word-guessing strategy (Liu, 2002; Wu, 2008; Chen, 2009; Chou, 2011). Nation (2001) also presented similar views that when word-guessing strategy is used through context clues, and if language learners have at least 95% of background knowledge of the reading materials, then they need to guess new or unknown vocabulary in every 20 words. If language learners can understand 98% of the background knowledge of the reading materials, then they will get an unknown vocabulary out of every 50 words. Conversely, based on Wu and Zhang's (2009) research, students hardly use word guessing strategy in many new vocabularies read by students in one text or article, that is, students can hardly read new word, out of every 10 words. At the same time, Laufer (1991) claimed that the successful word guessing strategy should be used by some of the English learners whose English vocabulary has more than 3000 words as found in an English reading comprehension exercise.

There are five research questions as follows,

- 1) What is the correlation between vocabulary and word guessing ability in Chinese pre-university students in Malaysia?
- 2) Is there any significant difference in word guessing ability between readers' word 2,000 word and readers' word 3,000 word levels?
- 3) Is there a significant difference in word guessing ability between readers' word 3,000 word and readers' word 5,000 word levels?
- 4) Is there a difference in word guessing ability between readers' word 5,000 word and readers' word 10,000 word levels?

5) What is the vocabulary threshold for Malaysian non-English major university students in English reading?

The following null hypotheses were developed accordingly:

H₀1: There is no correlation between vocabulary and word guessing ability in Chinese pre-university students in Malaysia.

H₀2: There are no significant differences between readers' word 2,000 and readers' word 3,000 word levels.

H₀3: There are no significant differences between readers' word 3,000 and readers' word 5,000 word levels.

H₀4: There are no significant differences between readers' word 5,000 and readers' word 10,000 word levels.

2. Literature Review

2.1 Jinkai Liu (1999), *Word Guessing Ability and Language Level*

According to Liu (1999), word guessing strategy is one of the best ways to understand reading materials in Level 1 and Level 2 learning. Furthermore excellent students are accurate guessers, that is, using word guessing strategies in reading. In a word guessing test between excellent and poor students, Rubin (1987), Knight (1994), and Hulstijn (1993) argued that excellent students' score higher than that of poor students, apparent excellent students could guess the meanings of unknown vocabulary. Liu (1999) also argued that there is a big difference in the mean of the Grade Point Average (GPA) between excellent and poor students. In the English reading comprehension tests, the means of the test results were 3.09 and 2.40 respectively. Also in the group of Chinese reading tests, the means of the reading tests were 3.31 and 2.94 respectively. Therefore, the results showed that the excellent students can understand unknown vocabulary, but poor students hardly use the word guessing strategy in their reading, that is, word guessing ability is still influenced by language learning ability.

2.2 Jinkai Liu (2002), *Typology of Word Attack Strategies*

According to Akamatsu (1999) and Liu (2002), word guessing strategy is one of the methods to overcome the obstacles of unknown vocabulary in the reading comprehension process. Furthermore, word guessing strategy shows the different levels of learners' language knowledge and non-language knowledge, that is, there is a positive relationship between word guessing ability and foreign language learning ability. Based on a learner's different language learning ability, Liu (2002) concluded that there are six word guessing strategies in the English reading process, namely, the six clues in explanatory, logical relationship, background knowledge, morphology, main idea, and final monitoring clue.

2.3 Nation. I.S.P. (2001), *Learning Vocabulary in another Language*

Nation (2001) specifically classified all vocabulary into four parts, that is, high frequency-vocabulary, academic vocabulary, technical vocabulary, and low-frequency vocabulary. During reading, learners use a lot of time to understand academic vocabulary, technical vocabulary, and low-frequency vocabulary, but high frequency vocabulary is learned from the teacher's explanation and from the dictionary. Both the teachers and learners focused on the high frequency words, but the learners focused on the low frequency words, because learners still lack the vocabulary and teachers do spend substantial amounts of class time explaining and giving practice on vocabulary, even though both the teachers and learners focused on the learning and teaching vocabulary strategies. Therefore, according to this study, reading efficiency can be improved by using word guessing strategies, and as Liu (2002) advocated, different strategies must be used at different levels of English.

3. Methodology

3.1 Participants

There were 80 pre university participants in this research project. All of them are Chinese international students who are currently pursuing their undergraduate level studies in Malaysia. There are 36 (45%) males and 44 (55%) females, who were randomly chosen from the different pre-university English intensive programs. Twenty of these students (25%) were learning English at the level of Intensive English One, 15 students (19%) were learning English in Intensive English Two, 35 students (44%) in Intensive English Three, and 10 students (13%) were in the top level English class, that is, Intensive English Four. All of these participants were chosen from the Language Center in Universiti Sains Malaysia (USM).

3.2 Design

The design of this study is quantitative in nature, employing descriptive and inferential statistics as well. An adapted testing questionnaire was employed as a measuring instrument. The respondents needed to answer all the items in this questionnaire, which are based on their real English vocabulary level without the aid of an English dictionary. This vocabulary testing questionnaire should be completed within 15 minutes.

3.3 Instrument Identification and Procedure

As shown in Table 1, the measuring instrument was an English vocabulary test paper by Schmitt et al. (2001) comprising 4 parts, that is, the 2,000-word level, the 3,000-word level, the 5,000-word level, the 10,000-word level. There are 18 questions in every level of the vocabulary test. The data for this study was collected based on the respondent's performance in the English vocabulary test. The group of students of intensive English one sat for the 2,000-word level test. Then, the 3,000-word level was used for all level two intensive English course students; the 5,000-words level focused on level three students of the English intensive course; and the 10,000-words level test is held for level four groups of students in USM.

Table 1. Research instruments and time

Vocabulary level test		Time
The 2,000-word level	18 questions	15 minutes
The 3,000-word level	18 questions	15 minutes
The 5,000-word level	18 questions	15 minutes
The 10,000-word level	18 questions	15 minutes

4. Findings

The data gathered through the vocabulary tests were tabulated using the SPSS program and analyzed using the Pearson Correlation test and an independent sample t-test. The results are presented in the tables that follow.

Table 2 shows the group results of the four word guessing tests. There were 20 respondents in the 2,000-word level, 15 respondents in 3,000-word level, 35 respondents in the 5,000-word level, and 10 respondents in the 10,000-word level. After comparing the means of the different word levels, it is clear that vocabulary of the students improved through their word guessing ability, that is, vocabulary is affected by the higher word guessing ability.

Table 2. Basic statistical description

	N	Minimum	Maximum	Mean	Std. Deviation
2,000 word level	20	7	10	8.40 (47%)	.883
3,000 word level	15	8	12	9.87 (55%)	1.060
5,000 word level	35	7	16	10.71 (59%)	1.725
10,000 word level	10	11	16	13.90 (77%)	1.370

Research question 1

The first research question aimed to determine whether there is a correlation between vocabulary and word guessing ability in Malaysian non-English major university students. The Pearson Correlation results show a correlation of .750 at $P < .01$. Thus, there is a significant correlation between vocabulary and word guessing ability as shown as in Table 3.

Table 3. Correlations between vocabulary and word guessing ability

vocabulary			
Word guessing ability	Pearson Correlation	1	.750**
	Sig.(2-tailed)		.000
Vocabulary	N	80	80
	Pearson Correlation	.750**	1
Vocabulary	Sig. (2-tailed)		.000
	N	80	80

* Correlation is significant at the 01 level (2-tailed).

Research question 2

The second research question intended to determine if there are significant differences in the four word level groups, that is, between 2,000-word level and 3,000-word level, 3,000-word level and 5,000-word level, 5,000-word level and 10,000-word level. The results of the 2,000-word level and 3,000-word level can be seen in Table 4 and Table 5 respectively.

Table 4. Descriptive statistics of word guessing ability between 2,000 word level and 3,000 word level

<i>GROUP I</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
2,000	20	8.40	.883	.197
3,000	15	9.87	1.060	.274

Table 5. T-test for equality of means between 2,000 word level and 3,000 word level

	Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means		
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
Equal variances assumed	.144	.707	-4.464	33	.000
Equal variances not assumed			-4.346	26.969	.000

Table 5 shows that there is a significant difference between the 2,000 word level group and 3,000 word level group, where the p -value was 0.000. This is lower than the set criterion where the hypothesis will be rejected if $p < .05$. Therefore, from the Table 5, the first null hypothesis is rejected and the second research question is answered, concluding that there is a significant difference in vocabulary and word guessing ability for Chinese pre-university students in Malaysia.

Research question 3

The third research question aimed to find out if there is a significant difference in word guessing ability and vocabulary between the 3,000-word level and 5,000-word level. The results can be seen from the independent sample t -test in Table 6 and Table 7 respectively.

Table 6. Descriptive statistics of word guessing ability between 3,000 word level and 5,000 word level

<i>GROUP II</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
3,000	15	9.87	1.060	.274
5,000	35	10.71	1.725	.292

Table 7. T-test for equality of means between 3,000 word level and 5,000 word level

	Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means		
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
Equal variances assumed	2,469	.123	-1.760	48	.085
Equal variances not assumed			-2.120	41.690	.040

Table 6 demonstrates a clear picture of statistic scores for both groups. The mean difference for the 3,000-word level was 10.71; but in the 5,000-word level, the mean was 8.90 which reveal only a small difference. However, the p -value for the 3,000-word group is .085 which is smaller than the criterion; and also in the 5,000-word group, the p -value is .40. Because both of these two groups are at $p < .05$, it is therefore statistically significant, that is, there is small significant difference in the 3,000-word level and 5,000-word level.

Research question 4

The fourth research question intended to determine if there is a significant difference in the word guessing ability

between the 5,000-word level and 10,000-word level. The results can be seen from Tables 8 and 9.

Table 8. Descriptive statistics of word guessing ability between 5,000-word level and 10,000-word level

<i>GROUP III</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
5,000	35	10.71	1.725	.292
10,000	10	8.90	.738	.233

Table 9. T-test for equality of means between 5,000 word level and 10,000 word level

	<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
Equal variances assumed	4.521	.039	3.222	43	.002
Equal variances not assumed			4.859	35.884	.000

Table 8 and Table 9 show that there is a significant difference between the word guessing ability of the 5,000-word group and 10,000-word level group, where the p-values are $p = .002$ and $p = .000$, and the means are 10.71 and 8.90 respectively, so where all p-values are lower than the set criterion, then the hypothesis will be rejected if $p < .05$. Therefore, based on Table 9, the fourth null hypothesis is rejected and the fourth research question is answered, concluding that there is a significant difference in word guessing ability between the 5,000-word level and 10,000-word level of Chinese pre university student groups in Malaysia.

Research question 5

The fifth research question was investigated using the independent sample *t*-test for these four groups of word levels. The results show that there is a significant improvement between the 3,000-word level group and 2,000-word level group, 5,000-word level group and 3,000-word level group, 10,000-word level group and 5,000-word level group. The wide range of vocabulary is the main factor that influenced the word guessing ability in the English reading comprehension process.

Table 10. The mean of total score in different levels

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean (%)</i>	<i>Std. Deviat</i>
Level I	2	.39	.47	.4300	.05657
Level II	2	.55	.61	.5800	.4243
Level III	2	.59	.69	.6400	.07071
Level IV	2	.77	.89	.8300	.08485
Valid N (listwise)	2				

According to Laufer (2001), if the foreign language learner wants to use first language as a reading strategy, then that learner's vocabulary should be more than 3,000-words. The foreign language vocabulary will influence and restrict what learner learns using the word guessing strategy in foreign language learning. Furthermore, according to Table 2, the mean of 3,000-word level test result is 10.71, that are 55% of full marks; and the mean of the 5,000-word level test result is 13.90, that is 59% of full marks. This clearly shows even though the vocabulary of the students already exceeded the 5,000-word level, the students still did not pass the vocabulary test. Even after combining all the scores from the word guessing test and IELTS tests of every level, only level three has 64% of the full marks as show, that is, only students with the 5,000-word level vocabulary can pass this test. Therefore, the vocabulary threshold of Chinese international pre university students is 5,000-words. After having reached the 5,000-word level vocabulary can the students effectively use the word guessing strategy in reading comprehension in Malaysia.

5. Discussion

This study aimed to discover the correlation between vocabulary and word guessing ability by using word

guessing tests among 80 Chinese international students in the pre university level in Malaysia. There are basically two types of tests that were used in this research, that is, word guessing tests of different levels. The data obtained showed the correlations of vocabulary and word guessing ability. Based on the quantitative findings from two types of tests in four different English vocabulary levels, it was derived that the respondents whose vocabulary was more than 5,000-word could effectively use the word guessing strategy in English reading comprehension. This was prevalent when the paired *t*-test was conducted and the mean difference obtained was larger from the different groups. The researcher found respondents of level three could pass all the tests in this study, so the vocabulary threshold for word guessing should be 5,000-words. It cannot support the word guessing strategy in English texts where the respondents' vocabulary is about 2,000-words and 3,000-words. However as shown in the data analysis from Pearson's correlation when vocabulary is more than 10,000-words, the respondents could easily guess and understand the meanings of words in the English reading materials. In other words, there is a positive correlation between vocabulary and word guessing ability.

6. Recommendations

In view of the limitations the researchers have come across, there is a need for further research to be conducted with a bigger sample size. This will help to widen the data base, confirm the findings, and enable the drawing of more concrete conclusion with regard to the effect of improving vocabulary to effectively use word guessing strategy in reading comprehension.

7. Conclusion

Overall, there is the positive correlation between word guessing ability and vocabulary. That implies that if the English learners' vocabulary is more than 5,000 words, the meaning of unknown vocabulary will be easily guessed. Some students do not develop good reading habits, because they are lacking vocabulary and background knowledge. According this study, English teachers can give students suitable exercises of word guessing strategy and integrate it with other teaching materials suitable for the first level students that mean score of the exam is 43. Word guessing strategy is not suited for first level students, English teacher need to specifically explain the meaning of new vocabulary and encourage students to try to use dictionary to solve the problem of unknown words in reading process. If students English vocabulary level is at the second and third level, English teachers need to teach and practice for word guessing strategy in order to support the students to use this strategy. Hopelessly, in the further research, might need to specifically collect data from different levels, in order to find the best strategy of word guessing for each level of the students.

References

- Akanaku, N. (1999). The effects of first language orthographic features on word recognition processing in English as a second language. *Reading and Writing: An Interdisciplinary Journal*, 11(4), 381-403.
- Chen, Y. Q. (2009). A cognitive linguistic approach to classroom English vocabulary instruction for EFL learners in mainland China. *English Language Teaching*, 2(1), 95-100.
- Chou, P. T. M. (2011). The effects of vocabulary knowledge and background knowledge on reading comprehension of Taiwanese EFL students. *Electronic Journal Language Teaching*, 8(1), 108-115.
- Hulstijn, J. H. (1990). A comparison between the information-processing and the analysis control approaches to language learning. *Applied Linguistics*, 11(2), 30-45.
- Knight, S. (1994). Dictionary use while reading: The effects on comprehension and vocabulary acquisition for students of different verbal abilities. *Modern Language Journal*, 78(3), 285-299.
- Liu, J. K. (2002). Typology of word attack strategies. *Journal of Zhan Jiang Normal College*, 23(2), 93-99.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Papaopoulou, S. (2011). A case study on teaching vocabulary and strategies of meaning making in context: The idiomatic uses of the word "water" in Greek. *US-China Foreign Language*, 9(1), 55-64.
- Rubin, J. A. (1987). *Learner strategies: Theoretical assumptions, research history and typology*. N.J.: Prentice-Hall.
- Schmitt, N., & Clapham, C. (2001). Developing and exploring the behavior of two new versions of the vocabulary levels tests. *Language Testing*, 18(1), 55-88.
- Wu, M. J. (2008). A questionnaire study of word-guessing strategies by Chinese learners from Europe, USA, South Korea and Japan. *Journal of Yun Nan Normal University*, 6(4), 17-22.
- Wu, Y. L., & Zhang, J. (2009). A study of the relationship between the vocabulary learned and the word guessing

strategy. *Journal of Zhaotong Teacher's College*, 31(2), 59-62.

Appendix 1. Student instruction sheet for the levels test

Vocabulary Level Test

This is a vocabulary test. You must choose the right word to go with each meaning. Write the number of that next to its meaning. Here is an example.

- | | |
|-------------|--------------------------------|
| 1. business | |
| 2. clock | ___ part of a house |
| 3. horse | ___ animal with four legs |
| 4. pencil | ___ something used for writing |
| 5. shoe | |
| 6. wall | |

You answer it in the following way.

- | | |
|-------------|-------------------------------------|
| 1. business | |
| 2. clock | <u>6</u> part of a house |
| 3. horse | <u>3</u> animal with four legs |
| 4. pencil | <u>4</u> something used for writing |
| 5. shoe | |
| 6. wall | |

Some words are in the test to make it more difficult. You do not have to find the meaning for these words. In the example above, these words are *business*, *clock* and *shoe*.

If you have no idea about the meaning of a word, do not guess. But if you think you might know the meaning, then you should try to find the answer.

Appendix 2. The vocabulary levels test

The 2,000 word level

- | | | | |
|------------|-----------------------------------|-------------|--|
| A | | B | |
| 1. copy | ___ end or highest point | 1. accident | ___ loud deep sound |
| 2. event | | 2. debt | |
| 3. motor | ___ this moves a car | 3. fortune | ___ something you must pay |
| 4. pity | | 4. pride | |
| 5. profit | ___ thing made to be bike another | 5. roar | ___ having a high opinion of yourself |
| 6. tip | 6. thread | | |
| C | | D | |
| 1. coffee | ___ money for work | 1. arrange | ___ grow |
| 2. disease | | 2. develop | |
| 3. justice | ___ a piece of clothing | 3. lean | ___ put in order |
| 4. skirt | | 4. threaten | |
| 5. stage | ___ using the law in | 5. prefer | ___ like more than something else
the right way |
| 6. wage | | 6. seize | |
| E | | F | |
| 1. clerk | ___ a drink | 1. blame | ___ make |
| 2. frame | | 2. elect | |
| 3. noise | ___ office worker | 3. jump | ___ choose by voting |

4. respect
5. theater ___ unwanted sound
6. wine

4. threaten
5. melt ___ become like water
6. manufacture

Level 3,000 word level**A**

1. bull ___ formal and serious manner
2. hampion
3. dignity ___ winner of a sporting event
4. hell
5. museum ___ building where valuable
6. solution

C

1. blanket ___ holiday
2. contest
3. generation ___ good quality
4. merit
5. plot ___ wool covering used on beds
6. vacation6. resolve

E

1. comment ___ long formal dress
2. gown
3. import ___ goods from a foreign
4. nerve country
5. pasture ___ part of body which
6. tradition

The 5,000 word level**A**

1. analysis ___ eagerness
2. curb
3. gravel ___ loan to buy a house
4. mortgage
5. scar ___ small stones mixed with sand
6. zeal

C

1. cavalry ___ small hill
2. eve
3.ham ___ day or night before a holiday
4. mound
5. steak ___ soldiers who fight from horses

6. switch**E**

1. circus ___ musical instrument

B

1. muscle ___ advice
2. counsel
3. factor ___ a place covered with grass
4. hen
5. lawn ___ female chicken objects are kept
6. Atmosphere

D

1. abandon ___ live in a place
2. dwell
3. oblige ___ follow in order to catch
4. pursue
5. quote ___ leave something permanently

F

1. assemble ___ look closely
2. attach
3. peer ___ stop doing something
4. quit
5. scream ___ cry out loudly in fear carries feel
6. toss

B

1. artillery ___ a kind of tree
2. creed
3. hydrogen ___ system of beliefs or principles
4. maple
5. pork ___ large gun on wheels
6. streak

D

1. chart ___ map
2. forge
3. mansion ___ large beautiful house
4. outfit
5. Sample ___ place where metals are made and shaped
6. volunteer

F

1. revive ___ think about deeply

- | | | | |
|------------|---------------------------------|------------|---------------------------------------|
| 2. jungle | | 2. extract | |
| 3. trumpet | ___ seat without a back or arms | 3. gamble | ___ bring back to health |
| 4. sermon | | 4. launch | |
| 5. stool | ___ speech given by a priest | 5. provoke | ___ make someone angry
in a church |

- | | | | |
|---------------|--|----------------|--|
| 6. nomination | | 6. contemplate | |
|---------------|--|----------------|--|

The 10.000 word level**A**

1. alabaster ___ small barrel
2. tentacle
3. dogma ___ soft white stone
4. keg
5. rasp ___ tool for shaping wood
6. chandelier

C

1. bourgeois ___ middle class people
2. brocade
3. consonant ___ row or level of something
4. prelude
5. stupor ___ cloth with pattern or gold

6. tier

E

1. alcove ___ priest
2. impetus
3. maggot ___ release from prison early
4. parole
5. salve ___ medicine to put on wounds

6. vicar

B

1. throttle ___ kindness
2. convoy
3. lien ___ set of musical notes
4. octave
5. stint ___ speed control for an engine
6. benevolence

D

1. scrawl ___ write carelessly
2. scringe
3. immerse ___ move back because of fear
4. peek
5. contaminate ___ put something under water
or silver treads

6. relay

F

1. blurt ___ walk in a proud away
2. dabble
3. dent ___ kill by squeezing someone's
throat
4. pacify
5. strangle ___ say suddenly without
thinking

6. swagger

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