

Vocabulary Size of Students and Its Relationship to English Language Performance

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Received November 09, 2022; Revised December 13, 2022; Accepted December 22, 2022

Abstract This study aimed to identify the relationship of vocabulary size of students to their English language performance. The respondents of this study were taken from B1 Plus students of the English Language and Preparatory Year Institute, Jubail Industrial College- Royal Commission for Jubail. The study used the descriptive correlation research design to establish the relationship of the students' vocabulary size to their performance in English. Pearson's correlation coefficient (r) was used to measure the strength of relationship between the two variables- vocabulary size and English performance. Vocabulary Level Test, adapted from Nation (1990) [1], was used to measure vocabulary size, and the final mark result in B1 Plus was used for the English performance of students. Based on the findings, vocabulary size has no significant relationship to listening and speaking skills of students. However, vocabulary size has a significant relationship to reading and writing, grammar, e-learning, and overall English language performance of respondents.

Keywords: vocabulary size, English language performance

Cite This Article: Zaldy Maglay Quines, "Vocabulary Size of Students and Its Relationship to English Language Performance." *American Journal of Educational Research*, vol. 10, no. 12 (2022): 702-707. doi: 10.12691/education-10-12-7.

1. Introduction

In general, vocabulary is very important because it's the foundation of all languages. It's the medium that we can use to express our thoughts and emotions, share information and knowledge, understand others and develop different aspects of relationships. Learning and mastering a foreign language such as English require hours of working through textbooks, doing grammar exercises and attending English courses. Many language experts believe that learning or clearly understanding vocabulary is very crucial when it comes to success in learning a foreign language or mastering a second language.

Knowing the vocabulary level of learners and the correlation of this to their English language performance is one of the strategies in assessing the development of learners on their journey in English courses. Based on many scientific researches, vocabulary aids reading development and increases comprehension. Students with low vocabulary size tend to have low comprehension and students with satisfactory or high vocabulary size tend to have satisfactory or high comprehension scores. When vocabulary size and English performance of students are clearly identified, teachers can easily develop effective and efficient instructional materials, classroom activities or lessons that are appropriate to the academic needs of the students.

In this study, the researcher investigated the vocabulary level of learners and the correlation of this to their English courses and overall English language performance. The researcher specifically documented and correlated the identified vocabulary size of respondents, their grades in all English courses, and overall English language performance.

2. Review of the Related Literature

Vocabulary knowledge is one of the language skills that is very essential for assured meaningful language use. Vocabulary magnitude is an indicator of how well the second language learners can achieve academic language skills such as reading, listening, speaking, writing and grammar. Nouri & Zerhouni (2016) [2] claimed that vocabulary knowledge performs a significant role in the process of language learning or acquisition and cannot be neglected in second or foreign language courses. Students have difficulty understanding what they have read and listened to when they encounter difficulty comprehending the exact meaning of the words used in the texts.

Vocabulary is significant to English language teaching because without adequate vocabulary size students cannot comprehend and recognize ideas of others or they will have difficulty expressing their own ideas. Hornby (1995) [3] defined vocabulary as the total number of words in a language; vocabulary is a list of words with their meanings. According to Neuman & Dwyer (2009) [4]

vocabulary can be defined as words that we must know to communicate effectively; words in speaking and words in listening. Nation (1990) divided vocabulary knowledge into two types: receptive and productive vocabulary knowledge. He defines receptive vocabulary as knowledge of words or lexical units that the language learners recognize from listening and reading, but cannot use the words productively in communication. Laufer & Goldstein (2004) [5] explained that productive knowledge is usually associated with speaking and writing while receptive knowledge is associated with listening and reading.

Lewis (1993) [6] claimed that lexis or vocabulary is the center or heart of a language. As students gain confidence in using and expressing their ideas in English, it is still important for them to acquire and understand more useful vocabulary knowledge and to develop their own personal vocabulary learning strategies. Wilkins (1972) [7] stressed that without grammar, very little can be conveyed, without vocabulary, nothing can be conveyed. It only shows that without vocabulary ideas can be hardly transmitted while without grammar some misunderstanding might happen in the process of transmitting the ideas. This impression is experience by all people when they are in a new place where different languages are being used. Some useful words and expressions can really help people to survive in a foreign country. Schmitt (2010) [8] noted that learners carry around dictionaries and not grammar books. When students can't understand the words used by the teacher in the lesson, they tend to use Google translate for a better understanding of the lesson at hand. Clear understanding of vocabulary helps students discuss and express their opinions with others in English.

One fundamental thing that teachers should note regarding the size of vocabulary size needed to perform the language is how large the text coverage needed to gain adequate comprehension without outside assistance such as dictionaries and online translation. In short, teachers should know how to identify the number of unfamiliar vocabulary that should be explained before asking comprehension questions. Chang and Read (2006) [9] discovered that vocabulary teaching before a comprehension task helped less than hearing the input twice or reading and discussing the topic beforehand. Words will have to be met in many different contexts in order to develop mastery of the different word knowledge types, and this entails a long-term recursive approach to vocabulary learning. Single period of instruction may not only be ineffective, but may actually be counterproductive under certain circumstances. According to Laufer and Yano (2001) [10], L2 learners in academic settings are expected to overcome a vast amount of reading materials intended for native speakers, and yet studies conducted across high schools and universities indicate that their vocabulary knowledge does not amount to a quarter of the vocabulary known by their native speaking peers.

According to Nation (1993) [11], knowledge of around 3,000 word families is the threshold needed for tapping other language skills. Without this threshold, learners encounter problems understanding the language they are exposed to. Ellis (1997) [12] argued that vocabulary knowledge is a predictor of learners' discourse comprehension, which allows grammatical rules to be patterned in the learners' mind. Having inadequate

vocabulary hampers learners' reading comprehension in a way that makes it more likely the learners will face difficulties in the path of academic performance. Meara (1996) [13] believed that learners with big vocabularies are more proficient in a wide range of language skills than learners with smaller vocabularies.

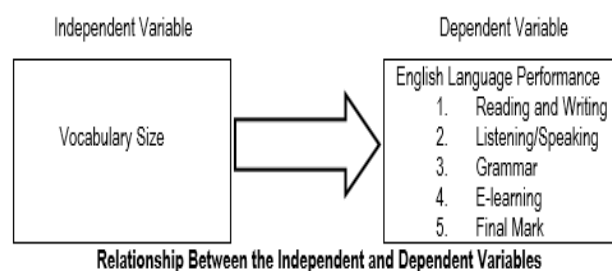
English language performance of students is very crucial in validating their overall development because this performance reflects the extent and quality of instruction in their educational lives. There are many factors that affect performance of learners, and vocabulary size is just one of the factors that could guide teachers in assessing students' potentials. Nation (2001) [14] explained the relationship between vocabulary knowledge and language use as complementary: knowledge of vocabulary enables language use and, conversely, language use leads to an increase in vocabulary knowledge. Vocabulary knowledge and reading comprehension are highly related since lexical knowledge can assist language learners in comprehending written texts, and also reading may help in developing learners' lexicons.

Nation (2006) [15] found that in the level of 98% text coverage, 8,000 to 9,000 word families are needed by readers in order to gain sufficient comprehension of written texts without using any assisting comprehension tools, and 6,000 to 7,000 word families needed for spoken texts. It suggests that readers should master all the high frequency words consisting of 2,000 word families as well as the mid frequency words consisting of 7,000 word families. Adolphs and Schmitt (2003) [16] concluded that 2,000 to 3,000 word families, which are high frequency words, are needed in order to participate effectively in basic everyday oral communication.

3. Methodology and Procedures

This part presents the research paradigm, research objectives, research methodology, research respondents and instruments used in the study.

3.1. Research Paradigm



3.2. Research Objectives

General Objective: This study aimed to identify the correlation of vocabulary size of students to their English language performance.

Specific Objectives: It sought to answer the following questions:

1. What is the vocabulary size of B1 Plus students?
2. What is the English language performance B1 Plus students?

3. Is there a significant relationship between vocabulary size of B1 Plus students to their English language performance?

Hypothesis: "There is no significant relationship between vocabulary size of B1 Plus students to their English language performance".

3.3. Research Methodology

The study used the descriptive correlation research design. The study established the relationship of the students' vocabulary size to their English language performance. The correlation method interpreted the relationship between the vocabulary size and English language performance. Descriptive statistics like frequency counts, percentages, means, standard deviation, and weighted mean were used to analyze data to answer descriptive questions. The Pearson Product Moment Correlation was used to determine the relationship between vocabulary size and academic performance of the students.

3.4. Respondents and Research Instruments

The respondents of this study were the B1+ students from the English Language Institute of Royal Commission for Jubail, Saudi Arabia. The chosen section was identified by systematic and convenience sampling where all students in the section were included in the study. There were two research instruments involved in this study: Vocabulary Level Test (VLT) and Overall Final Marks of respondents. The Vocabulary Level Test (Version A) adapted from Nation (1990) was used to measure vocabulary size. The VLT test is designed to measure learners' vocabulary size that can be considered as an indicator of the coverage of vocabulary in a text. A learner's total score needs to be multiplied by 100 to get their total vocabulary size of word families. The Overall Final Mark of respondents refers to the overall total grade in all their courses (Grammar, Reading & Writing, Listening & Speaking, E-learning) in B1+ level.

4. Data Collection, Analysis, Discussion

Identified B1 plus students took the Vocabulary Level Test, and Overall Final Marks of respondents were collected. The data gathered were analyzed with the use of descriptive statistics. Descriptive statistics like frequency counts, percentages, means, standard deviation, and weighted mean were used to analyze data to answer descriptive questions. The Pearson Product Moment Correlation was used to determine the relationship between vocabulary size and academic performance of the students.

The following questions were answered based on the analyzed and treated data.

1. What is the vocabulary size of B1 Plus respondents?
2. What is the English language performance of B1 plus respondents?
 - a. Reading and Writing
 - b. Speaking and Listening
 - c. Grammar
 - d. E-learning
 - e. Overall Final Mark

3. Is there a significant relationship between vocabulary size of B1 plus respondents to their specific courses and overall English language performance?

- a. Reading and Writing
- b. Speaking and Listening
- c. Grammar
- d. E-learning
- e. Overall Final Mark

4.1. Vocabulary Size (VS)

Table 1. Vocabulary Size of B1 Plus Respondents

Number of Respondents	Mean of Vocabulary Size (raw score)	Mean of Vocabulary Size (total score= rsx100)
28	70.5714	7,057.1429

Table 1 shows the vocabulary size of B1 Plus respondents. Based on the table, the mean of respondents' vocabulary size (raw score) is 70.5714. Using the formula indicated by Paul Nation in getting student's vocabulary size (total score of word families), the mean vocabulary size of B1 Plus students is 7,057.1429, which is near to the target vocabulary level of 8,000 to have a 98% comprehension to complex spoken and written texts. It is statistically safe to claim that B1 Plus students have met or exceeded the (30) 3,000 word families' threshold needed for developing other language skills.

4.2. English Language Performance (ELP)

Table 2. Overall English Language Performance of B1 Plus Respondents

Students	R/W Mean	L/S Mean	Grammar Mean	E-learning Mean	Final Mark B1+Mean
28	73.0714	87.8928	77.3214	70.3928	79.1673

Table 2 shows the overall English Language Performance (ELP) of B1 Plus respondents. It can be noted that the highest mark is in Listening/Speaking (87.8928) and the lowest mark is in E-learning (70.3928). The nearest skill mark to the overall final mark (79.1673) is on grammar (77.3214) while reading/writing and e-learning marks are on the same range.

4.3. Vocabulary Size and Reading/Writing Mark

Table 3. Correlation between Vocabulary Size and Reading/Writing Mark

Descriptive Statistics			
	Mean	Std. Deviation	N
Voc Size	70.5714	11.36084	28
RW Mark	73.0714	10.05145	28
Correlations			
		Voc Mark	RW Mark
Voc Size	Pearson Correlation	1	.473*
	Sig. (2-tailed)		.011
	N	28	28
RW Mark	Pearson Correlation	.473*	1
	Sig. (2-tailed)	.011	
	N	28	28
*. Correlation is significant at the 0.05 level (2-tailed).			

Based on the result, there is significant relationship between Vocabulary Size (70.5714) and Reading/Writing Mark (73.0714) with the correlation of .473*, which is significant at 0.05 level. This only shows that when student's vocabulary size is low, his reading and writing mark is relatively low too. The vocabulary size of a learner determines his mark in Reading and Writing.

4.4. Vocabulary Size and Listening/Speaking Mark

Table 4. Correlation between Vocabulary Size and Listening/Speaking Mark

Descriptive Statistics			
	Mean	Std. Deviation	N
Voc Size	70.5714	11.36084	28
LS Mark	87.8929	10.96911	28
Correlations			
		Voc Mark	LS Mark
Voc Size	Pearson Correlation	1	.180
	Sig. (2-tailed)		.359
	N	28	28
LS Mark	Pearson Correlation	.180	1
	Sig. (2-tailed)	.359	
	N	28	28
*. No Correlation			

The table shows that there is no significant relationship between Vocabulary Size (70.5714) and Listening/Speaking Mark (87.8929) with the correlation of .180. Based on the result, there was no definite direction of the relationship. Students who got very low vocabulary size could still get very high mark in Listening and Speaking.

4.5. Vocabulary Size and Grammar

Table 5. Correlation between Vocabulary Size and Grammar Mark

Descriptive Statistics			
	Mean	Std. Deviation	N
Voc Size	70.5714	11.36084	28
Gr Mark	77.3214	8.55507	28
Correlations			
		Voc Mark	Gr Mark
Voc Size	Pearson Correlation	1	.516**
	Sig. (2-tailed)		.005
	N	28	28
Gr Mark	Pearson Correlation	.516**	1
	Sig. (2-tailed)	.005	
	N	28	28
**, Correlation is significant at the 0.01 level (2-tailed).			

The table shows that there is high significant relationship between Vocabulary Size (70.5714) and Grammar Mark (77.3214) with the correlation of .516**, which is significant at 0.01 level. This only shows that when student's vocabulary size is high, his grammar mark is relatively high too. The vocabulary size of the learner determines his mark in Grammar.

4.6. Vocabulary Size and E-learning Mark

Table 6. Correlation between Vocabulary Size and E-learning Mark

Descriptive Statistics			
	Mean	Std. Deviation	N
Voc Size	70.5714	11.36084	28
E-L Mark	70.3929	10.90137	28
Correlations			
		Voc Mark	E-lear Mark
Voc Size	Pearson Correlation	1	.539**
	Sig. (2-tailed)		.003
	N	28	28
E-L Mark	Pearson Correlation	.539**	1
	Sig. (2-tailed)	.003	
	N	28	28
**, Correlation is significant at the 0.01 level (2-tailed).			

The result shows that there is high significant relationship between Vocabulary Size (70.5714) and E-learning Mark (70.3929) with the correlation of .539**, which is significant at 0.01 level. This only shows that when student's vocabulary size is high, his E-learning mark is relatively high too. The vocabulary size of the learner determines his mark in E-learning.

4.7. Vocabulary Size and Final Mark

Table 7. Correlation between Vocabulary Size and Final Mark

Descriptive Statistics			
	Mean	Std. Deviation	N
Voc Size	70.5714	11.36084	28
FM Mark	79.1673	6.50289	28
Correlations			
		Voc Mark	FM Mark
Voc Size	Pearson Correlation	1	.588**
	Sig. (2-tailed)		.001
	N	28	28
FM Mark	Pearson Correlation	.588**	1
	Sig. (2-tailed)	.001	
	N	28	28
**, Correlation is significant at the 0.01 level (2-tailed).			

The result shows that there is high significant relationship between Vocabulary Size (70.5714) and Final Mark (79.1673) with the correlation of .588**, which is significant at 0.01 level. This only shows that when student's vocabulary size is high, his overall mark or final mark is relatively high too. The vocabulary size of the learner determines his final mark in B1 Plus level.

4.8. Summary of Correlation of VS and ELP

The table shows the correlation between vocabulary size of B1 Plus respondents to their specific skills and overall English language performance. Based on the result, there is no significant relationship between Vocabulary Size (70.5714) and Speaking/Listening Mark (87.8929)

with the correlation of .180*, which is considered statistically not significant. This only shows that when student's vocabulary size is low, his Listening/Speaking mark can either be relatively low or high. On the case of the B1 Plus respondents, their Speaking/Listening mean mark is positively high compared to the other skills. The vocabulary size of a learner can't determine marks in Listening/Speaking. Other skills such as Reading/Writing, Grammar, and E-learning are significantly correlated to vocabulary size.

Table 8. Correlation between Vocabulary Size (VS) of B1 Plus Respondents to their Specific Skills and Overall English Language Performance (ELP)

Skills/Final Mark	Marks Mean	Voc Size (VS) Mean	Correlation	P-value	Significance
RW vs VS	73.0714	70.5714	.473*	.011	* = 0.05
SL vs VS	87.8929	70.5714	.180 ^{ns}	.359	^{ns} = NOT Sig
Gr vs VS	77.3214	70.5714	.516**	.005	**= 0.01
E-L vs VS	70.3929	70.5714	.539**	.003	**= 0.01
OFM vs VS	79.1673	70.5714	.588**	.001	**= 0.01

Legend:

* = Correlation is significant at 0.05 level.

ns = There is no Significant correlation.

**= Correlation is significant at 0.01 level.

5. Summary of Findings

This part summarizes all the research questions with their answers based on the analyzed and interpreted data.

5.1. What is the Vocabulary Size of B1 Plus Students?

The vocabulary size of B1 Plus students is 70.5714 or 7,057.1429 vocabulary word families. This is reasonably near to the target vocabulary size of 80.0 or 8,000 word families to have a 98% comprehension to complex spoken and written texts.

5.2. What is the English language performance of B1 Plus students?

The English language performance of B1 Plus students is 79.1673. This is C+ equivalent (75-80 from 100 points) in the rating scale used in the college.

5.3. Is there a significant relationship between vocabulary size of B1 Plus students to their specific skills and overall English language performance?

- Reading and Writing
- Speaking and Listening
- Grammar
- E-learning
- Overall Final Mark

5.3.a. There is a significant relationship between Vocabulary Size (70.5714) and Reading/Writing Mark (73.0714) with the correlation of .473*, which is significant at 0.05 level.

5.3.b. There is no significant relationship between Vocabulary Size (70.5714) and Listening/Speaking Mark (87.8929) with the correlation of .180.

5.3.c. There is a high significant relationship between Vocabulary Size (70.5714) and Grammar Mark (77.3214) with the correlation of .516**, which is significant at 0.01 level.

5.3.d. There is a high significant relationship between Vocabulary Size (70.5714) and E-learning Mark (77.3929) with the correlation of .539**, which is significant at 0.01 level.

5.3.e. There is a high significant relationship between Vocabulary Size (70.5714) and Final Mark or overall English performance (79.1673) with the correlation of .588**, which is significant at 0.01 level.

6. Conclusions and Recommendations

The following statements are the conclusions and recommendations based on the findings of this study.

- Vocabulary size is a valid predictor for the overall English language performance of students. If student's vocabulary size is high, his overall English performance tends to be high too.
- Since the vocabulary size of B1 Plus respondents (70.5714 or 7,057.1429 vocabulary word families) is reasonably near to the target vocabulary size of 80.0 or 8,000 word families to have a 98% comprehension to complex spoken and written texts, they are already academically capable to take higher academic courses on their field of specialization.
- Vocabulary enrichment activities can be integrated in courses like Grammar, Reading and Writing, E-learning because vocabulary size and students' English performance on these courses are highly correlated.
- Teachers should give activities that can develop students' vocabulary level because this is closely related to their English performance especially in reading, writing, grammar and e-learning skills.
- Teachers and examination planners should consider evaluating the nature and level of difficulty on Speaking and Listening tests or exams to validate the relationship of vocabulary size and Listening/Speaking skills.
- Other researchers can investigate on the reasons why vocabulary size does not correlate to Speaking/Listening skills.

Statement of Competing Interest

The author has no competing interests.

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