
Vocabulary Size of Students of English Study Program of FKIP Universitas Riau; A Cross-Sectional Study

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Abstract. This study sought to find out the students' vocabulary size, whether there are significant differences of the sizes based on the semester, students' gender and related to the frequency of the students' language use. A quantitative cross-sectional study is used as the design. The sample consisted of second, fourth, and sixth-semester students of English Study Program FKIP Universitas Riau. Vocabulary Size Test and questionnaires were used to collect the data. The results showed that; the students' vocabulary sizes were respectively 67.1%, 56.8%, and 68.8%; the vocabulary size of the second, fourth, and sixth semester students were different with a significance value of 0.03; There was no difference related to students gender with a significance value of 0.90; and frequency of the language use had no contribution to students' vocabulary size with a significance value of 0.989. It can be concluded that there was a significant difference between the vocabulary sizes of the students related to their semester while there were no significant differences in the sizes related to the students' gender and the frequency of language use.

Keywords: vocabulary; vocabulary size.

1. Introduction

Nowadays, mostly reading texts in Indonesian schools use authentic materials such as newspapers, articles, novels, and so on which contains many vocabularies. Authentic materials are the materials taken from students' environments. If students do not know the meaning, it will affect their understanding and comprehension which relates to their academic achievement at school or university. That is why, it is important to know their vocabulary size. Vocabulary size can be defined as the number of words that a learner has in the mental lexicon. Knowing students' vocabulary size not only helps students improve their own self but also helps teachers or lecturers motivate and teach them using a good way to increase their vocabulary size. It can be measured using vocabulary size test. According to Nation (2012) the vocabulary size test is designed to give an estimation of vocabulary size for second and foreign language learners of general or academic English. This vocabulary size has a relationship with the ability in using English in various ways. Vocabulary size measurement is important for planning, diagnosis, and research. It is not easy to plan a sensible vocabulary development program without knowing where learners are now in their vocabulary growth (Nation & Beglar: 2007).

In the context of English Language Teaching in Indonesia, speaking skill is often used as the main indicator of seeing the success of an English learner. People would tend to judge someone as a good English user if he or she can communicate orally. The same tendency also happens in many Indonesian based industries which would normally assess a candidate's English proficiency by conducting an English interview as one of the important stages in recruiting new employees. They focus more on speaking skill, not other skills. This practice has again indicated that English speaking proficiency is often considered as a special language skill (Afrianto, 2019). Nation (2006) stated that research on the amount of vocabulary needed for receptive use indicate that learners need around 5,000 word families to read novels written for teenagers, to watch movies, and to participate in daily

conversation, around 9,000 to 10,000 words are needed to read authentic materials, novels, and some academic texts. In other words, the standard of vocabulary size which has to be owned by the students for high school is about 5,000 words and 10,000 words for students at the university level.

Based on the illustration above, the objectives of this study were to know the vocabulary size and whether or not there is a significant difference of vocabulary size among the students of different levels of English Study Program of FKIP Universitas Riau, whether there are significant differences of the sizes based on the semester, whether there are significant differences of the sizes based on students' gender and whether there are significant differences in the sizes related to the frequency of the students' language use. Exploring Personal Reading Histories is useful for English Study Program learners of FKIP University of Riau Histories (Delfi et al, 2017). This study is important because there is no information on the students' vocabulary size at the study program and there is no specific study of vocabulary size. The information of vocabulary size can reflect the students' general and academic English proficiency. Besides, there was no study done in the context of the English Study Program of FKIP Universitas Riau.

2. Methodology

The design of this research was cross-sectional research design by using developmental study. Atmowardoyo (2010: 80) explains that a developmental study is conducted to examine developmental differences or developmental changes. Two different designs might be used to make inferences about change over time: cross-sectional design and longitudinal design. A cross-sectional design is chosen to investigate differences between or among participants that vary by age or grade. Besides, Gay et al. (2012) state that cross-sectional research is one in which data are collected from selected individuals at a single point in time. This research was quantitative descriptive since the data gathered was in the form of a number that intends to investigate whether there is a significant difference between the first, third, fifth, and seventh-semester students in vocabulary size.

The population of this research includes all students of the English Study Program of FKIP Universitas Riau. The sampling technique used in this research is random sampling. Ten students, five first students and five last students in the attendance list, were chosen from each class of second, fourth, and sixth semesters.

This research used the vocabulary size test as an instrument. The vocabulary size test used for measuring the participants' vocabulary size was adapted from Nation & Beglar (2007). It is measuring written receptive vocabulary knowledge that is the vocabulary knowledge required for reading. It is not measuring listening vocabulary size, or the vocabulary knowledge needed for speaking and writing (Nation, 2012). This test was a multiple-choice format consisting of 100 items with 10 items from each 1000 word levels. The participants were invited to choose one correct answer that has a similar meaning to the target word. The data collected from each class will be analyzed by using the statistical package for the social science (SPSS) version 22.00 for windows.

3. Result and Discussion

3.1. The Vocabulary Size of Students' of English Study Program of FKIP Universitas Riau

Based on the results of the Vocabulary Size test on students of the English Education Study Program FKIP Riau University, semester 2 students received an average grade of 67.1%, semester 4 students

received an average grade of 56.8% and semester 6 students obtained an average value of 68.8%. These results can be seen from the graph below.

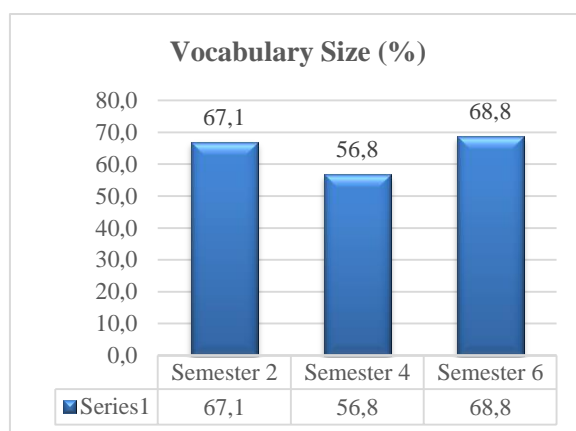


Figure 1. The Vocabulary Size of Students’ of English Study Program of FKIP Universitas Riau

From the graph above it can be concluded that the highest average score obtained by sixth-semester students with an average of 68.8%, followed by second-semester students with an average grade of 67.1% and the lowest by fourth-semester students with an average value of 56.8%. From the chart above it can also be seen that there is only a slight difference between the average sizes of vocabulary between semesters.

3.2. Differences in Vocabulary Size based on Students’ Level

The next step is to test the hypothesis about whether there are significant differences in the size of the vocabulary between second, fourth, and sixth-semester students of English Study Program of FKIP Universitas Riau. One-way ANOVA in SPSS 22,0 is used in this hypothesis test. The results of the test can be seen in the table below.

Table 1. Vocabulary Size in Different Levels

ANOVA

Vocabulary_Size					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2714.014	2	1357.007	3.629	.030
Within Groups	36273.799	97	373.957		
Total	38987.813	99			

The table above shows that the significance value obtained is 0.030. In the basis of decision making in ANOVA analysis, if the significance value is greater than 0.05, there is no significant difference in the average of the factors compared. Conversely, if the significance value is smaller than 0.05, then there is a significant difference between the average of the factors compared. The significance value of 0.030 is smaller than 0.05, so it can be concluded that there is a significant difference between the average size of the vocabulary of the second, fourth, and sixth-semester students of the English Language Study Program of FKIP Riau University.

Post-hoc tests are also conducted to more specifically determine which factors have significant differences. The results of the Post-hoc test can be seen in the following table.

Table 2. Multiple Comparisons

Vocabulary_Size
Tukey HSD

(I) Semester	(J) Semester	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Semester 2	Semester 4	10.2567	4.9930	.105	-1.628	22.141
	Semester 6	-1.7517	4.6706	.925	-12.869	9.365
Semester 4	Semester 2	-10.2567	4.9930	.105	-22.141	1.628
	Semester 6	-12.0083*	4.6706	.031	-23.125	-.891
Semester 6	Semester 2	1.7517	4.6706	.925	-9.365	12.869
	Semester 4	12.0083*	4.6706	.031	.891	23.125

*. The mean difference is significant at the 0.05 level.

Based on the table above, it can be concluded that there is no significant difference between the average sizes of vocabulary for semester 2 and semester 4 students because the significant value obtained is 0.105, where the value is lower than 0.05. Therefore, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_A) is rejected. Likewise in the comparison of the average size of vocabulary for semester 2 and semester 6 students with a significance value of 0.925, greater than 0.05. Therefore, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_A) is rejected. A significant difference is only found in the comparison of the average size of vocabulary for students in semester 4 and semester 6 with a significance value of 0.031, where 0.031 is smaller than 0.05. In this case, the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. The most beyond expectation is the average size of the vocabulary of the second semester because it is higher than fourth-semester students who have studied longer than the second-semester students.

Nation (2006) describes, 8,000 to 10,000 words are needed to read the newspaper, novels, and some academic text. Meanwhile, the results show that the average vocabulary sizes of English Study Program of FKIP Universitas Riau students are lower than 10,000. The students had just been able to read children's novels, watch movies, and to participate in friendly conversation. To use Cummins' words (1984) the students are in Basic Interpersonal Communicating Skill (BICS) level. They still need to develop their language proficiency to the Cognitive Academic Language Proficiency (CALP) level. BICS describes the development of conversational in the second language, whereas CALP describes the use of language in decontextualized academic situations.

3.3 Differences in Vocabulary Size Related to Students' Gender

Of the 100 samples in second, fourth, and sixth-semester students of English Study Program FKIP Riau University, 79 samples were female students and 21 samples were male students. Based on the problem formulation, researchers will compare the average size of students' vocabulary based on gender. Descriptions of the data are summarized in the table below.

Table 3. Descriptive of Vocabulary Size related to Students' Gender

Vocabulary Size

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Female	79	62.94937	19.573411	2.202181	58.56516	67.33357	7.000	90.600
Male	21	71.22381	19.960859	4.355817	62.13774	80.30988	16.200	90.600
Total	100	64.68700	19.844805	1.984481	60.74936	68.62464	7.000	90.600

Based on the table above the average size of the vocabulary of female students is 62.9% and the average male student is 71.2%. Minimum and maximum values obtained by female students are 7% and 90.6%, while male students get minimum and maximum values of 16.2% and 90.6%.

To find out if there are significant differences in the average size of students' vocabulary based on their gender, researchers will use the One-Way ANOVA test in the SPSS 22.0 application. The results are as follows.

Table 4. Differences in Vocabulary Size related to Students' Gender ANOVA

Vocabulary Size

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1135.858	1	1135.858	2.941	.090
Within Groups	37851.956	98	386.244		
Total	38987.813	99			

Based on the table above, the significance value obtained is 0.90, where 0.90 is greater than 0.05. It can be concluded that there is no significant difference between the average size of the vocabulary of female students and male students of the English Education Study Program at FKIP Riau University.

3.4. Differences in Vocabulary Size related to Students' Frequency of Language Use

Data of the students' frequency of language use is obtained from the results of the questionnaire filled in by the sample before conducting the *Vocabulary Size Test*. Descriptions of the results of the questionnaire are stated in the table below.

Table 5. Descriptive of Vocabulary Size related to Students' Frequency of Language Use

Vocabulary Size

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 - 2 hours	91	64.69560	19.652599	2.060152	60.60275	68.78846	7.000	90.600
> 3 hours	9	64.60000	22.987823	7.662608	46.93000	82.27000	15.000	82.600
Total	100	64.68700	19.844805	1.984481	60.74936	68.62464	7.000	90.600

From the table above, it can be seen that 91 out of 100 student samples spend 1-2 hours a day using the English language in a day, while 9 others spend more than 3 hours. There are no students who spend less than 1 hour per day using the English language every day. The average size of the

vocabulary of students who spend 1-2 hours a day in language use is 64.69%, while the average size of the vocabulary of students who spend more than 3 hours a day in language use is 64.60%.

To find out if there are significant differences in the average size of students' vocabulary based on their gender, researchers will use the One-Way ANOVA test in the SPSS 22.0 application. The results are as follows.

Table 6. Differences in Vocabulary Size related to Students' Frequency of Language Use

ANOVA					
Vocabulary Size					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.075	1	.075	.000	.989
Within Groups	38987.738	98	397.834		
Total	38987.813	99			

Based on the table above, the significance value obtained is 0.989, of which 0.989 is greater than 0.05. It can be concluded that there is no significant difference between the average sizes of the vocabulary of students with the frequency of language use 1-2 hours per day with students who have the frequency of language use more than 3 hours per day.

4. Conclusion

The purpose of this study was to determine the size of the vocabulary and significant differences in the size of the vocabulary of English students related to the level, gender, and frequency of English used by students of the Faculty of Mathematics and Natural Sciences, University of Riau. This research is a descriptive-quantitative study with a cross-sectional research design.

The results of this study indicate that 6th-semester students have the highest average vocabulary size of 68.8%, followed by semester 2 students with an average vocabulary size of 67.1% and semester 4 with the lowest average which is 56.8%. There is a significant difference in the vocabulary size of semester 2, 4 and 6 students with a significance value of 0.30. Significant differences were found in semester 4 and semester 6 students with a significance value of 0.31; there is no significant difference in vocabulary related to student gender with a significance value of 0.90; dam 4) there is no significant difference in vocabulary related to the frequency of English used by students with a significance value of 0.989.

From these results, it can be concluded that there is a significant difference between the vocabulary sizes of the FKIP Riau University English Language Study Program students related to their level and there is no significant difference in student vocabulary related to gender and the frequency of language use by students.

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