The Correlation between Vocabulary Mastery and Reading Comprehension among Students at the University

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ABSTRACT

For some students learning a foreign language, comprehending information in that language, especially in English is important. Active reading comprehension is one method of comprehending the content. Two components of language learning are reading comprehension and vocabulary mastery. The purpose of this study is to find out how students' reading comprehension in the second semester at Universitas Muhammadiyah Kalimantan Timur and their vocabulary mastery relate to one another. The researcher collected the data for this quantitative study with correlational analysis using a vocabulary test. The reading comprehension test and the questionnaire were used to assess students' reading comprehension. Overall second-semester students at Universitas Muhammadiyah Kalimantan Timur (UMKT) became the population used in this study. The population was 2,362 students with a 5% margin of error therefore the table size sample was 428 students. the results of the Hypothesis of the level of correlation between Vocabulary Mastery and Reading Comprehension have a strong effect on students because it is proven by a score of 0.608 and has results that follow the variable or standard coefficient of 0.60 - 0.799. in other words, there was a strong correlation between reading comprehension and vocabulary mastery among students at Universitas Muhammadiyah Kalimantan Timur. This study is considered relevant from time to time as the students need to increase their vocabulary mastery to comprehend reading skills

Keywords: Vocabulary Mastery; Reading Comprehension, University Students

INTRODUCTION

One of the four basic language skills that is very important for students in learning a foreign language is reading. Reading is not just an activity, but it also adds new

knowledge (Hayati, 2016). When students learn to read in a foreign language, they not only gain an understanding of sentence structure but also gain knowledge about various topics. Through reading, students can explore the world and gain new insights on several subjects. Pardede (2019) stated that in the mental and intellectual growth of each individual, being able to achieve professional success, so reading plays a very important role in life. The activity of reading is not just a hobby or a part-time activity, but also a powerful means to develop the mind and broaden horizons.

In the context of education, understanding reading texts, especially for students who are learning a language, is fundamental. Reading comprehension is an important skill for students. This ability can develop awareness, knowledge, and perception. If students lack comprehension of some texts, they will not be able to understand the material. Students should concentrate on each reading which helps them in developing the ability to understand textual meaning. The reading comprehension process involves advanced reading skills, which require students to have mastery of vocabulary and grammar. Vocabulary mastery allows students to recognize and understand the words used in the text. These two aspects become important foundations that help students better understand what they read.

Vocabulary refers to all of a person's vocabulary in a language. It includes a wide range of words, from simple ones to specialized words within a context or discipline. The ability to have a rich and varied vocabulary plays an important role in the ability to communicate, both orally and in writing. According to Lehr et al, (2004), understanding words and their meanings in written and spoken language, as well as in their productive and receptive forms is known as vocabulary, having a strong command of vocabulary is very important for everyone who learns a language, whether they speak, write, listen, or read.

One aspect that is directly related to reading proficiency is vocabulary acquisition. When someone reads, they can automatically expand their vocabulary. Along with this statement, Frijuniarsi & Marlianingsih (2016), highlighted that reading is also an effective way to expand one's language and knowledge. Students who actively read tend to have a deeper understanding of various issues. They not only develop reading skills but also experience the positive effects of increased vocabulary, which supports their ability to understand and respond to information better.

Students in Universitas Muhammadiyah Kalimantan Timur (UMKT) have English as a course in every department. It allows students both from the English department and non-English departments to learn English at the basic level. Even, some of the departments have advanced English as their course. It is merely to give the students additional knowledge and provisions in English. Furthermore, when the students join in English class, directly they also need to practice the target language such as to keep learning new words. By looking at this situation, this present study is relevant to be conducted. Knowing the ability of the students in vocabulary mastery is very significant.

Based on the explanation above, the researcher has an interest in examining whether reading comprehension and vocabulary proficiency are related among university students. Thus, the researcher focuses this study on the relationship between vocabulary mastery and reading comprehension among university students. Therefore, the research questions of this research are besides the background, this study is directed to figure out the answer to the following research questions: (1) Is there any correlation between Vocabulary Mastery and Reading Comprehension among Students' in UMKT? (2) What is the level of the relationship between students' reading comprehension and vocabulary mastery in UMKT?

LITERATURE REVIEW

Vocabulary

The most crucial part of learning a foreign language is expanding one's vocabulary. According to (Ulfatussyarifah, 2018) vocabulary is a group of words in a language that serve to convey meaning, information, form, and usage in a communication environment. In line with this, (Saputri, 2017) stated that the most significant part of language is vocabulary. When learning a language, vocabulary becomes crucial for both mother tongue and foreign language acquisition (Yudha & Mandasari, 2021). The only way to effectively communicate ideas, comprehend language tasks, and engage in foreign language conversation is to have a large enough vocabulary. Teachers should focus on how students expand their vocabulary through effective vocabulary training to help them understand the text in the future. The teachers must then use creativity while implementing a reading plan. Therefore, the right discipline needs to be assigned to an acceptable vocabulary class. In other words, the training of those four skills namely speaking, listening, reading, and writing should incorporate vocabulary. However, previous researchers stated that teachers can't teach vocabulary on their own unless they want the students to become frustrated and even confused when learning English (Yudha & Mandasari, 2021). That is why to promote language skills, vocabulary mastery at a high level is desperately needed.

Related to the previous researchers that stated the significance of vocabulary in learning skills in foreign languages, precisely it is fundamental to master the vocabulary. As regards this part, to attain reading comprehension, students need to expand their vocabulary. A vocabulary list is a list of words in a language that one has learned and remembered. Students who have a strong vocabulary are better able to understand texts. Without knowing the translation or definition of each word in the text, they are unable to comprehend the content.

Reading Comprehension

Reading proficiency is a daily activity that is crucial for students' social, intellectual, and personal lives. Reading proficiency and vocabulary mastery are closely connected concepts. Conversely, (Frijuniarsi & Marlianingsih, 2016) suggested that

reading is just one method of expanding one's language and knowledge. Students who read will have a deeper comprehension of a variety of issues and experience the positive effects of vocabulary acquisition on their listening skills. When a reader engages with a text for a particular goal or task, reading comprehension is the process of deriving and creating meaning from print.

One of the most important activities that helps readers learn new information is reading. "Reading is the first step to success in education". It means that students can do more the more they read. Reading is a good indicator of academic achievement, so it is important to include reading in daily life because it has benefits that can help readers reach their objectives (Mansor et al., 2013). According to Nambiar (2007), understanding foreign vocabulary, identifying key themes, and connecting what they read to previous knowledge are all important components of academic reading, particularly when it comes to reading in English. Reading comprehension and vocabulary are closely related, as shown by the explanation of vocabulary and reading presented above. Previous researchers from different backgrounds learned that there was a strong correlation between students' performance on vocabulary and reading comprehension assessment (Lawrence et al., 2022).

Vocabulary Mastery and Reading Comprehension

Mastering vocabulary naturally aids students in learning and applying the four language skills (speaking, listening, reading, and writing). Therefore, it is evident how vocabulary mastery and language skill performance are related. As mentioned before, previous researchers have revealed that the contribution of vocabulary varies depending on the language skills. This indicates that there are differences in the degree to which vocabulary correlates with speaking, listening, reading, and writing. Moreover, vocabulary has a larger role in reading and writing than it does in speaking and listening whereby this statement results that receptive vocabulary size was very weakly connected with speaking and listening skills, and surprisingly, vocabulary was highly correlated with reading and writing ability (Staehr, 2008).

In English Foreign Language (EFL), there are differences in the relationship between vocabulary mastery and reading comprehension. The finding between these two relationships in level junior high school was a moderate correlation (Ratnawati, 2006). Even, in another case, the correlation between vocabulary mastery and reading comprehension at also similar level as the previous researcher it was resulted in a low correlation. On the contrary, there was a high correlation between vocabulary mastery and reading comprehension for descriptive text among students in senior high school (Furoida, 2021). This was in line with the research conducted by (Ekaningsih & Furoida, 2022) who found that there was a strong relationship between students'; vocabulary mastery and reading comprehension. Meanwhile, according to (Manihuruk, 2020b) there was a moderate correlation between these two variables namely vocabulary mastery and reading comprehension among EFL students in university.

From previous research (Sudirman, 2020) conducted at the junior high school level, there is no correlation between vocabulary mastery and reading comprehension. This is because students can understand vocabulary but are less able to understand it when the student reads a sentence it is difficult to understand. According to (Masruroh, Atika Oktawati & Kurniawan, 2022) conducted at the vocational high school level, there is a correlation between vocabulary acquisition and reading comprehension. This shows when readers can understand what they read and successfully take useful knowledge from a text and can be understood to become their new knowledge. From these two studies, we can conclude that the ability of each reader is different to be able to understand the text that has been there if readers often read they are easily able to understand the vocabulary in the sentence but if readers rarely read they will have difficulty understanding the text and its contents.

METHOD

Design and Sample

The researcher will use relationship analysis in conjunction with a quantitative method in this investigation. It focuses on the relationship between students' reading comprehension at Universitas Muhammadiyah Kalimantan Timur. To determine the links between vocabulary mastery and reading comprehension, measurements and statistical analyses of both will be conducted. The correlational study design will be employed in this study. The population of this study is all second-semester students in Universitas Muhammadiyah Kalimantan Timur (UMKT). The total population in this study was 2,362 and the total sample of this study was 428 students. This population was chosen as they already took English for Basic General in their previous semester, therefore they have an English Basic, especially for reading skills. The sample of this study has chosen with a simple random sampling method. The selection of the sample was done through a sample draw. The representative of each program applied as a sample. The total sample according to the table sample size was 428. To avoid errors in processing the data, therefore, the researcher applied 428 students randomly to become a sample in this study.

Instrument and Procedure

The reading comprehension test used in this study was a multiple-choice exam with seventeen questions overall that was given during the test. The previously verified and reliable reading comprehension exam was applied by the researcher. To assess students' reading comprehension using the test as well. Before receiving treatment, the purpose of the test was to assess the student's reading proficiency. The vocabulary test has been taken from the adopted questions. The number of test items was 17 multiple-choice type questions with five answer choices: This vocabulary test has been used in previous research by Sandewa (2018), therefore, the researcher didn't need to do requirements to test validity and reliability again. The researcher distributed a test to the students to determine their reading comprehension scores. A test is an organized process that uses numerical or category-based measuring

tools to monitor a subject's behavior. The purpose of tests is to gather information about students' reading comprehension. This standardized reading comprehension test is derived from reading comprehension tasks collected from various sources, there were 25 items in the test. Since Ratnawati, (2006) used this reading comprehension test in her previous research, therefore is no need to re-evaluate its validity and reliability.

Data Analysis

There were two tests in this research namely the reading comprehension test and vocabulary mastery test. The reading comprehension test had 25 numbers meanwhile the vocabulary test consisted of 17 numbers. The Pearson correlation was used to analyze the data. This study set out to quantify the association between reading comprehension and vocabulary mastery. Statistical analysis was used to examine the study's data. Calculating the score of the reading comprehension test and vocabulary mastery test of the students can be seen in Table 1 below.

Table 1. Scoring the Test

Score	Range Criteria
86-100	Very Good
76-85	Good
56-65	Fair
10-55	Poor

To determine whether there is a relationship between two variables, statistics were used to examine those two tests. Person Product-Moment Correlation using SPSS Statistics was the method of correlation analysis employed as long as the data was considered in normal distribution. Sugiyono (2016) submitted the research, which classified the correlation using categories. Based on the correlation factor interpreting table, the degree of correlation strength is determined as follows.

Table 2. Coefficient Correlation Explanation

Interval	Category
0.00 – 0.199	Very Low
0.20 – 0.399	Low
0.40 – 0.599	Moderate
0.60 – 0.799	Strong
0.80 – 1.000	Very Strong

RESULT AND DISUSSION

There were several steps to analyze the data in a correlational study. The first step was the validity and reliability test, followed by the normality test.

1. Validity test

The data of the present study has been through the validity of the test. The respondents of the study were 428 students from the second semester. According to the r-table, for n-(df=2) are 428-2=426. So, the r-table value is 0.098 with a margin error of 5%. Based on the result from the SPSS output, each item for the vocabulary mastery test and reading comprehension test was valid. A similar result was gained for the reliability test. The Cronbach's Alpha showed 0.749 for the vocabulary test and 0.834 for the reading comprehension test. According to the coefficient table, it shows that the data had a strong reliability.

2. Descriptive data

Based on the descriptive statistics indicated that the mean of vocabulary test from 428 respondents was 57 and for reading comprehension was 48. However, the highest result for the vocabulary test was 100, meanwhile 92 for reading comprehension. Half of the students got a score above 70 for their Vocabulary mastery around 184 (42%). Meanwhile, for the reading comprehension test only 101 respondents reached a score above 70. It was around 101 students (23.6%).

3. Normality Testing

To gain the normal distribution, the data must be analyzed for its normality for these two variables namely Vocabulary mastery and reading comprehension. To count the normality data, SPSS was used. After Kolmogorov Smirnov was tested which refers to Liliefors significance correction, the significant value of each item was above 0.05 (> 0.05) therefore the data was considered normal. The table below shows the value of the Asymp. Sig (2-tailed).

Table 3. Normality Test

No.	Variable	Asymp. Sig. (2-tailed)
1.	Vocabulary Mastery	.126
2.	Reading Comprehension	.200

4. Hypothesis Testing

The researcher assessed reading comprehension and vocabulary mastery as the two variables to respond to the research question. After the normality data was done, the correlation was counted by using Pearson Product Moment Correlation. The table below shows the product of the correlation between vocabulary mastery and reading comprehension. The result shows that the sig. value is bigger than the p-value (0.05> 0.000) which means that there was a positive correlation coefficient between those two variables. This number measures the strength of the linear relationship of them. The table below proves the correlation value.

Table 4. Correlation Vocabulary Mastery and Reading Comprehension

Variable	Nilai Significant	Pearson Correlation
Vocabulary	.000	.608
Reading Comprehension	.000	

Moreover, the results of this statistical test, the Correlation between Vocabulary Mastery and Reading Comprehension among second-semester students in UMKT has a positive correlation. As a result, the alternative hypothesis should be accepted, while the null hypothesis was rejected. In short, there is a relationship between students' reading comprehension and their vocabulary mastery. In other words, the results of the Hypothesis of the level of correlation between Vocabulary Mastery and Reading Comprehension have a strong effect on students because it is proven by a score of 0.608 and has results that follow the variable or standard coefficient of 0.60 - 0.799.

The result of the study was in line with the previous studies which were conducted at different levels and different inputs. (Manihuruk, 2020a) stated that there was a positive correlation between vocabulary knowledge and reading comprehension in the English Education Department of Universitas Kristen Indonesia with a significance value of 0.014 which was smaller than 0.05 while the Pearson correlation was 0.73 which indicated a strong correlation. The differentiation from the present study was about the subject of the study. The previous using overall students in the English Education Department as the sample, while the present study used overall students who were randomly from several departments. In other words, the students didn't come from the English Department.

Moreover, based on this previous study, the students who got a score above 70 were 57% while in this study the students who got a score above 70 were 42%. Oppositely, from the reading comprehension comparison, the previous study had 15% of students who can answer the highest score, while it was different from the present study, it was bigger than it (23%). It can be realized that the overall students didn't have concern in English therefore their vocabulary tended to be limited. Another consideration was prior knowledge of vocabulary (Trehearne, M. P., & Doctorow, 2005), reading attitudes, and reading comprehension. Therefore, no wonder that this present study had a 0.608 coefficient correlation whereby was lower than the previous one. Another previous study revealed that there was vocabulary knowledge and reading comprehension among Chinese students with a p-value of 0.01 and a coefficient correlation of .56. ((S Zhang, 2022) From this result, it can be discussed that in general vocabulary mastery in some countries has the same trend correlation.

The different result was gained from the previous research among students in the Economic College of Riau. It was found that there was no significant correlation between vocabulary mastery and reading comprehension (Bishry, 2018). It was indicated that the value of p (0.083) was higher than 0.05. The latest research (Teng, 2024) concluded that a growth mindset enables vocabulary acquisition from reading. By this statement, it can be shown that vocabulary plays an important part in improving reading comprehension.

Based on these discussion results, reading comprehension and vocabulary are two kinds of variables that involve each other. Vocabulary mastery is needed to reach

high reading comprehension and vice versa. Moreover, this issue is still relevant from time to time it can be seen from the latest issue which still uses these two variables.

CONCLUSION

Based on the findings and discussion above, it can be concluded that this study focuses on the relationship between vocabulary mastery and reading comprehension in language learning, emphasizing the important role of vocabulary in students' academic achievement. Using quantitative methods and correlation analysis, the study consistently highlighted a positive correlation between vocabulary mastery and reading comprehension. The conclusion underscores the importance of vocabulary mastery to improve reading comprehension and language acquisition. This study conducted on students of Universitas Muhammadiyah Kalimantan Timur further emphasizes the importance of vocabulary in improving reading comprehension skills. The study emphasizes that there is a significant correlation between vocabulary mastery and reading comprehension, emphasizing the important role of both in academic success. Overall, the studies and tests included in this research provide valuable insights into the important relationship between vocabulary mastery and reading comprehension in language learning. The results of this study are in line with the findings of previous research, which highlighted the necessity of vocabulary mastery for effective reading comprehension. This study's focus on the correlation between vocabulary mastery and reading comprehension underscores the importance of vocabulary in language mastery and academic achievement.

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