

THE CORRELATION BETWEEN VOCABULARY MASTERY AND READING COMPREHENSION ACHIEVEMENT (A CASE TUDY)

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ABSTRAK

Penelitian ini bertujuan untuk menemukan hubungan antara penguasaan kosakata dan pemahaman membaca. Subjek penelitian dipilih dengan menggunakan teknik cluster random sampling, yaitu diambil dari kelas VIII^C. Sebelum butir soal digunakan, terlebih dahulu diuji validitas dan reliabilitasnya. Hasil uji validitas dan reliabilitas menunjukkan bahwa 15 dari 40 butir soal tidak valid dan reliabel sehingga tidak digunakan untuk mengumpulkan data. Data penguasaan kosakata dikumpulkan menggunakan tes esai sedangkan data tentang pemahaman membaca dikumpulkan menggunakan tes pilihan ganda. Data dianalisis dengan menggunakan koefisien korelasi Pearson Product Moment dalam program SPSS versi 20. Hasil analisis data menunjukkan bahwa terdapat korelasi positif antara pemahaman membaca dan penguasaan kosakata (0.440) dengan tingkat signifikansi ($\alpha = 0.05$). Hasil ini termasuk dalam kategori korelasi sedang menurut Best dan Khan (0.40 to 0.59). Oleh karena itu, hipotesis (H_a) penelitian ini gagal ditolak. Ini berarti bahwa semakin banyak kosakata bahasa Inggris yang dimiliki siswa, semakin baik pemahaman membaca mereka.

Kata Kunci: Korelasi, Penguasaan Kosakata, Pemahaman Membaca

ABSTRACT

This study aims to find out the correlation between vocabulary mastery and reading comprehension. Research subjects were selected using cluster random sampling technique, that is taken from the class assigned (VIII^C). Before using the test items, they were tested their validity and reliability. The result of validity and reliability test showed that 15 out of 40 test items were not valid and reliable so they were not used to collect data. Data of vocabulary mastery were collected using essay test while data about reading comprehension were collected using multiple choice test. Data were analyzed using Pearson Product Moment coefficient correlation in the SPSS program version 20. The result of data analysis indicated that there is positive correlation between reading comprehension and vocabulary mastery (0.440) with significant level ($\alpha = 0.05$). This result belongs to the category of moderate or medium correlation according to Best and Khan (0.40 to 0.59). Therefore, the hypothesis (H_a) of this research is failed to be rejected. It means that the greater the English vocabulary students have the better their reading comprehension do.

Keywords: Correlation, Vocabulary Mastery, Reading Comprehension

INTRODUCTION

One of the most major elements of the ability to master languages is reading. It's the process of looking at a group of written symbols and deducing meaning from them. When

we read, our eyes acquire written symbols, which we then turn into words, phrases, and paragraphs that communicate with us. Alyousef (2006) stated that reading as an integrated mechanism between the reader and the text that guides the reader become fluent in interpreting the context of passage. Reading is productive skill in that we are both receiving information and transferring information when we read. Anything you have read fills your mind with new pieces of information, and you never know when it could come in handy.

The capacity to comprehend and use what you've read or studied is known as comprehension. The set of words you know is referred as your vocabulary. Lehr, Osborn and Hiebert (2004) stated that knowledge of words and their meanings is referred to as vocabulary. So it means that vocabulary plays an important role in student's reading comprehension. Readers cannot comprehend what they are reading if they are not familiar with the meanings of the majority of the terms. Student must acquire the meaning of new terms that are not part of their speech vocabulary as they learn to read more advanced literature. However, not all students could understand what they were reading and this was one of the factors why a vocabulary really had a large impact on student reading comprehension.

METHODS

The research design is a quantitative research and it used correlational research in which the variables were collected to each other. It used to find out the correlation between vocabulary mastery and reading comprehension. To gather the data for this study, the researcher used two instruments, there were blank paper as the vocabulary test and multiple choice as the reading test. For vocabulary test, the test is distributed over WhatsApp group in the form of a word document and a Google form and the link was shared via a WhatsApp group for reading test. Because of the current pandemic situation, which limits face to face interactions. The data calculated by using Pearson Product Moment formula. Before the test is given to students, the researcher first conducts a validity test and reliability test on the questions (reading comprehension test) to determine which items are valid and reliable. The data was also tested to have normality and a linear relationship. The results of tests analyzed by using SPSS version 20 and Microsoft Excel show that the data is normally distributed and has a linear relationship.

FINDINGS AND DISCUSSION

FINDINGS

Blank paper are used to collect vocabulary test scores, wherein the test sheet has attached instructions that students write the vocabulary with a minimum of 50 words and maximum of 200 words and the vocabulary focuses on verb, noun, and adjective. From this test, it found that the highest vocabulary written by students was 150 vocabulary and the least of vocabulary written by students was 45 vocabulary. The highest vocabulary was written by one students and the lowest vocabulary was written by three students.

Before the test is given to students, the validity of the questions is first tested to determine which items are valid. Based on the data from the validity test results, it was found that only 25 out of 40 questions were valid. Because of various aspects (student learning activities, student assignments, student attention, and so on), the questions given to students were only 20 valid questions out of a total of 25. The numbers of the 20 questions are 1, 2, 4, 6, 7, 8, 9, 11, 12, 15, 17, 18, 19, 20, 22, 23, 25, 26, 29, and 34. The valid number are 1, 2, 4, 6, 7, 8, 9, 11, 12, 15, 17, 18, 19, 20, 22, 23, 25, 26, 29, 34, 35, 36, 37, 38, and 40.

The validity test aims to determine the validity of the questions. In this research, the researchers used SPSS to analyze the data with significant level ($\alpha = 0.05$). The calculation of SPSS is described as follows:

Table 1.1 Validity Test of Reading Score

Reliability test is used to see whether the question has consistency or not. In this research, the researchers used SPSS to analyze the data with significant level ($\alpha = 0.05$). The calculation of SPSS is described as follows:

Table 1.2 Reliability Test of Reading Score

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.928	.930	40

The normality test aims to determine whether the residual value is normally distributed or not. In this research, the researchers used SPSS to analyze the data with significant level ($\alpha = 0.05$). The calculation of SPSS is described as follows:

Table 1.3 Normality Test of Vocabulary Score and Reading Score

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		30
Normal Parameters^{a,b}	Mean	0E-7
	Std. Deviation	21.14803742
Most Extreme Differences	Absolute	.159
	Positive	.076
	Negative	-.159
Kolmogorov-Smirnov Z		.872
Asymp. Sig. (2-tailed)		.432
a. Test distribution is Normal.		
b. Calculated from data.		

Linear test aims to determine the form of the relationship between variable X and variable Y whether it has linear relationship or not. In this research, the researchers used SPSS to analyze the data with significant level ($\alpha = 0.05$). The calculation of SPSS is described as follows on the [appendix](#).

Table 1.4 Linearity Test of Vocabulary Score and Reading Score

ANOVA Table								
			Sum of Squares	df	Mean Square	F	Sig.	
Reading Vocabulary	*	Between Groups	(Combined)	8425.833	12	702.153	1.558	.196
			Linearity	3116.722	1	3116.722	6.916	.018
			Deviation from Linearity	5309.112	11	482.647	1.071	.435
		Within Groups		7660.833	17	450.637		
		Total		16086.66	29			

To ensure the calculation above, the researchers recalculated using SPSS (Statistical Package for the Social Sciences) version 20 to find out whether the calculation that the researcher did manually were correct and to avoid mismatches in the calculation between scores that the researchers did. The SPSS calculation is explained as follows:

Table 1.5 SPSS Correlation Table between Vocabulary Mastery and Reading Comprehension using SPSS Version 20

Correlations			
		Vocabulary	Reading
Vocabulary	Pearson Correlation	1	.440*
	Sig. (2-tailed)		.015
	N	30	30
Reading	Pearson Correlation	.440*	1
	Sig. (2-tailed)	.015	
	N	30	30

***. Correlation is significant at the 0.05 level (2-tailed).**

The calculation results above show that from a total sample of 30 students, the correlation coefficient value between vocabulary mastery (x) and reading comprehension (y) obtained was 0.440, which means that the two variables have a correlation or a positive correlation.

DISCUSSION

The researchers used two instruments to gather data for this study. The first is a test of vocabulary. On a blank paper, students fill in the vocabulary on a worksheet with a minimum of 50 words and a maximum of 200 words. This test is distributed over WhatsApp group in the form of a word document. The reading test is the second. Multiple choice test are used in which students select the correct answer from a list of options. Students took the test using a Google form that the researcher had already prepared and the link to the test was shared via a WhatsApp group. Because of the current pandemic situation, which limits face to face interactions. The first data is from a vocabulary test. The highest vocabulary that students can write is 150 words and the minimum is 45 words. 150

words can be written by one student, 100 words can be written by four students, and 99 until 50 words are written by twenty students, and 49 until 45 words are written by five students. For the individual scores, the highest is 75 and the lowest is 22.5. The highest score is achieved by one student. A score of 50 is achieved by four students, a score of 48.5 until 27.5 is achieved by ten students, a score of 25 is achieved by ten students, and a score of 24.5 until 22.5 is achieved by five students. The most common vocabulary written by the students, calculated from the total sample is “verb.” When all factors are considered, each student can write one to forty words for a noun, one to forty-one words for a verb and one to forty-seven words for an adjective.

The second data is the reading test. The total number of questions for this test is twenty numbers after being tested for validity from the previous total of forty questions. The test is online and the Google form link for this test is shared via WhatsApp class group.

In the validity test, out of forty questions, twenty-five were valid questions, but the researcher only gave twenty questions to the students. A total of 15 students from class VIII^B were used in this test. While, in the reliability test, SPSS and the Kuder Richardson 20 (KR-20) formula are used by the researcher. From the two calculations, it indicates that the test was consistent. With the explanation that the alpha value is 0.928, which is greater than the r-table value of 0.514, then the test is reliable or consistent. And the reliable coefficient value is 0.928, which is greater than 0.70 (according to Fraenkel, Wallen, and Hyun), then the test is reliable or consistent.

In the normality test, SPSS and the Kolmogorov-Sminorv formula are used by the researcher. Both of the results show that the two test were normally distributed where the value of Asymp. Sig. 2-tailed is 0.432, which is greater than 0.05 and the D_{\max} value of vocabulary and reading is 0.239 and 0.138, which is less than the D_{kritis} value of 0.240, then the two tests are normally distributed.

In the linearity test, SPSS is used by researcher. The results show that the value of Sig. deviation from linearity is 0.435, which is greater than 0.05. Then it has a linear relationship between variable X (Vocabulary Mastery) and variable Y (reading Comprehension).

The result of Product Moment Correlation showed that the value of r_{xy} is 0.440, which means the r_{xy} value is greater than the t-table value at a significance of 5% or 0.05. From the r_{xy} value and the criteria of interpretation of the correlation coefficient table, the

relationship between vocabulary mastery (variable X) and reading comprehension (variable Y) is moderate or medium-level. The findings of this study are supported by Sumarni, atik and febti's (2013) previous research where the results showed that the XI IPA-1 students of SMAN 1 Banda, XI IPS-1 students of SMAN 2 Banda and XI IPA students of SMAN 3 Banda got the Product Moment Correlation of 0.422, which means at moderate or medium level and have a positive correlation between vocabulary mastery and reading comprehension.

In this case, it also shows that vocabulary affects students' reading comprehension, or students' reading comprehension can be better if they have a lot of vocabulary.

CONCLUSION

Based on the findings, discussion, and results of data analysis, the conclusion of this study is that the correlation coefficient between the two variables is 0,440, and the data shows that the t-counted value is 2.638, which means greater than t-table 1.701. It shows that vocabulary mastery and reading comprehension of the eighth grade students at SMP Negeri 9 Palu are related to each other and the hypothesis stated there is a positive correlation and at a moderate or medium level.

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REFERENCES

Alyousef, H. S. (2006). Teaching Reading Comprehension to ESL / EFL Learners. *Journal of Language and Learning*,

- Bahri, D. S. (2019). The Correlation between Students' Vocabulary Mastery and Their Reading Comprehension at the Seventh Grade Students' of MTs DAARUL IHSAN. *PROJECT (Professional Journal of English Education)*,
- Best, J. W., & Khan, J. V. (2011). *Research in Education Tenth Edition*. New York: Pearson Education Inc.
- Best, J.W., & Khan, J.V. (2013). *Research in Education Pearson New Intenational Edition*. Pearson Edition Limited.
- Brown, J. D. (1988). Understanding research in second language learning: A teacher's guide to statistics and research design. Cambridge: Cambridge University Press.
- Cohen, L., Manion, L., & Morrison, K. (2017). Research Methods in Education. In *Research Methods in Education*.
- Cremer, M., Dingshoff, D., de Beer, M., & Schoonen, R. (2011). Do word associations assess word knowledge? A comparison of L1 and L2, child and adult word associations. *International Journal of Bilingualism*,
- Faliyanti, E. (2015). The correlation between students' vocabulary mastery and their interest in English toward reading comprehension in descriptive text. *Premise: Journal of English Education and Applied Linguistics*,
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2009). How to Design and Evaluate Research in Education.
- Fraenkel, J. L., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education eighth edition. New York: McGraw Hill.
- Gu, T. (2017). The effect of vocabulary knowledge on Chinese english learners' reading comprehension. *International Journal of English Linguistics*,
- Hidayati, L., & Siagiyanto, B. E. (2012). The Correlation between Vocabulary Mastery and Reading Comprehension Achievement.
- Kroeger, P. R. (2005). Analyzing Grammar: An Introduction. Cambridge: Cambridge University Press
- Lamadi, S., Umamah, A., & Ismiatun, F. (2020). The Correlation between Reading Comprehension and Vocabulary Mastery of Public Senior High School Students. *Jurnal Penelitian, Pendidikan, dan Pembelajaran*,
- Lehr, F., & Osborn, J. (2001). A Focus on Vocabulary. New Jersey: Prentice Hall. McEntire,
- Lehr, F., Osborn, J., & Hiebert, E. H. (2004). A focus on vocabulary. Honolulu, HI: Pacific Regional Educational Laboratory. Retrieved July, 7, 2009.
- Onwuegbuzie, A. J., Mayes, E., Arthur, L., Johnson,

J., Robinson, V., Ashe, S. ... Collins, K. M. T. (2004). Reading comprehension among african american graduate students.

Ratnawati, D. (2006). *The Correlation Between Vocabulary Mastery And Reading Comprehension: The Case of The Seventh grade Students of SMP N 13 SEMARANG In The Academic Year 2005/2006* (Doctoral dissertation, Universitas Negeri Semarang).

Richards, J. C., & Schmidt, R. W. (2013). Longman Dictionary of Language Teaching and Applied Linguistics. *Longman Dictionary of Language Teaching and Applied Linguistics*.

Roehrig, A. D., & Guo, Y. (2011). Reading in a foreign language. United States: Florida State University

Snow, John; Burns, Michael; & Griffin, Alex. (2005). *Teaching and Learning Vocabulary: Bringing Research to Practice*. London: Lawrence Erlbaum Associates Publisher

Ulfatussyarifah. 2017. The Effects of Vocabulary and Grammar Mastery Toward Students Reading Comprehension of Grade X of State Senior High School Students in West Jakarta. *Journal of English Language teaching*

Yildirim, K., Yildiz, M., & Ates, S. (2011). Is Vocabulary a Strong Variable Predicting Reading Comprehension and Does the Prediction Degree of Vocabulary Vary according to Text Types. Turkey : Gazi University

APPENDIX

		Total_Score			
Q1	Pearson Correlation	.602	Q16	Pearson Correlation	.406
	Sig. (2-tailed)	.018		Sig. (2-tailed)	.133
	N	15		N	15
Q2	Pearson Correlation	.553	Q17	Pearson Correlation	.658**
	Sig. (2-tailed)	.033		Sig. (2-tailed)	.008
	N	15		N	15
Q3	Pearson Correlation	.482	Q18	Pearson Correlation	.762**
	Sig. (2-tailed)	.069		Sig. (2-tailed)	.001
	N	15		N	15
Q4	Pearson Correlation	.602	Q19	Pearson Correlation	.553
	Sig. (2-tailed)	.018		Sig. (2-tailed)	.033
	N	15		N	15
Q5	Pearson Correlation	-.155	Q20	Pearson Correlation	.759**
	Sig. (2-tailed)	.581		Sig. (2-tailed)	.001
	N	15		N	15
Q6	Pearson Correlation	.623	Q21	Pearson Correlation	.299
	Sig. (2-tailed)	.013		Sig. (2-tailed)	.279
	N	15		N	15
Q7	Pearson Correlation	.612	Q22	Pearson Correlation	.553
	Sig. (2-tailed)	.015		Sig. (2-tailed)	.033
	N	15		N	15
Q8	Pearson Correlation	.551	Q23	Pearson Correlation	.762**
	Sig. (2-tailed)	.033		Sig. (2-tailed)	.001
	N	15		N	15
Q9	Pearson Correlation	.704**	Q24	Pearson Correlation	.328
	Sig. (2-tailed)	.003		Sig. (2-tailed)	.233
	N	15		N	15
Q10	Pearson Correlation	.418	Q25	Pearson Correlation	.658**
	Sig. (2-tailed)	.121		Sig. (2-tailed)	.008
	N	15		N	15
Q11	Pearson Correlation	.673**	Q26	Pearson Correlation	.702**
	Sig. (2-tailed)	.006		Sig. (2-tailed)	.004
	N	15		N	15
Q12	Pearson Correlation	.551	Q27	Pearson Correlation	.428
	Sig. (2-tailed)	.033		Sig. (2-tailed)	.111
	N	15		N	15
Q13	Pearson Correlation	.448	Q28	Pearson Correlation	.017
	Sig. (2-tailed)	.094		Sig. (2-tailed)	.951
	N	15		N	15
Q14	Pearson Correlation	.289	Q29	Pearson Correlation	.586
	Sig. (2-tailed)	.297		Sig. (2-tailed)	.022
	N	15		N	15
Q15	Pearson Correlation	.759**	Q30	Pearson Correlation	.206
	Sig. (2-tailed)	.001		Sig. (2-tailed)	.461
	N	15		N	15

QI31	Pearson Correlation	.231
	Sig. (2-tailed)	.406
	N	15
QI32	Pearson Correlation	.418
	Sig. (2-tailed)	.121
	N	15
QI33	Pearson Correlation	.388
	Sig. (2-tailed)	.153
	N	15
QI34	Pearson Correlation	.568 [*]
	Sig. (2-tailed)	.027
	N	15
QI35	Pearson Correlation	.635 [*]
	Sig. (2-tailed)	.011
	N	15
QI36	Pearson Correlation	.714 ^{**}
	Sig. (2-tailed)	.003
	N	15
QI37	Pearson Correlation	.602 [*]
	Sig. (2-tailed)	.018
	N	15
QI38	Pearson Correlation	.627 [*]
	Sig. (2-tailed)	.012
	N	15
QI39	Pearson Correlation	.348
	Sig. (2-tailed)	.204
	N	15
QI40	Pearson Correlation	.745 ^{**}
	Sig. (2-tailed)	.001
	N	15
Total_Score	Pearson Correlation	1
	Sig. (2-tailed)	
	N	15