

## The Correlation Between High School Students' Vocabulary Mastery and Writing Ability

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### Article Info

#### Article history:

Received Jun 9, 2022  
Revised Apr 20, 2023  
Accepted Apr 11, 2023

#### Keywords:

Correlation  
Vocabulary  
writing ability

### ABSTRACT

The aim of this study was to identify the relationship between students' writing abilities and their vocabulary knowledge. The method of this research is quantitative using two instruments: a 30-item multiple choice vocabulary test and a writing competency test using descriptive paragraphs. To analyze it, the Pearson Product Moment Correlation Formula is used to identify it. The research sample consisted of 36 middle schools' students at 8 grades. The results of research regarding the relationship between vocabulary mastery and writing ability of middle schools' students in science class show that there is a low relationship and show that the research hypothesis is proven. Based on this research, students should learn and use their vocabulary skills more to become a good writer.

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## Introduction

The aim of education English writing to senior high school students in the 2013 curriculum is to help them achieve their full potential as communicators by employing a range of spoken and written English text in personal, transactional, and functional contexts. Writing is one of the student activities in expressing ideas, opinions, experiences through words that are poured into written form consistently and productively. To write well the students need a good reason, something to write about that (Budiarsini, 2022). It means that when students writing and communicate ideas, opinions, our experiences, they must know about everything related to writing According to (Abdullah et al., 2022) a student must go through several processes and employ various techniques in order to write an excellent piece of writing. In order to write effectively, a student has to possess a variety of skills, including the capacity to organize their thoughts and construct complete sentences. According to the explanation given above, writing is a process that transfers a set of ideas from the mind to the paper.

Writing can be classified as informal (i.e., creative and personal writing) and formal (academic writing), according to (Praminatih et al., 2018). Writing that is formal or academic differs from writing that is informal in that it uses a format, grammatical structures, and organization. That means when students start writing or expressing ideas, and opinions They should be knowledgeable of everything related to writing. used to meet academic standards

in schools. So, writing It takes time to write something. of conveying a set of concepts and opinions as outlined in the form of academic writing that uses a format, sentence structure and organization that aims to write academic standards in the schools.

Furthermore, good writing has several aspects Writing involves several sub skills. Some of these are related to accuracy, such as using the correct forms of language. Writing accurately involves spelling correctly, forming letters correctly, writing legibly, punctuating correctly, using correct layouts, choosing the right vocabulary, using grammar correctly, joining sentences correctly, and using paragraphs correctly (Harsyaf in Yustikawati, 2020). This means that when students want to write a text and convey ideas, students must have the vocabulary and other aspects to develop sentences in writing, according to Munirah & Hardian (2016:80), there is an increased chance of possessing good writing abilities the more vocabularies one has. It implies that learners will find it simple to create a text if they have a lot of words. Vocabulary is a group of words. When students use in communicate ideas, opinions, and express the meaning of the author. According to (Mahmudah, 2014), a person's vocabulary consists of all the words they employ in conversation. It's mean that

Vocabulary is a group of words that are used anywhere comport to the situation in the form of spoken or written language. According to (Alqahtani, 2015), vocabulary development relates to the improved ability in a language's word processor. This means that a vocabulary plays a role in producing good writing, by connecting one word with another, it can make the reader understand the meaning the writer wants to convey, in other words, the more vocabulary mastered by students, the more the writing will develop. Vocabulary is important in learning language because of some reasons. First, the ability of understanding the target language depends on vocabulary knowledge. Second, vocabulary also can develop writing skill ability. Therefore, the students must have good ability in vocabulary to support other skills. Without mastering vocabulary along with pronunciation, the students cannot improve their language well (Septiyani, et.al., (2019). It has to be realized that the students' writing skill is conditioned by their knowledge of vocabulary. The students have lack of vocabulary will unable to use the structure in making good sentence and it will influence of their writing skill. Moreover, they cannot put the right words down becoming a good sentence. Another problem is although they have an idea but they are still confused how to develop it as the correct one.

Based on observations, there are still many students who have difficulty in carrying out the writing process, both writing texts and when working on midterm assessment questions. This is due to the lack of mastery of vocabulary in students which results in limited ideas, opinions that want to be expressed in written form. So that students choose to mix English and Indonesian in writing. So that the resulting writing has no relationship between one sentence and another, from the results of this observation the researcher can assume that the more vocabulary mastered by students, the better their chances of expressing ideas, opinions in writing. Therefore, the way students produce their writing effectively can be influenced by the use of appropriate vocabulary. So that it can make it easier for others to read the writing.

Related to the discussion above, there are several previous studies conducted by several researchers regarding vocabulary mastery and writing skills. There is the strong relationship between students' writing skills and vocabulary mastery using reading method (Hastuti, 2020); Interaction between students' communicative competence with vocabulary and their paragraph-writing skills (Mahmudah, 2014); and correlation between students' recount text

writing skills and vocabulary mastery to evaluate the students' level of vocabulary and writing proficiency (Qomar, 2017).

One of the English language skills that students learn in school is writing, with vocabulary contributing as supporting material. The researcher so made an effort to connect the two topics. The author also aimed to gauge the students' level of vocabulary and writing skills. The researcher then investigated at how the two were connected. In context of the explanation given above, the researcher is eager to carry out a study to identify the relationship between students' writing abilities and their vocabulary knowledge in higher educations. From the explanation of the research background above, this research was conducted to answer research questions; What is the correlation between vocabulary mastery and writing ability of the ten Grade students? And how the correlation between vocabulary mastery and writing ability of the ten Grade students? So, students should learn and use their vocabulary skills more to become a good writer.

## Method

The Research conducted quantitative research in this research project. According to Lodico (2006), all quantitative research techniques present outcomes as numerical summaries. The goals and techniques adopted in these techniques' data collection, however, vary. Accordingly, research involving numbers is referred to as quantitative research, and each of them has a specific set of objectives and methods. The correlation design used in this study was a suitable method because the main objective of the research was to determine the component among students' command of vocabulary and their writing competence. (McCombes in Khidhir, 2021), "a correlational research design measures a relationship between two variables without the researcher controlling either of them. The student's command of vocabulary is the independent variable, while writing skill is the dependent variable. These two variables have a correlation. X represents an independent variable, which is one that opens up the possibility and is unaffected by other factors. Although the concept that the dependent variable's symbol was Y and it was a variable decided by the independent variable. A correlation design was hence the logical method employed in this study. The researcher looked at test results from the students for this experiment. Both the researcher's written assessment and their vocabulary skill. To know the relation between writing ability and vocabulary knowledge at SMA 7 Kota Bengkulu.

The subjects of this research are the ten Grade of Senior High School at SMA 7 Kota Bengkulu in the academic year 2022/2023 There are 36 students in a classroom. There are two instruments used in this research. They are: vocabulary mastery and writing ability use descriptive paragraphs. The first testing, which was completed by students, used multiple-choice questions provided by the researcher to evaluate the students' vocabulary achievement. The researcher provided 30 multiple-choice vocabulary questions with the four choices (A), (B), (C), and (D). An accurate response earned 1 point, whereas an unreliable response received 0. The second is writing ability use a descriptive paragraph They are: 3 different topics to be written: 1) My School 2) My Friends 3) such as: Topic, Organization, Grammar, Vocabulary, Mechanic. After completion of the writing and vocabulary tests, in assessing the students' writing test, the students' writing scores were assessed by using writing rubric that adapted from Brown (2007).

Tabel 1. Analytic scoring rubric

NO	ASPEK	SCORE
1	Topic	20-17

		16-12
		11-8
		7-5
		4-0
2	Organization	20-17
		16-12
		11-8
		7-5
		4-0
3	Vocabulary	20-17
		16-12
		11-8
		7-4
		4-0
4	Language	30-24
		23-18
		17-10
		9-6
		5-0
5	Mechanic	10-8
		7-5
		4-2
		2-0

This study was carried out in Bengkulu City's SMA 7. The researcher chose class X IPA 8 for research studies. Before conducting research and collecting data, it is important to measure the accuracy and stability of the research's instrumentation. In this case the researcher has measured the validity and reliability of the instrument, the results of the instrument are valid and reliable. Data collection techniques include a vocabulary mastery test consisting of 30 questions for 36 students, writing descriptive paragraphs by selecting 3 different topics and collecting them again at that time. Having conducting some processes get data as researcher needs, the next stage to be carried out is that data analysis based on type of data itself.

The importance to which the elements were correlated may be determined by interpreting the computation's results. According to (Schober & Schwarte, 2018) the pearson correlation can be explained as follows.

Tabel 2. The Approach to Interpreting the Correlation Coefficient

NO	Periodic coefficient	Frequency of correlation
1	0.800 -1.000	High
2	0.600 - 0.800	Sufficient
3	0.400 - 0.600	Fair
4	0.200 - 0.400	Low
5	0.000 - 0.200	Very low

The researcher utilized SPSS version 25 to examine the data after collecting it from student-completed examinations in order to ascertain the outcomes and the correlation between students' vocabulary knowledge and their ability to write paragraphs. after that do statistical hypotheses of this study are symbolized into:

$H_a: \rho \neq 0$  or if  $r_{xy} > r_t$ ,  $H_a$  is accepted, and  $H_0$  is rejected.

$H_0: \rho = 0$  or if  $r_{xy} < r_t$ ,  $H_0$  is accepted, and  $H_a$  is rejected.

## Results and Discussion

The aim of this study's goal was to investigate the connection between vocabulary mastery and students' writing ability at SMA 7 Bengkulu City, especially class X IPA 8. The researcher uses theory from According to (McCombes in Khidhir, 2021), "a correlational research design measures a relationship between two variables without the researcher controlling either of them. The first is a vocabulary mastery test with multiple choice of 30 questions There are four options for each number (A), (B), (C) (D). A correct response scored 1 point, whereas an incorrect response scored 0. The second is writing ability using a descriptive paragraph They are: 3 different topics to be written: 1) My School 2) My Friends 3) My House, writing scores were assessed using a writing rubric that was adopted from Brown (2007) such as: Topic, Organization, Grammar, Vocabulary, Mechanic. After completion of the writing and vocabulary tests, the following information is discovered: (1) The students vocabulary mastery in this study, the researcher found the results of students' vocabullay mastery using 30 Multiple-choice questions with four options for each number (A), (B), and (C) (D). A correct response received 1 point, whereas a false response received 0. as seen in the following table:

Tabel 3. Frequency Distribution vocabulary master

		TOTAL	X	Frequency	
N	Valid	36	36	36	
	Missing	0	0	0	0
Mean		25.03	82.86	63	2
Std. Error of Mean		.430	1.426	70	4
Median		26.00	86.00	76	1
Mode		26	86	80	7
Std. Deviation		2.580	8.556	83	3
Variance		6.656	73.209	86	10
Range		11	37	90	4
Minimum		19	63	93	4
Maximum		30	100	100	1
Sum		901	2983		36

As displayed in table 3. When students answer the vocabulary test as many as 30 items of multiple-choice questions in tenth grade Science 8, The lowest and highest scores are 63 and 100 respectively. 2 students get a score of 63, and 1 person gets a score of 100. And the mean in the test Vocabulary of 30 item questions is 82.86

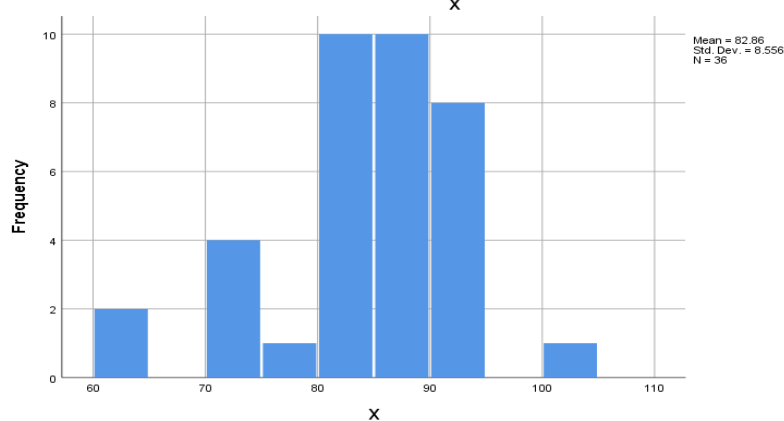


Figure 1. Result vocabulary mastery

According to figure 1, the vocabulary test had 30 items, with 2 students who receive scores of 60, 4 receiving scores of 70, 1 receiving a score of 76, 7 receiving scores of 80, 3 receiving scores of 83, 10 receiving scores of 86, 4 receiving scores of 90, 4 receiving scores of 93, and 1 receiving the highest score of 100. Overall, there are 36 responses, with a mean of 82.86, a variance of 73.209, and a standard deviation of 8.556. (1) The students writing ability test. In this study, the researcher found the results of students' writing ability test using a three different topic of descriptive paragraphs they are: 1) My school 2) My House 3) My Friends by using writing rubric that adopted from Brown (2007). as seen in the following table:

Tabel 4: Writing Ability and Descriptive Paragraphs

N	Valid	32
	Missing	4
Mean		66.09
Standar error		2.947
Median		71.50
Mode		76
Standar. Deviation		16.670
Variance		277.894
Range		56
Minimum		34
maximum		90
SUM		2115

as shown by table 4. When students write descriptive paragraphs with the title they choose and are assessed based on the writing rubric that was adopted from Brown (2007). 3 people got a score of 40, 6 students got a score of 50, 3 students got a score of 60, 8 students got a score of 70, 5 students got a score of 80, and 2 people got a score of 90, the total number of students is 32. The mean writing test is 66.09, Variance 277.894. standard deviation 16,670 is illustrated by the histogram to below:

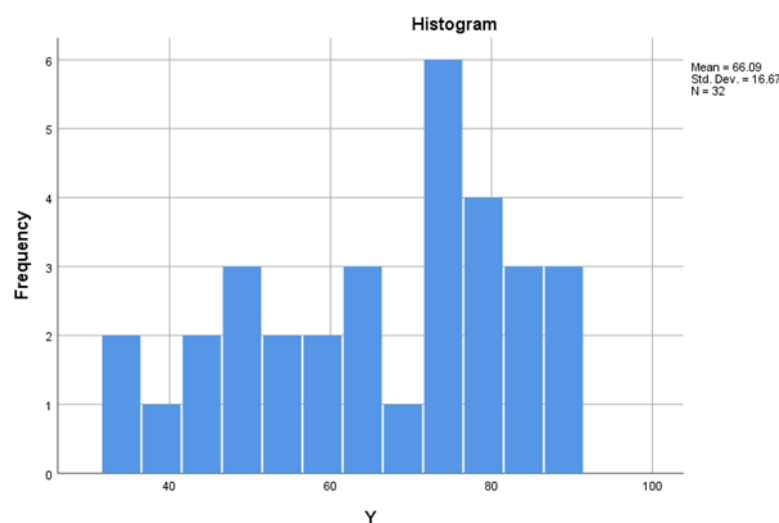


Figure 2. writing ability

### Analysis Requirement Testing

the normality test is used to measure whether a data set in the study is normally distributed or not. And to compare how much data is for random variables. In this study, researchers tested the normality between vocabulary mastery and students' writing abilities at SMA 7 Bengkulu City, using statistical computation, namely SPSS (Statistical Package for the Social Science). The normality test used is Lilliefors. the criteria of normality test If the data are normal distributed, then  $H_0$ , the data are not normally distributed, therefore  $H_a$ . While the following determines whether a normalcy test is accepted or rejected: If Sig.  $\geq 0.05$ ,  $H_0$  was accepted.  $H_a$  was considered valid if Sig. = 0.05.

Tabel 5. Normality of the Vocabulary Mastery

	Kolmogorov-Smirnov		Shapiro-Wilk			
	Statistic	Df	Sig	Statistic	df	Sig
Vocabullary test	.175	36	.007	.931	36	.027

Lilliefors Significance Correlation

The finding of Lilliefors or  $L_0 = 0.025$  with  $n = 36$  and at the significance level = 0.05 may be shown in table 5 above. The coefficient of  $L_0$  ( $0.025 > 0.05$ ) is well recognized. Therefore, it can be said that the correlation of student vocabulary mastery data is normal.

Tabel 6. Normality of the Ability in Writing descriptive paragraphs.

	Kolmogorov-Smirnov		Shapiro-Wilk			
	Statistic	Df	Sig	Statistic	Df	Sig
Writing ability	.147	32	.007	.943	32	.091

Lilliefors Significance Correction

As seen in table 6. before, the significance level for the Lilliefors table is  $L_t = 0.161$ , and the Lilliefors evaluation is  $L_0 = 0.091$  with  $n = 32$  and at real level = 0.05. The coefficient of  $L_0$  ( $0.171 > 0.05$ ) is well recognized. Thus, it may be said that the student's writing skill data distribution is typical. Homogeneity Tests

In order to determine if two or more sample data groups comes from populations with the same variations, a homogeneity test is used. The table below shows the homogeneity test results for writing competence and vocabulary mastery:

Tabel 6. Test of Homogeneity of Variances

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		statistic	df1	df2	Sig.
Y	Based on Mean	1.765	6	24	.149
	Based on Median	.733	6	24	.628
	Based on Median and with adjusted df	.733	6	13.440	.632
	Based on trimmed mean	1.696	6	24	.165

The information displayed in the table indicated that the test for data homogeneity was accurate. The information indicated a homogeneity of 0.149, which means that  $0.149 > 0.05$ . According to Desi (2020), when the homogeneity result was 0.149 higher than 0.005, it meant. It is possible to conclude that the variances are homogeneous.

The data findings indicated that the two variables' coefficient of correlation is taken into consideration to explore the correlation between the two categories after computing the overall research score, vocabulary mastery (X) and capability for writing descriptive texts (Y). It uses person product moment analysis, with SPSS (Statistical Package for the Social Science) the criteria of hypothesis test as follows:

H<sub>a</sub>: There was a significant correlation between students' vocabulary mastery and writing ability in writing semester of the ten grades at SMA 7 Kota Bengkulu in the academic year of 2022/2023.

H<sub>0</sub>: in the tenth grade at the SMA 7 Kota Bengkulu, there was no statistically substantial correlation between students' vocabulary knowledge and writing abilities

The following factors determine whether a hypothesis test is accepted or rejected H<sub>0</sub> is accepted if Sig.  $> 0.05$  If Sig. = 0.05, H<sub>a</sub> is acceptable.

Tabel 7. Correlation vocabulary mastery and writing ability

		X	Y
X	Pr correlation	1	-.277
	Significant. (2-tailed)		.125
	N	36	32
Y	Pears Correlation	-.277	1
	Sig. (2-tailed)	.125	
	N	32	36

Based on the aforementioned table, the SPSS values for the person moment correlation are sig (P value) = 0.125  $> 0.05$ . As a result, H<sub>a</sub> is approved and H<sub>0</sub> is refused. According to the calculations, there is a less correlation between tenth-grade students at SMA 7 Bengkulu City's ability to write and their command of vocabulary.

The research identifies the student correlation between vocabulary mastery and writing ability at SMA 7 Bengkulu City. (McCombes, in Khidhir, 2021), "a correlational research design measures a relationship between two variables without the researcher controlling either of them. The first is a vocabulary mastery test with multiple choice of 30 questions each number has four choices (A), (B), (C), (D). The second is writing ability using a descriptive paragraph They are: 3 different topics to be written: 1) My School 2) My Friends 3) My House, writing scores were assessed using a writing rubric that was adopted from Brown (2007) such as: Content, Organization, Grammar, Vocabulary, Mechanic.

When students take a vocabulary mastery test of 30 multiple choice items, the average is 82.8, with a normal normality test that is 36, Lo = 0.025, and 0.05 is the identified significance value. The coefficient of Lo ( $0.025 > 0.05$ ) is well observed. This result is in line with the opinion "When the significance was larger than, the sample distribution was normal, and if it was less than, the sample distribution was not normal, according to Aprilia



(2019:85)”. The normality test of the researcher's writing ability used descriptive paragraphs with normality  $Lo = 0.091$  with  $n = 32$  and at real level  $\alpha = 0.05$  from the list of critical values of Lilliefors table  $Lt = 0.161$ . It is known that the coefficient of  $Lo (0.171 > 0.05)$ . Writing ability and vocabulary both scored  $0.149$  on the homogeneity test, which indicated that  $0.149 > 0.05$ . According to Desi (2020), when the homogeneity result was  $0.149$  higher than  $0.005$ , it meant. It is possible to assume that the variances are homogeneous. Meanwhile, for the hypothesis test between vocabulary mastery and writing ability at SMA 7 Bengkulu City, the correlation was calculated using the SPSS for the person moment sig (P value) =  $0.125 > \alpha = 0.05$ , the correlation was low. so, the relationship between vocabulary mastery and writing ability in the tenth grade X IPA 8 of SMA 7 Bengkulu City, has a low correlation.

The results are in line with those of Syartika (2020), who talked about the relationship between students' descriptive text writing skills and their vocabulary knowledge. The study's outcome was shown by the  $0.563$  coefficient of correlation (rxy). Since it was factored into the scale of r interpretation score between  $0.400-0.600$ , it suggests that there was a reasonable relationship between the students' vocabulary proficiency and their ability to write descriptive texts. With a 5% level of significance, the r table (rt) obtained a score of  $0.404$ ; as a result,  $rxy > rt (0.563 > 0.404)$ ; and with a 1% level of significance, the rt obtained a score of  $0.515$ ; as a result,  $rxy > rt (0.563 > 0.515)$ ; the conclusion reached was that  $H_a$  was accepted.

The findings of this study have implications for students at SMA 7 Bengkulu City in the relationship between vocabulary mastery and paragraph writing ability. Researchers identified the relationship between the two variables is still weakly correlated. So The researcher hopes that these results can become a reference in improving English vocabulary mastery in order to develop students' writing skills in expressing ideas, opinions so that the vocabulary used is not limited in all skills learned at school.

## Conclusion

Based on the findings and analysis of the correlation between writing ability and vocabulary knowledge which has been discussed previously it can be concluded that writing ability and vocabulary mastery in tenth grade IPA 8 SMA 7 Bengkulu City, the correlation was calculated using the SPSS for the person moment sig (P value) =  $0.125 > \alpha = 0.05$ , the correlation was low. Based on the conclusion of the research, they would like to give suggestions as follow: For students: they should increase their vocabulary mastery, such as practicing every day. so that the researcher's writing.

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