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## The Correlation Between Reading Comprehension and Vocabulary Mastery of Class XI Students at Madrasah Aliyah Al-Khairaat Ulatan

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### ABSTRACT

This study aims to investigate the relationship between the reading comprehension and vocabulary proficiency of students in the eleventh grade at Madrasah Aliyah Al-khairaat Ulatan. The research employs a quantitative approach with a correlational design, and the sampling method utilized is total sampling. The study includes 26 students from the eleventh-grade class at Madrasah Aliyah Al-khairaat Ulatan. The research instrument consists of a multiple-choice test, and data collection involves two types of tests: a reading comprehension test and a vocabulary mastery test, each comprising 10 questions. Data analysis was conducted manually using SPSS 25. The findings of the research reveal a significant correlation between reading comprehension and vocabulary mastery, with a two-tailed significance (Sig.) value of 0.007. The calculated correlation coefficient ( $r$ ) is 0.518, indicating a strong correlation (greater than 0.5 but less than 0.75). The Pearson correlation coefficient of 1 signifies a positive correlation between the two variables. Therefore, the research concludes that the alternative hypothesis ( $H_a$ ): "The value of  $r$  count 0.518 >  $r$  table 0.388" is accepted, indicating a correlation between reading comprehension and vocabulary mastery among students in class XI at Madrasah Aliyah Al-khairaat Ulatan.

**Keywords:** *Correlation, reading comprehension, vocabulary mastery.*

### INTRODUCTION

Acquiring the skill of reading is essential because it enables individuals to gain access to information or knowledge previously unknown to them. Reading allows people to extract the intended message from a text and comprehend the author's communication. Essentially, reading involves interpreting messages or words, constituting the information conveyed by an article or reading text. Various types of reading exist, such as reading comprehension, reading for ideas, critical reading, careful reading, and language studies.



Reading comprehension, specifically, is the ability to acquire knowledge by comprehending the content, meaning of words, and sentences within a reading text. To grasp information or knowledge from a reading text, readers must understand its contents, highlighting the importance of reading comprehension. In the context of this study, exposition texts are employed to engage students in reading. These texts, essays designed to captivate students' interest, aim to enhance their reading knowledge by providing informative content. Adapted from eleventh-grade high school textbooks following the 2013 curriculum, these texts ensure that students comprehend English texts, preventing confusion and promoting vocabulary acquisition.

The process of learning vocabulary often involves rote memorization, yet students may struggle with retention. Additionally, individual differences in character and comprehension affect how students grasp new words in English texts, resulting in limited vocabulary. After reading a text, students typically encounter new vocabulary, and this collection of words is crucial to language development. The ability to understand a reading text is contingent on having an ample vocabulary stock. A pre-observation of eleventh-grade students at Madrasah Aliyah Al-Khairaat Ulatan revealed confusion about comprehending reading texts, coupled with a limited vocabulary.

Given this context, the researcher aims to explore the correlation between reading comprehension and vocabulary mastery among eleventh-grade students at Madrasah Aliyah Al-Khairaat Ulatan.

## LITERATURE REVIEW

### Correlation

Correlation refers to a connection between two factors, where one factor has the potential to influence the other. Correlation research is a method of analysis encompassed within association measurement techniques. Its primary purpose is to gauge the relationship between two or more variables, making it an analytical tool in association measurements for assessing such relationships.

Correlation is a statistical analysis technique employed to identify connections between two variables. These variables may be linked by a cause-and-effect relationship or may exhibit a relationship due to chance. Essentially, a correlation between two variables can stem from either a causal link or mere coincidence.

Variables are considered correlated if changes in one variable consistently occur in the same direction (positive correlation) or the opposite direction (negative correlation). Correlation, as a concept, is categorized into three types: simple correlation, partial correlation, and multiple correlation (Sarwono, 2011). This classification indicates that the existence of a correlation between two variables can manifest in either the same or opposite directions, termed positive correlation and negative correlation, respectively.

#### 1. Simple Correlation

Simple correlation is a statistical analysis to measure the relationship between two variables, and the relationship is categorized into positive, negative, and no correlation. A



positive correlation is indicated by a value of 1, a negative correlation is assigned a value of -1 and no correlation is assigned a value of 0.

## 2. Partial Correlation

Partial correlation has more than two variables. There is an appearance of a third variable variant, then it is removed. So that, it does not interfere with the two related variables (Sarwono, 2011).

## 3. Multiple Correlation

Multiple correlation is different from partial correlation, in this multiple correlation method, there is no independent variable as a control variable (Delyani, 2021).

## Reading Comprehension

Reading comprehension refers to the capability to grasp the content of a reading text (Adieb, 2021). Furthermore, it encompasses a series of activities and processes undertaken by readers to comprehend and gain insights into what they have read, with the goal of acquiring necessary information.

The role of reading comprehension is crucial in aiding readers to understand reading texts effectively. Reading comprehension not only enhances the enjoyment of reading but also contributes to increased knowledge, enabling readers to analyze workplace documents, among other benefits.

### 1) The types of comprehension are as follows (Day & Park, 2005):

#### a) Literal comprehension

Literal comprehension pertains to the direct and factual understanding of the text, encompassing elements like facts, vocabulary, dates, times, and locations. This type of comprehension is easily recognizable as the reader focuses solely on the content of the reading text, which includes factual information, vocabulary, dates, times, and specific locations.

#### b) Reorganizational comprehension

Reorganizational comprehension involves restructuring information from the text to derive fresh insights. In other words, the reader reorganizes the content of the text to obtain updated information.

#### c) Inferential comprehension

Inferential comprehension entails drawing conclusions about information from the text and generating new insights not explicitly stated in the text. This implies that the reader makes inferences about the content of the reading text and forms additional information that is not explicitly presented in the text.

#### d) Predictive comprehension

Predictive comprehension involves students utilizing their understanding of both the passage and their knowledge of the topic and related subjects to anticipate what could happen next or after a story concludes. In essence, predictive comprehension leverages readers' integration, comprehension, and knowledge of the text to infer potential developments in the narrative. Alternatively, the reader is prompted to speculate about the conclusion of the story or reading text.

#### e) Evaluative comprehension



Evaluative comprehension involves the learner providing an overall or comprehensive judgment about certain aspects of the text. In other words, this type of comprehension requires the reader to comprehensively assess specific elements or information within the reading text.

f) Personal response comprehension

Personal response comprehension entails readers responding with their emotions or personal reactions toward the reading text. In essence, it involves readers using their feelings to engage with and interpret the reading material.

The researcher used literal comprehension, which is one type of comprehension, that focuses on the content of the reading text and one of them includes vocabulary.

### Vocabulary Mastery

Vocabulary mastery is ability to master words in part of particular language including oral and written language. When learning a language or foreign language, students automatically should learn about vocabulary. The importance of vocabulary is as follows:

1) The importance of vocabulary

Not a few people find it difficult to learn and master reading comprehension, because they are having several obstacles, for example, limited vocabulary, difficulty in concentrating in reading English text, not understanding good grammar, and so on. It can be said, vocabulary is important to increase reading comprehension, because vocabulary is building aspect of learning language. At least, there are six types of vocabulary namely word classes, word family, word formation, multi-word units, collocations and homonyms.

2) The types of vocabulary is as follows:

a) Word classes

Word classes are a word utilization connected with morphology, normally this type is frequently alluded to as grammatical features, which can be as things, action words, pronouns, verb modifiers, descriptors, relational words and conjunctions. It means, this vocabulary type includes as part of speech, which is in the form of nouns, adjectives, verbs, adverbs, pronouns, conjunctions and prepositions.

b) Word family

This vocabulary type describes an affix. It means, this type of vocabulary contains affixes.

c) Word formation

This vocabulary type includes compound word, blending, conversion and clipping. It means, this type of vocabulary contains word formation consisting of a combination of words, such as compound word, blending, conversion and clipping.

d) Multi-word units

Multi-word units include verb phrases and idioms. It means, this type of vocabulary contains phrases and idioms.

e) Collocations

This type of vocabulary is having meaning as two words or more, but have the same meaning or are bounded.



f) Homonyms

This vocabulary type is having different letters but the spelling is the same. It means, this type of vocabulary contains different letters, but has the same pronunciation.

## METHOD

This exploration utilized quantitative methodology. Meanwhile, this research design used correlational design which is quantitative research. The researcher used simple correlation, it is categorized into several types namely *positive correlation* occurs if the value of X variable increases, then Y variable will also increase. *Negative correlation* occurs if the value of X variable increases, the value of Y variable will decrease. *Uncorrelated* if the two variables do not show a relationship.

The population of this research was eleventh grade students of Madrasah Aliyah Al-Khairaat Ulatan, in academic year 2022/2023. The population is divided into science and social classes, where the total of students is 26. Science class consisted of 15 students and social class consisted of 11 students. If the total population is less than 100, then all samples should be taken or in other words using the population as the sample. But, if the population is greater than 100, then 10-15% or 20-25% of the total population can be taken samples (Suharsimi Arikunto 2006:104). So this research used total sampling technique, because the subjects of this research were 26 students which are less than 100. So, the researcher took all of the students in class XI as the sample of this research.

This research used multiple choice test in reading comprehension and vocabulary mastery as the research instrument. If the test instrument used is in the form of multiple choice questions, then the answer options consisted of five choices. Every correct item scored 1, and incorrect item scored 0.

To find out coefficient correlation the researcher used Pearson Product Moment to analyze the data to get the result of the correlation from two variables, and it was analyzed by SPSS statistic program. Pearson Product Moment is a type of correlation test used to determine the relationship between two variables that have an interval or ratio scale. In hypothesis test, Pearson Product Moment to determine whether the correlation was positive (1), negative (-1) or no correlation (0) in hypothesis test. The level significance of correlation (2-tailed) namely: If the significance is  $<0.05$  then there is correlation and if the significance is  $>0.05$  then there is no correlation

The researcher used Shapiro Wilk Test to find out that the two variables are said to be normal distribution, proved by: The significance is  $>0.05$ , then the two variables are normal distribution; and if the significance is  $<0.05$  the two variables are not normal distribution.

The researcher used Deviation From Linearity to determine whether the two variables were in the same direction with the indicator namely: If the significance in deviation from linearity is  $>0.05$ , then the two variables have a linear relationship. Meanwhile, if the significance deviation from linearity is  $<0.05$ , then there is no linear relationship.



## FINDINGS AND DISCUSSION

This research was conducted to find the correlation between reading comprehension and vocabulary mastery in class XI students of Madrasah Aliyah Al-khairaat Ulatan. To obtain data for both variables, the researcher used multiple choice test as much as 20 numbers namely for reading comprehension 10 numbers and vocabulary mastery 10 numbers.

### FINDINGS

After the data is obtained, The researcher analyzed the data manually to get the score of students. The researcher used the formula as follows:

$$\text{Score} = \frac{\text{Correct answer}}{\text{Total number of questions}} \times 100$$

The researcher first conducted normality test, linearity test, hypothesis test, then parametric statistical test (correlation analysis) can be carried out.

#### 1. Normality test

		Tests of Normality					
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
Class		Statistic	df	Sig.	Statistic	df	Sig.
Reading_comprehension	IPA	0.150	15	,200*	0.952	15	0.560
	IPS	0.158	11	,200*	0.921	11	0.329
Vocabulary_mastery	IPA	0.235	15	0.025	0.938	15	0.364
	IPS	0.281	11	0.015	0.905	11	0.210

The researcher used Shapiro Wilk Test to find out that the two variables are said to be normal distribution, proved by: The significance is >0.05, then the two variables are normal distribution; and if the significance is <0.05 the two variables are not normal distribution. Based on the result of Normality Test Shapiro Wilk, the significance of reading comprehension at science class was 0.560 and social class was 0.329. Meanwhile, the significance of vocabulary mastery at science class was 0.364 and social class was 0.210. It means, the two variables were normal distribution because the significant level of the both variables is more than 0.05.

#### 2. Linearity Test





			Sum of Squares	df	Mean Square	F	Sig.
Vocabulary_mastery * Reading_comprehension	Between Groups	(Combined)	6003.333	7	857.619	2.340	0.069
		Linearity	3384.375	1	3384.375	9.235	0.007
		Deviation from Linearity	2618.958	6	436.493	1.191	0.355
	Within Groups		6596.667	18	366.481		
	Total		12600.000	25			

The researcher used Deviation From Linearity to determine whether the two variables were in the same direction with the indicator namely: If the significance in deviation from linearity is  $>0.05$ , then the two variables have a linear relationship. Meanwhile, if the significance deviation from linearity is  $<0.05$ , then there is no linear relationship. Based on Linearity Test result the significance in deviation from linearity was 0.355 which meant the significant value of the deviation from linearity is  $>0.05$ . It can be said, the two variables had linear relationship.

### 3. Hypothesis Test (Pearson Product Moment)

Correlations			
		Reading_comprehension	Vocabulary_mastery
Reading_comprehension	Pearson Correlation	1	,518**
	Sig. (2-tailed)		0.007
	N	26	26
Vocabulary_mastery	Pearson Correlation	,518**	1
	Sig. (2-tailed)	0.007	
	N	26	26

The level significance of correlation (2-tailed) namely: If the significance is  $<0.05$  then there is correlation and if the significance is  $>0.05$  then there is no correlation. Based on the result of reading comprehension and vocabulary mastery, the Sig (2-tailed) was 0.007 which means there is a correlation, because 0.007 is lower than 0.05. After it was known that there is a correlation, the researcher proved what kind of correlation by looking at the results in the Pearson Correlation (r-count) column of reading comprehension and vocabulary mastery which were 0.518. It was included in the coefficient correlation  $>0.5-0.75$  Strong Correlation by looking at the table of coefficients correlation below:



**Coefficient Correlation Value (r)**

Correlation Value (r)	Interpretation
0	No correlation
>0 – 0.25	Very low correlation
>0.25 – 0.5	Enough correlation
>0.5 – 0.75	Strong correlation
>0.75 – 0.99	Very strong correlation
1	Perfect correlation. <sup>55</sup>

The result showed that it was 1, which means the correlation between the two variables was positive. It means, the value of reading comprehension is higher, and the value of vocabulary mastery is too. Furthermore, it was proved that the hypothesis is accepted or not, based on the following criteria: If the value of r-count > r table then there is a correlation between two variables. If the value of r-count < r table then there is no correlation between two variables. Because the result of r-count was 0.518, it can be formulated by looking at the r-table below which the number of respondents 26, there is a value 0.388.

**R-Table**

N	Significant Level		N	Significant Level		N	Significant Level	
	5%	1%		5%	1%		5%	1%
3	0.997	0.999	27	0.381	0.487	55	0.266	0.345
4	0.95	0.99	28	0.374	0.478	60	0.254	0.33
5	0.878	0.959	29	0.367	0.47	65	0.244	0.317
6	0.811	0.917	30	0.361	0.463	70	0.235	0.306
7	0.754	0.874	31	0.355	0.456	75	0.227	0.296
8	0.707	0.834	32	0.349	0.449	80	0.22	0.286
9	0.666	0.798	33	0.344	0.442	85	0.213	0.278
10	0.632	0.765	34	0.339	0.436	90	0.207	0.27
11	0.602	0.735	35	0.334	0.43	95	0.202	0.263
12	0.576	0.708	36	0.329	0.424	100	0.195	0.256
13	0.553	0.684	37	0.325	0.418	125	0.176	0.23
14	0.532	0.661	38	0.32	0.413	150	0.159	0.21
15	0.514	0.641	39	0.316	0.408	175	0.148	0.194
16	0.497	0.623	40	0.312	0.403	200	0.138	0.181
17	0.482	0.606	41	0.308	0.398	300	0.113	0.148
18	0.468	0.59	42	0.304	0.393	400	0.098	0.128
19	0.456	0.575	43	0.301	0.389	500	0.088	0.115
20	0.444	0.561	44	0.297	0.384	600	0.08	0.105
21	0.433	0.549	45	0.294	0.38	700	0.074	0.097
22	0.423	0.537	46	0.291	0.376	800	0.07	0.091
23	0.413	0.526	47	0.288	0.372	900	0.065	0.086
24	0.404	0.515	48	0.284	0.368	1000	0.062	0.081
25	0.396	0.505	49	0.281	0.364			
26	0.388	0.496	50	0.279	0.361			





It can be said, the value of  $r$  count (0.518) is more than  $r$  table (0.388). It means, ( $H_a$ ) is accepted: there is correlation between reading comprehension and vocabulary mastery of students in class XI Madrasah Aliyah Al-khairaat Ulatan.

## DISCUSSION

The research was conducted on the first day on Tuesday September 20, in class XI IPA (science) by giving 30 minutes for the reading comprehension test and 25 minutes for the vocabulary test, the form of questions were multiple choice.

The research was conducted on the second day on Thursday September 22, in class XI IPS (social) by giving 30 minutes for the reading comprehension test and 25 minutes for the vocabulary test, the form of questions were multiple choice.

This research is different from the previous research. This research is a type of simple correlation which only focuses on two variables namely X variable is reading comprehension and Y variable is vocabulary mastery, where the sample used is grade eleven science and social class at Aliyah Al-khairaat Ulatan with the total sampling technique because the number of students is less than 50 which is only 26 students.

After the students were given a reading comprehension test and vocabulary mastery test, the researcher analyzed the students' score data manually and then the results were analyzed by using SPSS 25. Based on the results of the research that had been done, it was obtained: The value of  $r$  count was 0.518. It means that the two variables have a relationship with the correlation coefficient level  $>0.5-0.75$  which included in the category of *strong correlation*. Then, in the correlation Pearson Product Moment, number 1 in reading comprehension and vocabulary mastery indicates positive correlation. It means, the relationship is unidirectional that is if the value of X variable increases, then the value of Y variable also increases. Also, if the value of X variable decreases, then the value of Y variable also decreases.

## CONCLUSION

There is correlation proved by the level significance of correlation 2-tailed was 0.007, and the type of correlation is positive correlation with evidence of Pearson Correlation value 1. The level of coefficient correlation included in strong correlation which proved by  $r$ -count value of 0.518. It means there is correlation between reading comprehension and vocabulary mastery of students in Class XI Madrasah Aliyah Al-khairaat Ulatan ( $H_a$  Accepted)

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