

The Correlation Between Vocabulary Acquisition and Reading Comprehension in Narrative Texts of Junior High School Students

A. Nur Ismi¹, Syarifah Farahdiba², Sultan Baa³

^{1,2,3}Universitas Negeri Makassar, Indonesia

Corresponding Author:

Sultan Baa

sultan7304@unm.ac.id

Abstract

This study aimed to analyze students' vocabulary acquisition and reading comprehension in narrative texts and determine whether there was a correlation between vocabulary acquisition and reading comprehension in narrative texts while considering the frequency of vocabulary acquisition. The research employed a correlational study, involving bivariate and partial correlation analyses. The participants of this study were eighth-grade students at SMP Negeri 26 Makassar. The findings showed that most students' range scores were in the very poor category regarding vocabulary acquisition and reading comprehension in narrative texts. This study found a significant correlation between students' vocabulary acquisition and reading comprehension in narrative texts. The partial correlation analysis also showed a moderate correlation between the two variables with the frequency of vocabulary acquisition as a control variable. Thus, both variables were correlated with the frequency of vocabulary acquisition, indicating that the more frequently students acquired vocabulary, the better their vocabulary acquisition and reading comprehension in narrative texts.

Keywords: *vocabulary acquisition, reading comprehension, correlation*

Introduction

Vocabulary acquisition playing a central role in literacy development, including the ability to read, write, and understand information. According to Djuarsa (2016), literacy depends on proficiency in language uplaysse and understanding the context of a text. A lack of vocabulary often hampers students' reading comprehension, as it serves as a foundational element in interpreting written material. This issue is especially pertinent in Indonesia, where English is taught as a foreign language, and students' vocabulary development plays a crucial role in their reading comprehension skills. Insufficient vocabulary makes it difficult for students to grasp the content of narrative texts, one of the text genres in English subject.

Various studies underline the pivotal role vocabulary acquisition plays in reading comprehension. Rahmasari, Baa, and Korompot (2023) emphasize that vocabulary knowledge is an essential factor in enabling students to comprehend English texts. Likewise, Kholidiana, Sutarsyah, and Suka (2018) argue that both vocabulary and grammar are indispensable for understanding language effectively. Despite these insights, much of the existing research focuses on informative or descriptive texts, overlooking the unique nature of narrative texts that require specialized comprehension strategies (Richards & Schmidt, as cited in Septyana & Fadilla, 2023).

Numerous relevant studies have examined this topic. Simanjuntak, Inayah, and Marhaban (2024) analyzed the connection between students' vocabulary knowledge and narrative text comprehension skills, employing multiple-choice tests to assess both aspects. Their findings, however, reveal a weak correlation, indicating a need for further exploration. Solihat (2021) studies how vocabulary mastery influences narrative writing skills, underscoring vocabulary's importance in broader language competencies. Meanwhile, Yuliani and Ningsih (2021) examine students' reading comprehension of narrative texts, finding that while students generally show good comprehension, variations in research methods and sampling lead to differing results compared to other studies.

Despite substantial research highlighting the importance of vocabulary acquisition in reading comprehension, the specific elements shaping the understanding of narrative texts remain underexplored. Most research focuses on vocabulary knowledge without examining how the frequency of vocabulary acquisition influences reading comprehension. Additionally, the methodologies and tools used across studies differ widely, leading to inconsistent results. For example, Simanjuntak et al. (2024) report a low correlation between vocabulary and comprehension, contrasting with other studies' findings. This indicates a gap in understanding how vocabulary acquisition relates to narrative text comprehension, particularly when considering the frequency of acquiring vocabulary among junior high school students in Indonesia.

This research seeks to address these gaps by exploring the relationship between vocabulary acquisition and reading comprehension in narrative texts while considering the frequency of vocabulary acquisition. The study aims to evaluate students' vocabulary acquisition and reading comprehension levels and analyze how these factors are interconnected, focusing on the frequency of vocabulary acquisition as a control variable. This research's novelty lies in its emphasis on vocabulary acquisition frequency, offering a detailed perspective on how vocabulary acquisition impacts comprehension of narrative texts. Addressing this gap, the study enhances both theoretical and practical insights into the role of vocabulary in literacy development and its impact on educational practices in Indonesia.

Method

This study sought to examine the relationship between vocabulary acquisition and reading comprehension of narrative texts while considering the frequency of vocabulary acquisition as a control variable. The subsequent sections outline the research design, sample population, data collection techniques, research instrument, and data analysis methods.

This research utilized a correlational design, which is particularly effective for exploring relationships between variables. The main goal was to assess the strength and direction of the relationship between vocabulary acquisition and reading comprehension of narrative texts among eighth-grade students. By incorporating the frequency of vocabulary acquisition as a control variable, the study offered a more comprehensive and detailed analysis of the relationship between the variables.

The study sample comprised eighth-grade students from SMP Negeri 26 Makassar. From a total population of 193 students, the researcher used Slovin's formula to determine a representative sample size. Ultimately, 66 students participated in the study, which ensured sufficient numbers for conducting correlational analysis and obtaining

reliable results. The random sampling method was employed to ensure that every student in the population had an equal opportunity to be chosen. This approach enhanced the generalizability of the study's results to the wider population.

Data collection involved the use of two tests and a questionnaire. The first test assessed vocabulary acquisition, focusing on how often students acquire vocabulary in both school and non-school contexts. The second test measured reading comprehension in narrative texts, adapted from existing tools, and evaluated students' understanding at different levels, such as literal, inferential, and evaluative comprehension. Additionally, a questionnaire was utilized to gather information on students' vocabulary acquisition habits and practices. All instruments underwent a thorough validation process, including expert evaluations and pilot testing, to ensure their accuracy and reliability. The pilot test was carried out with 22 students who were excluded from the main study sample.

The data obtained were analyzed using statistical techniques to address the research objectives. Descriptive statistics were used to summarize the data, while inferential statistics, particularly Pearson correlation analysis, were employed to investigate the connection between vocabulary acquisition and reading comprehension. Furthermore, partial correlation analysis was performed to control for the frequency of vocabulary acquisition as a variable. Before conducting these analyses, normality and linearity tests were performed to ensure that the conditions for correlation analysis were satisfied.

Results

This study's findings were divided into five sections: (1) The level of students' vocabulary acquisition (2) The level of students' reading comprehension in narrative texts (3) The level of students' vocabulary acquisition frequency (4) The prerequisite consists of normality and linearity results (5) The correlation analysis consists bivariate and partial correlation.

The Level of Students' Vocabulary Acquisition

The data on students' vocabulary acquisition in this study is derived from the analysis of a vocabulary test. As shown in Table 1, The highest possible score is 95, and the lowest is zero. The mean score of the participants is 43.64, with a standard deviation of 19.661. A high standard deviation (19.661) indicates considerable variability in the participants' scores, with many participants scoring either much higher or much lower than the average of 43.64.

Table 1. *Descriptive Statistics of Vocabulary Acquisition*

	N	Minimum	Maximum	Mean	Std. Deviation
Vocabulary Acquisition	66	0	95	43.64	19.661
Valid N (listwise)	66				

The researcher applied a chart to interpret the results of students' vocabulary acquisition levels using an interpretation scale, as presented below:

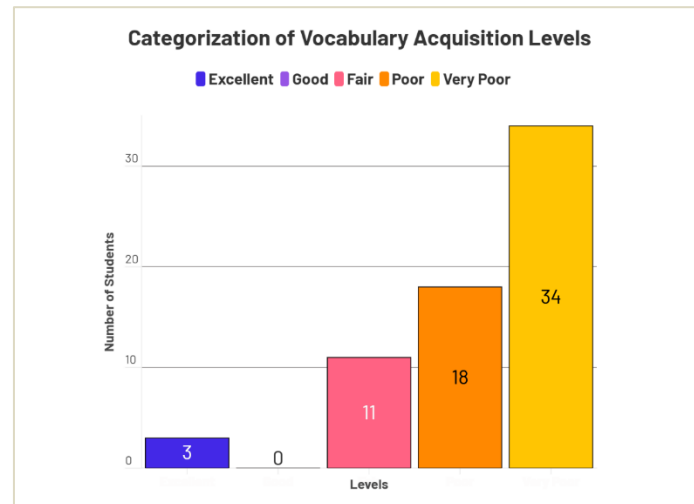


Figure 1. Categorization of Vocabulary Acquisition Levels

Based on the data it can be observed that 14 respondents, placed in the excellent and fair categories, scored above the average. Meanwhile, the remaining respondents fall into the poor and very poor categories, with 52 respondents having scores that could be at or below the average. This suggests that most students have a relatively low vocabulary acquisition, while only a small number show higher levels of vocabulary acquisition, as shown in the chart below.

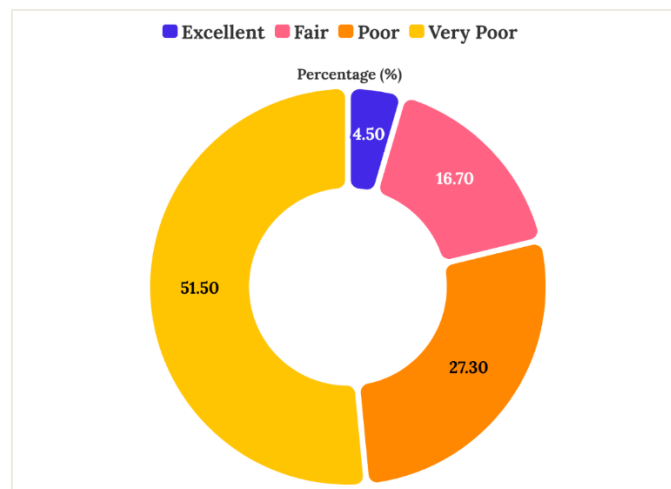


Figure 2. Chart of Students' Vocabulary Acquisition Level

The Level of Students' Reading Comprehension in Narrative Text

The data on students' reading comprehension in this research was obtained from their performance on a reading comprehension test for narrative texts. Based on table below, the highest recorded score is 85, and the lowest recorded score is 15. The mean score is 43.48, with a standard deviation of 15.639. This indicates a significant variation in the participants' scores, with the majority falling approximately 15.639 points above or below the mean.

Table 2. Descriptive Statistics of Reading Comprehension in Narrative Text

	N	Minimum	Maximum	Mean	Std. Deviation
Reading Comprehension	66	15	85	43.48	15.639
Valid N (listwise)	66				

This study employed a chart with an interpretation scale to represent the data on students' reading comprehension levels in narrative texts, as illustrated below:

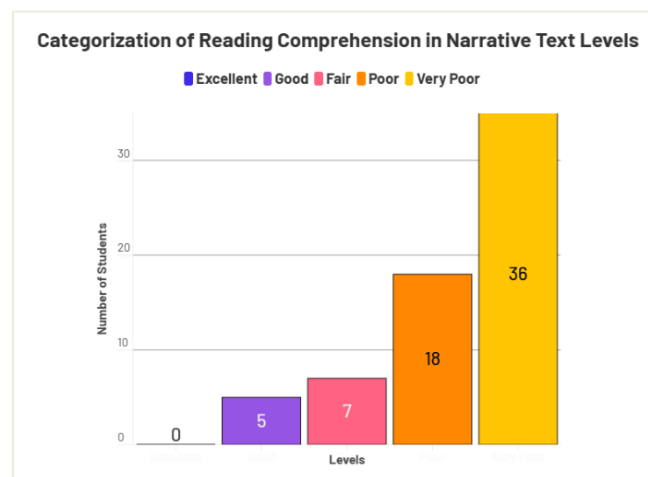


Figure 3. Categorization of Reading Comprehension in Narrative Text Levels

According to the data displayed in the chart above, it can be observed that 12 respondents, categorized as good and fair, have scores above the average. Meanwhile, the remaining 54 respondents fall into the poor and very poor categories, with scores at or below the average. This indicates that most students have low reading comprehension levels in narrative texts, while only a few demonstrate better performance, as shown in the chart below:

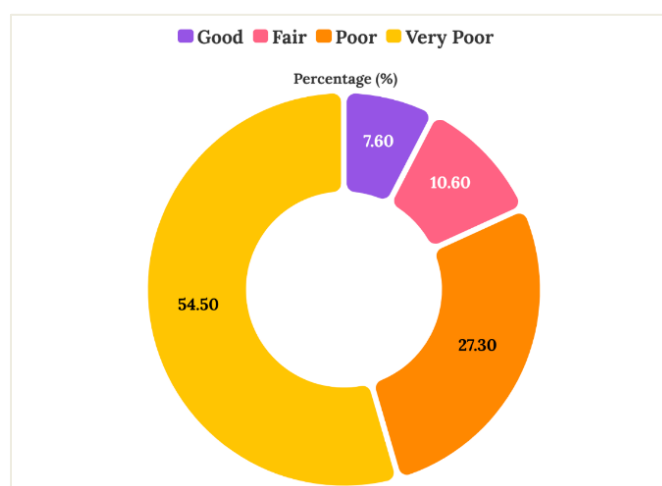


Figure 4. Chart of Students' Reading Comprehension in Narrative Text Levels

The Level of Students' Vocabulary Acquisition Frequency

The data on students' vocabulary acquisition frequency in this study is collected through the questionnaire analysis. Based on the data in Table 3, the participants' average frequency of vocabulary acquisition is 60.27, with a standard deviation of 5.634. The small standard deviation indicates that most participants acquire vocabulary at similar frequencies.

Table 3. *Descriptive Statistics of Vocabulary Acquisition Frequency*

	N	Minimum	Maximum	Mean	Std. Deviation
Vocabulary Acquisition Frequency	66	48	72	60.27	5.634
Valid N (listwise)	66				

The researcher used a chart with an interpretation scale to explain the students' vocabulary acquisition frequency results as shown below:

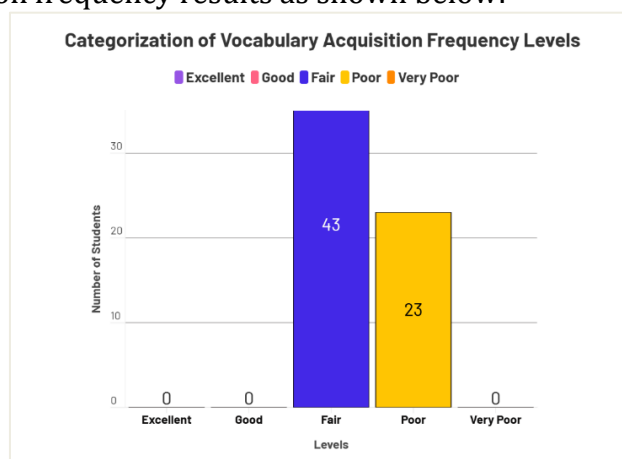


Figure 5. Categorization of Vocabulary Acquisition Frequency Levels

The data presented shows that most respondents fall into the fair category, indicating that their frequency of vocabulary acquisition is above average. A smaller portion is in the poor category, showing that some respondents acquire vocabulary less frequently than average. This suggests that a significant portion of students still exhibited limited frequency in acquiring vocabulary as shown in the chart below:

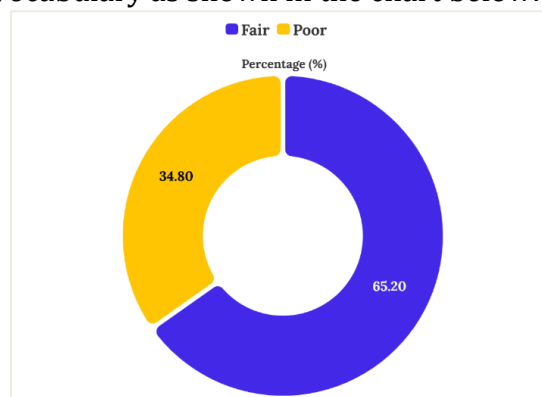


Figure 6. Chart of Students' Vocabulary Acquisition Frequency

The Prerequisite Analysis

This section addresses the analysis is crucial to determine if hypothesis testing can proceed. Two prerequisite tests were used: a normality test and a linearity test.

1) Normality Result

The test for normality indicated that the residual data conformed to a normal distribution, with 2-tailed value of 0.200, which is above the 0.05 limit.

Table 4. *Normality Results*

Test	N	Test Statistic	Asymp.Sig. (2-tailed)
Kolmogorov-Smirnov	66	0.064	0.200*

*The test is normally distributed with a significance value of 0.200 > 0.05.

2) Linearity Result

The linearity test confirmed a linear relationship between the independent variable (vocabulary acquisition) and the dependent variable (reading comprehension), as indicated by a linearity significance value of 0.001, which is below the 0.05 threshold.

Table 5. *Linearity Results*

Model	F	Asymp.Sig. (2-tailed)
Linearity: Vocabulary Acquisition and Reading Comprehension	1.779	0.001*

*Linearity between X and Y shows a significance value of 0.001 < 0.05.

The Correlation Analysis

This section addresses the correlation analysis. Two types of correlation analyses were used: bivariate correlation and partial correlation.

1) Bivariate Correlation

The relationship between vocabulary acquisition (X) and reading comprehension (Y) was examined through a bivariate correlation analysis using Pearson's Product Moment. The data analysis was conducted with SPSS 26 on Windows 10.

Table 6. *Correlation of Vocabulary Acquisition and Reading Comprehension in Narrative Text*

Correlation		Vocabulary Acquisition	Reading Comprehension in Narrative Text
Vocabulary Acquisition	Pearson Correlation	1	.435**
	Sig.(2-tailed)		.001
	N	66	66
Reading Comprehension in Narrative Text	Pearson Correlation	.435**	1
	Sig.(2-tailed)	.001	
	N	66	66

****Correlation is significant at the 0.01 level (2-tailed)**

The study sample consisted of 66 participants, with a Pearson correlation coefficient (r-value) of 0.435. The 2-tailed significance value was less than 0.001, showing a significant positive relationship between vocabulary acquisition and reading comprehension. The correlation coefficient of 0.435 indicates a moderate correlation, falling within the range of 0.40 to 0.69.

2) Partial Correlation

Partial correlation analysis was employed to investigate the relationship between vocabulary acquisition (X) and reading comprehension of narrative texts (Y), while considering the frequency of vocabulary acquisition (Z). Before performing the partial correlation, a bivariate correlation test was conducted to verify linearity. The SPSS analysis yielded a correlation coefficient of 0.433, suggesting a moderate positive association between vocabulary acquisition and reading comprehension, after considering the frequency of vocabulary acquisition. The r-value of 0.433 indicates a moderate strength of correlation, and the 2-tailed significance value, which is less than 0.001, confirms the statistical significance of the relationship.

Table 7. Partial Correlation of Vocabulary Acquisition and Reading Comprehension in Narrative Text

Control Variables		Correlation	Vocabulary Acquisition	Reading Comprehension in Narrative Text
Vocabulary Acquisition Frequency	Vocabulary Acquisition	Correlation	1	.433**
		Sig.(2-tailed)		.001
		df	0	63
	Reading Comprehension in Narrative Text	Correlation	.433**	1
		Sig.(2-tailed)	.001	
		df	63	0

****Correlation is significant at the 0.01 level (2-tailed)**

Discussion

Based on the analysis of the vocabulary acquisition assessment demonstrated that most students are categorized as fair in their ability to acquire vocabulary, with only a small portion falling into the below-average category. This indicates that the frequency of vocabulary acquisition among students is generally above average. However, a notable difference emerges when examining the results of their vocabulary tests. The data reveal that only a small number of students achieved a high level of vocabulary acquisition, while half of the respondents were categorized as very poor. This suggests that although students frequently engage in vocabulary acquisition activities, many have not fully utilized opportunities for effective vocabulary learning. McCarthy and Schmidt (1997) explain that vocabulary acquisition involves both short-term and long-term memory, where repetition and the application of learned words enhance automaticity and fluency in language use. These findings suggest that many students have not effectively employed

repetition or vocabulary usage, resulting in low levels of vocabulary acquisition. Ellis (in McCarthy & Schmidt, 1997) further highlights that vocabulary acquisition encompasses not only memorizing new words but also understanding and integrating their meanings into broader linguistic knowledge, which requires active student engagement. Several related studies, such as those by Nurhasanah (2023) and Arief, Wardana, and Maula (2020), report low vocabulary levels prior to treatment, consistent with the findings of this study. Pigada and Schmitt (2006) argue that while reading can facilitate vocabulary acquisition, not all words are immediately learned, as factors such as prior knowledge and word characteristics influence this process. This is reflected in students within the poor and very poor categories, whose understanding of certain words has not significantly improved despite frequent participation in vocabulary acquisition activities.

Regarding reading comprehension, the results of the narrative text comprehension test indicate that most students need improvement, with 54.5% categorized as very poor. Safitri, Reftyawati, and Pradana (2022) similarly found that students struggle with reading tasks, particularly in identifying main ideas, making inferences, and understanding vocabulary. This underscores the role of vocabulary acquisition as a critical factor in reading comprehension. Reading comprehension, as described by Liu (in Rahmasari, Baa, & Korompot, 2023), is a complex cognitive process that relies on the reader's language skills and knowledge of the topic. Tiers (2023) emphasizes that without sufficient vocabulary, readers cannot derive meaning from a text, thereby reinforcing the crucial role of vocabulary acquisition in reading comprehension. This study also examined the relationship between vocabulary acquisition and reading comprehension using bivariate correlation analysis. The findings are consistent with prior research demonstrating a positive correlation between vocabulary acquisition and narrative text comprehension, as evidenced by studies conducted by Ka-ong (2018) and Yani (2013). However, research by Simanjuntak, Inayah, and Marhaban (2024) reported a weaker correlation despite high vocabulary test scores. In this study, partial correlation analysis indicated a significant positive relationship between vocabulary acquisition and reading comprehension, considering the frequency of vocabulary acquisition. Therefore, the alternative hypothesis (H_a), which posits a correlation between vocabulary acquisition and reading comprehension, is supported. Additionally, Yaqubi and Allemzade (2012) and Hulstijn and Laufer (2001) highlight the importance of frequency in vocabulary learning, suggesting that frequent engagement enhances retention and understanding of new words. The results of this study uphold the idea that active student engagement with vocabulary acquisition improves comprehension of narrative texts. Overall, although the association between vocabulary acquisition and reading comprehension is not particularly strong, it remains significant, especially when considering vocabulary acquisition frequency. These findings offer valuable insights for developing more effective teaching strategies that incorporate vocabulary acquisition frequency to enhance students' reading comprehension of narrative texts.

Conclusion

The study revealed that eighth-grade students' levels of vocabulary acquisition and reading comprehension in narrative texts, with mean scores of 43.64 and 43.48, respectively. These scores placed most students in the "very poor" category (0–44). Furthermore, a correlation was found between vocabulary acquisition and reading comprehension, highlighting the essential function of frequent vocabulary acquisition in enhancing both abilities. These findings contribute to a deeper understanding of the

connection between vocabulary acquisition and reading comprehension in narrative texts, reinforcing the importance of regular vocabulary learning.

Nevertheless, this study has several limitations. Its focus on correlations without utilizing regression analysis constrained the exploration of causal relationships. The sample, which comprised only eighth-grade students from a single school, limits the broader applicability of the findings. Furthermore, the instruments used may not comprehensively represent students' abilities. Based on these findings and limitations, several recommendations are suggested to address the identified issues and provide guidance for future research and practical applications:

- 1) Students: Students should actively enhance their vocabulary acquisition by adopting strategies such as reading narrative texts, practicing vocabulary exercises, and incorporating new words into daily communication. These efforts could improve both their vocabulary and reading comprehension skills.
- 2) Teachers: Teachers are encouraged to employ engaging activities like games, discussions, and contextual narrative texts to promote vocabulary acquisition in the classroom. Such methods could enhance students' reading comprehension while making the learning experience more enjoyable.
- 3) Future researchers: Future studies should explore additional variables influencing the correlation between vocabulary acquisition and reading comprehension. Broadening the scope to include a variety of text genres or educational levels would provide more comprehensive insights. Employing regression analysis is also recommended to examine causal relationships and strengthen the findings.

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