

The Effect of Using Venn Diagram Technique on Reading Comprehension at the Eighth-Grade Students of MTs. Yasrib Limpomajang

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ABSTRACT

This study employed a pre-experimental research design to assess the efficacy of the Venn Diagram technique in enhancing the reading comprehension skills of eighth-grade students at MTs Yasrib Limpomajang. The researcher's primary objective was to determine if this technique had a significant effect on student comprehension. A sample of 21 students from class VIIIB was selected using a purposive sampling technique, and data were collected through a pre-test and post-test administered before and after the treatment. The findings revealed a statistically significant improvement in student performance. The mean pre-test score of 33.52, which was categorized as very poor, increased substantially to a mean post-test score of 76.43, which falls into the good category. This notable improvement was further substantiated by a normalized gain score of 0.64, indicating a medium effect size. Both descriptive and inferential statistical analyses consistently confirmed the significant positive influence of the Venn Diagram technique on the students' reading comprehension. Consequently, the research suggests that this technique is a valuable pedagogical tool for improving comprehension and recommends that future studies explore its applicability in other academic subjects or with different grade levels.

Keywords: *Reading Comprehension; Teaching technique; Venn Diagram Technique; Graphic Organizer; Students.*

1) INTRODUCTION

Effective reading comprehension was a foundational skill for academic success, as it was the primary means by which students acquired knowledge across all subjects. However, a significant number of students struggled with understanding and interpreting written texts, which led to academic frustration and impeded their overall educational development. According to research by Chall (1967) and Putri et al. (2025), these difficulties were multifaceted, rooted in factors such as a student's existing background knowledge, the instructional techniques employed by teachers, and the learning environment. These challenges, combined with low motivation and a reliance on passive learning, highlighted a critical need for new instructional strategies that actively engaged students in the reading process. This problem was also observed in preliminary research at MTs. Yasrib Limpomajang, where

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students consistently showed difficulty with key comprehension skills, including vocabulary, identifying the main idea, and inferential reasoning.

Given this pressing issue, this study proposed an intervention using the Venn Diagram technique, a visual tool grounded in established pedagogical theory. This approach was informed by Ausubel's (1978) theory of meaningful learning, which asserted that new information was most effectively integrated when learners actively connected it to their existing cognitive structures. As a graphic organizer, the Venn diagram directly facilitated this process by encouraging students to visually represent and analyze the relationships between concepts, moving beyond simple rote memorization to a deeper, more cohesive understanding. The effectiveness of this technique was further supported by existing literature, including a study by Manurung (2022), which demonstrated that using a visual tool significantly improved students' reading comprehension by helping them make meaningful comparisons. Based on this, the primary objective of this research was to empirically determine if the implementation of the Venn Diagram technique would have a significant positive effect on the reading comprehension skills of eighth-grade students at the school.

Expanding on this idea, graphic organizers like Venn diagrams served as powerful tools to facilitate this integration, providing a structural outline that helped students focus on essential concepts within a text. The Venn diagram, a specific type of graphic organizer first introduced by John Venn in 1880, was particularly effective. While initially developed for mathematics, it was then used across many subjects to visually represent relationships between concepts. By processing and organizing information in a clear, structured way, Venn diagrams helped students to become more efficient learners and absorbed information more quickly and easily.

Ultimately, these interventions were necessary because reading comprehension was a fundamental skill that allowed readers to successfully absorb and interpret a text's message. This process was more than just pronouncing words; it involved actively making sense of written language by creating ideas and mental images from the text, which aligned with a cognitive perspective that viewed reading as a thinking process. Both Andrew (2008) and Harris (1980) defined it as using one's prior knowledge and the author's cues to infer the intended message, which was consistent with schema theory. According to Irwin (1991), reading comprehension was built on a series of cognitive processes, from understanding individual words (Microprocesses) to synthesizing entire texts (Macroprocesses). Reading proficiency developed through continuous practice and was based on skills such as word

reading, fluency, vocabulary, and background knowledge, as noted by Klingner et al. (2007). These concepts highlighted the importance of implementing effective instructional strategies to help students achieve higher levels of reading proficiency.

2) METHODS

The research employed a quantitative pre-experimental method to determine the effect of a treatment on a specific condition. Following the design outlined by Ary et al. (2010), a One-Group Pre-test Post-test Design was utilized. In this design, a single group (the experimental class) was first given a pre-test to assess their baseline reading comprehension skills. This was followed by the implementation of a treatment, which involved the application of the Venn Diagram learning technique. Finally, a post-test was administered to measure the students' reading comprehension skills after the intervention. This design allowed for a direct comparison of student performance before and after the treatment to evaluate its effectiveness.

The study was conducted during the even semester of the 2024-2025 academic year, from April 30, 2025, to May 23, 2025, at MTs. Yasrib Limpomajang, located in Limpomajang, Marioriaawa, Soppeng. The population for this study included all eighth-grade students at MTs. Yasrib Limpomajang for the 2024/2025 academic year, totaling 44 students from two classes (VIII A and VIII B). The sample consisted of 21 students from class VIII B, who were selected using a purposive sampling technique. The researcher identified class VIII B as the sample after a pre-test revealed that this class had the lowest average score, making it the most suitable group for the treatment.

Table 1: *One-Group Pretest-Posttest Design*

Pretest	Independent	Posttest
Y1	X	Y2

A reading test was used as the primary data collection tool. The test, designed with short-answer questions, was based on the five basic comprehension processes described by Irwin (1991): microprocesses, integrated processes, macroprocesses, elaborative processes, and metacognitive processes. This instrument served as both the pre-test and post-test. To ensure its quality and appropriateness for the students' grade level, the test was validated by expert lecturers in English Language Education. The data collection process followed a three-step procedure: First, an initial pre-test was administered to all eighth-grade students to assess their initial reading comprehension skills

and to identify the class with the lowest scores for the treatment. Second, the Venn Diagram learning technique was implemented in the selected class over six meetings. Third, a post-test was administered after the treatment period to evaluate the effectiveness of the Venn Diagram technique on the students' reading comprehension skills.

The collected data from the pre-test and post-test were analyzed using several techniques. Students' test scores were evaluated using a specific scoring rubric adapted from Clay (2001).

Table 2: *Scoring Rubric*

Question	Score	Criteria
1	20-15	The answer is mostly correct, showing excellent comprehension. The answer is clear and concise.
	14-10	The answer is often correct, showing good comprehension. The answer is consistently easy to understand.
	9-5	The answer is partially correct, indicating an incomplete understanding. The answer is sometimes justified, but the explanation needs to be more concise.
	4-1	The answer demonstrates a lack of accurate comprehension regarding the topic, presenting unjustified answer and unclear explanations.
2	15-14	The answer is mostly correct, showing excellent comprehension. The answer is clear and concise.
	13-9	The answer is often correct, showing good comprehension. The answer is consistently easy to understand.
	8-4	The answer is partially correct, indicating an incomplete understanding. The answer is sometimes justified, but the explanation needs to be more concise.
	3-1	The answer demonstrates a lack of accurate comprehension regarding the topic, presenting unjustified answer and unclear explanations.
3	15-14	The answer is mostly correct, showing excellent comprehension. The answer is clear and concise.
	13-9	The answer is often correct, showing good comprehension. The answer is consistently easy to understand.
	8-4	The answer is partially correct, indicating an incomplete understanding. The answer is sometimes justified, but the explanation needs to be more concise.
	3-1	The answer demonstrates a lack of accurate comprehension regarding the topic, presenting unjustified answer and unclear explanations.
4	30-24	The answer is mostly correct, showing excellent comprehension. The answer is clear and concise.
	23-11	The answer is often correct, showing good comprehension. The answer is consistently easy to understand.

	10-5	The answer is partially correct, indicating an incomplete understanding. The answer is sometimes justified, but the explanation needs to be more concise.
	4-1	The answer demonstrates a lack of accurate comprehension regarding the topic, presenting unjustified answer and unclear explanations.
5	20-15	The answer is mostly correct, showing excellent comprehension. The answer is clear and concise.
	14-10	The answer is often correct, showing good comprehension. The answer is consistently easy to understand.
	9-5	The answer is partially correct, indicating an incomplete understanding. The answer is sometimes justified, but the explanation needs to be more concise.
	4-1	The answer demonstrates a lack of accurate comprehension regarding the topic, presenting unjustified answer and unclear explanations.

Students' reading comprehension scores were classified into categories (e.g., Very Good, Good, Fair, Poor, Very Poor) based on a scoring table from MTs. Yasrib Limpomajang.

Table 3: *Classified the Students' Reading Comprehension Score*

No	Score	Classification
1	80 – 100	Very Good
2	66 – 79	Good
3	56 – 65	Fair
4	40 – 55	Poor
5	≤ 39	Very Poor

The data was analyzed using SPSS version 24. A normality test was first conducted to determine if the data followed a normal distribution, which guided the choice between parametric and non-parametric statistical tests. The mean score and standard deviation were then calculated to quantify the central tendency and variation within the dataset. The final step involved hypothesis testing to determine the statistical significance of the findings and whether the observed results were due to the treatment.

3) RESULTS AND DISCUSSION

a. Results

1) Descriptive Analysis Results

There are two descriptive analyses in this study, namely the results of descriptive statistical analysis

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and categorization analysis.

a) Descriptive Statistical Analysis Result

The characteristics of the research samples were described using descriptive statistical analysis, which was performed both before and after the English learning process that utilized the Venn Diagram technique. This section provides a summary of the pre-test, post-test, and gain score data related to reading comprehension skills.

b) Students Reading Comprehension Skill before the Implementation of Venn Diagram Technique

The results from the pre-test, which was designed to assess the reading comprehension of students in class VIII MTs Yasrib Limpomajang before the treatment. A corresponding descriptive statistical analysis of these scores is presented for review in Table 3.1.

Table 4: *Reading Comprehension Pre-test Statistics*

Statistic	Statistical Value
Number of samples	21
Ideal score	100
Maximum score	48.00
Minimum score	17.00
Range	31.00
Mean	33.52
Std. Deviation	8.75

Based on the descriptive statistics presented in Table 4, which involved a sample of 21 Class VIII students at MTs. Yasrib Limpomajang, their reading comprehension skills were assessed prior to the application of the Venn Diagram Technique. The pre-test scores had a low range of 31.00, with a minimum of 17.00 and a maximum of 48.00 out of a possible 100. A mean score of 33.52 and a standard deviation of 8.75 were calculated, demonstrating that the pre-test data had a low deviation and was relatively evenly distributed.

c) Students Reading Comprehension Skill after the Implementation of Venn Diagram Technique

The descriptive analysis of reading comprehension skill test scores after applying the Venn Diagram Technique (Post-test) presented below:

Table 5: *Reading Comprehension Post-test Statistics*

Statistic	Statistical Value
Number of samples	21
Ideal score	100
Maximum score	91.00
Minimum score	63.00
Range	28.00
Mean	76.43
Std. Deviation	6.70

Table 5 presents the descriptive statistics for the reading comprehension post-test, administered to the same 21 Class VIII students at MTs Yasrib Limpomajang after they underwent the learning process applying the Venn Diagram Technique. Consistent with the pre-test, the ideal score for this assessment was 100. Following the treatment, the students reading comprehension scores showed a notable improvement. Scores ranged from a minimum of 63.00 to a maximum of 91.00, resulting in a range of 28.00. The mean score for the post-test was 76.43, with a standard deviation of 6.70. The standard deviation (6.70) remains lower than the mean score (76.43), indicating a low deviation in the post-test data. This suggests that, even after the treatment, the distribution of students reading comprehension values remained relatively even, with scores generally clustered around the higher mean.

a) Normalized Gain of Students Reading Comprehension Skill after the Use of Venn Diagram Technique

The normalized gain formula is used to analyze the pre-test and post-test data, with the goal of quantifying the improvement in reading comprehension skills among the eighth-grade students at MTs

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Yasrib Limpomajang after they learned with the Venn Diagram Technique. The descriptive analysis of post-test scores after using the Venn Diagram technique is shown in Table 6.

Table 6: *Reading Comprehension Skill Gain Statistics of Students*

Statistic	Statistic Value
Number of samples	21
Ideal score	1.00
Maximum score	0.88
Minimum score	0.40
Range	0.48
Mean	0.64
Std. Deviation	0.10

Table 6 presents the descriptive statistics for the gain in reading comprehension skills among the same 21 Class VIII students at MTs Yasrib Limpomajang, following the application of the Venn Diagram Technique. These gain scores are typically normalized (N-gain) to show the improvement relative to the potential maximum improvement, with an ideal gain score of 1.00. The gain scores had a range of 0.48, with the minimum being 0.40 and the maximum being 0.88. The mean gain score was 0.64, and the standard deviation of 0.10 was considerably lower, indicating that the scores were closely clustered around the mean. This suggests that the improvement in reading comprehension was relatively consistent among the students, with the distribution of gain scores being fairly even and clustered around the mean.

b) Categorization Analysis Results

1. Students Reading Comprehension Skill before the Application of Venn Diagram Technique

Following the established criteria from Gay & Mills (2019), the results of the reading comprehension test were sorted into five distinct classifications. The resulting frequency distribution is presented below:

Table 7: *Frequency and Percentage Distribution of Students Pre-test Reading Comprehension Skill*

Interval Score	Statistic	Frequency	Percentage (%)
80 – 100	Very Good	0	0%
66 – 79	Good	0	0%
56 – 65	Fair	0	0%
40 – 55	Poor	5	23.8%
≤ 39	Very Poor	16	76.2%
Total		21	100%

An analysis of Table 7 reveals that the mean pre-test score for reading comprehension was 33.52, placing it in the "very poor" category. This is supported by the fact that the majority of students, 16 in total (76.2%), were in the "very poor" category, with the remaining 5 students (23.8%) in the "poor" category.

2. Students Reading Comprehension Skill after the Application of Venn Diagram Technique

Reading comprehension skill was grouped into five categories, resulting in the following frequency distribution.

Table 8: *Frequency and Percentage Distribution of Students Post-test Reading Comprehension Skill*

Interval Skor	Statistic	Frequency	Percentage (%)
80 – 100	Very Good	6	28.57%
66 – 79	Good	13	61.91%
56 – 65	Fair	2	9.52%
40 – 55	Poor	0	0%
≤ 39	Very Poor	0	0%
Total		21	100%

Following the application of the Venn Diagram technique, the results in Table 8 show that the majority of students achieved a "good" category score (61.91%, or 13 students). Additionally, 28.57% (6 students) were in the "very good" category, and 9.52% (2 students) were in the "fair" category.

3. Normalized Gain of Students Reading Comprehension Skill after the Use of Venn Diagram

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Technique

The data on the gain in students reading comprehension skills after applying the Venn Diagram technique were categorized based on the skill levels defined by Purwanto (2010), as detailed in the table below:

Table 9: *Distribution of Frequency and Percentage of Gain in Students Reading Comprehension Skill*

Gain Score	Category	Frequency	Percentage (%)
$g \geq 0,7$	High	5	23.81%
$0,3 \leq g < 0,7$	Medium	16	76.19%
$g < 0,3$	Low	0	0%
Total		21	100%

A detailed examination of Table 9 reveals the specific gains in students reading comprehension skills as a direct result of applying the Venn Diagram Technique. Specifically, 5 students were found to have achieved a high increase, representing 23.81% of the total. A much larger portion of the class, 16 students (76.19%), showed a medium increase. These individual gains are reflected in the overall descriptive statistical analysis, which calculated an average gain score of 0.64 and categorized this overall improvement as a medium gain.

2) Results of Inferential Statistical Analysis

To test the formulated hypothesis, inferential statistical analysis is employed. A normality test is performed as a prerequisite before the statistical hypothesis test, and the results from SPSS version 24 are as follows.

- Normality Test

Prior to conducting any parametric statistical analyses, a normality test was performed as a crucial preliminary step to verify that the data for the pre-test, post-test, and gain scores followed a normal distribution. This process involved considering two well-known statistical tests: the Kolmogorov-Smirnov and the Shapiro-Wilk. Due to the small sample size of only 21 participants, the Shapiro-Wilk test was chosen as the most appropriate and reliable measure for accurately determining the normality

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of the data distribution. The test criteria are as follows.

- If the significance (P_{value}) $\leq \alpha$ (0.05) then H_0 is rejected, meaning that the sample used comes from an abnormally distributed population.
- If the significance (P_{value}) $> \alpha$ (0.05) then H_0 is accepted, meaning that the sample used comes from a normally distributed population.

Table 10: Normality Test Result on Pre-test, Post-test Values and Normalized Gain

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.105	21	.200*	.960	21	.520
Posttest	.114	21	.200*	.972	21	.771
Gain	.113	21	.200*	.977	21	.868

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The distribution of the data was rigorously evaluated, and the results from the Shapiro-Wilk test provided clear support for normality. The pre-test scores, with a significance (p-value) of .520, demonstrated a normal distribution. Similarly, the post-test scores yielded a significance of .771, and the calculated gain scores exhibited a strong indication of normality with a significance of .868. This collective evidence confirms that the data for all three instances meet the necessary assumptions for subsequent parametric tests.

A critical finding from the normality analysis was that the p-values for all three data sets were consistently found to be greater than the standard alpha level of 0.05. This is a significant result because, in statistical testing, a p-value above this threshold means there is no sufficient evidence to reject the null hypothesis, which in this case was that the data is normally distributed. Consequently, this provides strong assurance that the data for the pre-test, post-test, and gain scores are all normally distributed.

• Hypothesis Testing

The study's data satisfied the necessary assumptions for a t-test, as indicated by a normality test which showed a normal distribution. Consequently, the research hypothesis was rigorously evaluated

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through the use of a One Sample T-Test. This statistical analysis was applied to the post-test data and the gain data to precisely determine if the students average reading comprehension skills, after the intervention with the Venn Diagram Technique, had reached the minimum level of completeness.

To test the research hypothesis that the mean reading comprehension score of eighth-grade students at MTs Yasrib Limpomajang would be greater than 65 after the application of the Venn Diagram Technique, the following formulation was used:

$$H_0 : \mu \leq 65 \text{ against } H_1 : \mu > 65$$

Explanation:

μ = average reading comprehension score of students

Criteria for decision-making in this test are as follows:

H_0 is rejected if $t\text{-test} > t\text{-table}$ and H_1 is accepted if $t\text{-test} \leq t\text{-table}$,

where $\alpha = 0.05$.

The results of the hypothesis test on the student reading comprehension pre-test data can be seen in the following table.

Table 11: *One-Sample Test Statistics for Pre-test*

One-Sample Test

Test Value = 65

				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	
				Lower	Upper
Pretest	-16.485	20	.000	-35.4591	-27.4933

Based on the table 3.8, the calculated t-statistic was -16.485 with 20 degrees of freedom. The two-tailed significance (p-value) for this test was .000, indicating a statistically significant difference ($p < .001$). The average pre-test score was found to be 31.48 points lower than the test value of 65. The

95% confidence interval for this mean difference spanned from -35.46 to -27.49. As this interval does not include zero, it provides strong evidence of a statistically significant negative difference. These findings demonstrate that, at the initial stage of the study, the students reading comprehension skill, as measured by their pre-test scores, was significantly lower than the established target score of 65.

The following table displays the results of the hypothesis test that was performed on the students reading comprehension post-test data.

Table 12: *One-Sample Test Statistics for Post-test*

One-Sample Test						
Test Value = 65						
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Posttest	7.820	20	.000	11.42857	8.3799	14.4773

As shown in Table 3.9, the post-test scores resulted in a calculated t-statistic of 7.820, with 20 degrees of freedom. The two-tailed significance (p-value) was .000, indicating a highly statistically significant difference ($p < .001$). Analysis revealed that the average post-test score exceeded the test value of 65 by 11.43 points. The statistical significance of this positive difference is underscored by the 95% confidence interval, which was calculated to be between 8.38 and 14.48. The fact that this interval does not include zero reinforces the conclusion that the students improved performance was statistically significant. These findings collectively demonstrate that, following the treatment, the students reading comprehension skill, as measured by their post-test scores, was significantly above the established target score of 65.

To test the normalized gain scores, a t-test was conducted using SPSS via the One-Sample T-Test. The proposed hypothesis is formulated as follows in statistical hypotheses:

$$H_0 : \mu_g \leq 0.29 \text{ against } H_1 : \mu_g > 0.29$$

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Explanation:

μ_g = Normalized gain score for student reading comprehension.

Criteria for decision-making in this test are as follows:

H_0 is rejected if $t\text{-test} > t\text{-table}$ and H_1 is accepted if $t\text{-test} \leq t\text{-table}$,

where $\alpha = 0.05$.

Table 13: *One-Sample T-Test Statistics for Normalized Gain Scores*

One-Sample Test						
Test Value = 0.29						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Gain	15.027	20	.000	.34571	.2977	.3937

The t-statistic for the gain scores was found to be 15.027, with 20 degrees of freedom, as detailed in Table 3.10. The two-tailed significance (p-value) was .000, indicating a highly statistically significant difference ($p < .001$). The mean difference between the students average gain score and the test value of 0.29 was 0.346. This means that, on average, the students gain scores were approximately 0.346 points higher than the benchmark of 0.29, suggesting an improvement beyond the hypothesized minimum. The 95% confidence interval for the mean difference was between 0.298 and 0.394. Because this range does not contain zero, it provides strong evidence of a statistically significant positive difference. The results collectively showed that the gain in students reading comprehension, following the treatment, was substantially larger than the predicted gain of 0.29.

Following the statistical analysis of the pre-test, post-test, and gain scores, the null hypothesis that the Venn diagram technique has no significant effect on students reading comprehension was rejected. Conversely, the alternative hypothesis, which posits a significant positive effect, is accepted. This conclusion is strongly supported by the robust evidence from our one-sample t-tests. The pre-test scores were significantly below the benchmark, indicating a low starting point for reading

comprehension. However, post-test scores showed a significant increase, rising above the benchmark after the treatment. Crucially, the gain scores themselves were significantly higher than a hypothesized baseline gain, providing clear evidence of meaningful improvement in reading comprehension directly attributable to using the Venn diagram technique in this study.

b. Discussion

Based on the comprehensive findings of this study, a clear conclusion emerges: the null hypothesis, which posited no significant effect of the Venn Diagram technique on reading comprehension, is soundly rejected. Consequently, the alternative hypothesis, which claims that this technique does indeed have a significant positive effect on improving reading comprehension, is fully accepted. This investigation provides compelling, evidence-based support that the Venn Diagram technique is not just a supplementary aid but an exceptionally effective strategy for enhancing the reading comprehension skills of eighth-grade students. The strength of this conclusion is rooted in the dramatic statistical evidence revealed by the descriptive statistical analysis. The initial mean pre-test score, which was a very poor 33.52, experienced a profound transformation, soaring to a post-test mean of 76.43, a score classified as good. This substantial and statistically significant increase confirms the technique's robust effectiveness and its capacity to bring about a substantial improvement in student comprehension skills. This success is not merely a statistical anomaly but is attributed to a fundamental pedagogical shift that the Venn diagram facilitates: a move from passive information reception to active, engaged analysis. The visual nature of the diagram compels students to become more systematic and intentional in their reading. Instead of simply absorbing text in a linear, they are encouraged to actively analyze and interpret the material, identifying similarities and differences, and forging connections between discrete pieces of information. This structured approach not only develops crucial analytical and organizational skills but also aligns perfectly with David Ausubel's influential theory of meaningful learning. As posited by Ausubel in 1978, for learning to be truly meaningful, new information must be purposefully integrated into the learner's existing cognitive structures. The Venn diagram provides the perfect scaffold for this process; by visually representing how new concepts overlap with and diverge from what a student already knows, the technique ensures that new knowledge is not simply memorized but is durably and meaningfully connected to their existing intellectual framework, leading to a deeper and more sustained level of understanding.

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The findings of this study are not isolated but stand in strong agreement with a consistent pattern observed in a growing body of prior research. This collective evidence from various studies strengthens the external validity of the findings presented here, suggesting that the positive effects of the Venn diagram are not unique to this specific group of students but are generalizable to a broader population. For instance, the findings of this study mirror the results of a similar investigation by Siregar (2018), who found that the Venn diagram technique had a significant positive effect on students' reading comprehension skills. Siregar's research, conducted with eighth-grade students at a different private middle school, yielded a post-test t-test value of 3.408, which was significantly higher than the critical value, leading to the acceptance of her research hypothesis. This result is further corroborated by the work of Rama (2018), who focused on a similar demographic at SMP Negeri 1 Wawotobi. Rama's study also concluded that the Venn diagram technique had a significant impact on student comprehension, evidenced by a pre-test mean of 58.1 which improved dramatically to a post-test mean of 79.5. The consistency of these findings across different schools, researchers, and contexts suggests that the Venn diagram is not simply a supplementary teaching tool but a powerful and reliable strategy that consistently and measurably improves reading comprehension across various age groups and educational settings. The consistent positive impact likely stems from the technique's innate ability to foster a systematic and organized approach to textual analysis. By providing a clear visual representation of the relationships between ideas, the Venn diagram encourages students to move beyond surface-level reading to actively engaging with the text, identifying key information, and differentiating similarities and differences. This kind of active processing, in stark contrast to passive reading, leads to a much deeper and more durable retention of information. The cumulative evidence from this study and others thus establishes a powerful pedagogical framework for the use of visual aids in fostering active reading skills.

Despite the overwhelmingly positive findings, this study also unveiled a significant and unexpected limitation of the Venn diagram technique. A critical observation from the data was the considerable difficulty most students experienced with a specific type of question that required deeper interpretation rather than direct comparison. For example, a question asking students to infer a character's motive or to analyze the author's tone in a passage proved particularly challenging, even for students who had demonstrated a high level of proficiency with the Venn diagram in other contexts. This difficulty suggests that while the Venn diagram is highly effective for certain

comprehension skills such as identifying explicit details and making direct comparisons it may need to be supplemented with other strategies for more complex interpretive tasks. This specific weakness highlights a potential inherent limitation of the Venn diagram as its effectiveness may diminish with increasing textual complexity, particularly when the information involves nuances, indirect relationships, or requires a high degree of inferential reasoning. This is because the Venn diagram's primary function is to categorize and compare, a skill that is best applied to texts that are rich in clear similarities and differences. When the type of text for the challenging question was more descriptive or narrative than comparative, the Venn diagram's utility for that specific purpose became limited. This finding provides a valuable insight that should inform both future research and pedagogical practice, suggesting that educators should not view the Venn diagram as a universal solution but as a targeted tool to be deployed for specific comprehension tasks.

The identified limitation of the Venn diagram, therefore, prompts a critical analysis of its precise role within the larger reading comprehension toolkit. The data suggests a new hypothesis for future research: that the Venn diagram's effectiveness is modulated by the genre and complexity of the text, and that its highest utility is found when the primary comprehension task is comparison and contrast rather than inference or abstract analysis. This understanding is crucial for educators who might otherwise view the Venn diagram as a universal solution. It implies that teachers must carefully select texts and design prompts that optimally leverage the tool's strengths while also providing complementary strategies for more complex interpretive skills. For example, a teacher could use a Venn diagram to help students compare and contrast two characters in a story, but then follow up with a written response prompt to encourage deeper inference about their motivations. This blended approach ensures that students are equipped with a full range of skills necessary for mastering all facets of reading comprehension. Future studies should be designed to test this hypothesis by comparing the effectiveness of the Venn diagram on different genres of text for example, comparing its impact on a comparative essay versus a purely narrative story. Such research could use a quasi-experimental design with multiple groups, each applying the Venn diagram to a different type of text, to determine precisely where the tool's strengths lie and where it needs to be supplemented. This nuanced understanding would provide invaluable guidance for educators seeking to implement the most effective and targeted strategies for their students' diverse learning needs. The current study has laid

the groundwork for this next phase of research by demonstrating not only the power of the Venn diagram but also the boundaries of its application.

A further area for future inquiry could explore how the use of the Venn diagram in a digital format might impact student learning. Given the increasing integration of technology into classrooms, an investigation into the effectiveness of digital Venn diagram tools, perhaps with collaborative features, could yield new insights. This would also allow researchers to examine how the act of digital manipulation such as dragging and dropping information into circles might affect cognitive processes differently than the traditional act of handwriting. The digital environment could potentially enhance the tool's benefits by allowing for easier revision and organization of information, which in turn could lead to a more fluid and less frustrating experience for the student. The current study's findings, while focusing on a traditional paper-based approach, serve as a foundational point of comparison for such future research. Finally, given that the study revealed some students still struggled with certain questions, it would be beneficial for future research to explore the role of individual learning differences and prior knowledge. A study could investigate how a student's existing reading proficiency or cognitive style influences their ability to effectively use the Venn diagram. The success of the Venn diagram technique is clearly demonstrated, but a deeper understanding of its nuances and limitations will empower educators to deploy it with even greater precision and effectiveness.

4) CONCLUSIONS

This study demonstrates that the implementation of the Venn Diagram technique had a statistically significant positive effect on students' reading comprehension. This finding is supported by a substantial increase in mean scores, from a pre-test value of 33.52 to a post-test value of 76.43, providing strong evidence that the technique is an effective pedagogical intervention. The efficacy of the treatment is primarily attributed to a fundamental shift from passive learning to active cognitive engagement. The visual of the Venn diagram facilitated a more systematic approach to textual analysis, which fostered students' ability to identify relationships between concepts, compare and contrast information, and integrate new knowledge with existing cognitive frameworks. This process not only cultivated critical analytical and organizational skills but also led to a deeper and more durable level of comprehension.

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