

Investigating the Role of Critical Reading Strategies in Developing Students' Reading Comprehension

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Abstract: This study investigates the role of employing critical reading strategies on the reading comprehension development of high school students. The primary objective is to examine how critical reading strategies affect students' reading comprehension abilities in the classroom. The research utilizes a quantitative approach to assess the influence of critical reading strategies on students' reading comprehension, complemented by a descriptive analysis of the implementation of these strategies and their effects on students' reading progress. A within-subject design was employed, with participants undergoing instructional sessions on both conventional and critical reading strategies. Pre-Test, Treatment 1 involved conventional reading strategies, followed by a Post-Test. A Washout Period was implemented to minimize biases before Treatment 2, which focused on critical reading strategies. The population for this research comprised second-grade students at SMA Negeri 15 Samarinda, with a random sampling technique determining the sample. A standardized reading comprehension test served as the research instrument, and t-tests were utilized for data analysis, specifically concentrating on post-test scores. The findings revealed that critical reading strategies significantly enhanced students' reading comprehension. Specifically, the mean score increased from 55.07 in the first post-test to 66.67 in the second post-test, reflecting a substantial improvement in comprehension abilities. The study provides valuable insights into the effectiveness of critical reading strategies in enhancing high school students' reading comprehension skills in the classroom.

Keyword: *Critical Reading, Reading Comprehension, Reading Strategies*

INTRODUCTION

Effective reading comprehension is widely recognized as being crucial for both academic success and lifelong learning in the present educational environment. Understanding is emphasized in effective reading instruction since it is necessary for active participation in today's global society. (Israeli, 2017). It provides essential linguistic input for foreign language learners and improves their listening, speaking, and writing skills (Shamma Mustafa Hameed, 2020). The development of reading comprehension requires a complex interaction between the reader, text, activity, and context, and research indicates that this connection requires a conducive school atmosphere (Aferbach, 2017). Developing strategic readers involves an understanding of the instructions that are given in the classroom. Teaching strategies should align with other reading comprehension components (Brown, 2017).

In recent decades, there has been a lot of concern with teaching reading strategies (Brown, 2017). Most research on reading focuses on younger readers or college students. However, little is known about how secondary school students employ comprehension abilities to find meaning from difficult texts (Brown, 2017). When these strategies are used effectively, students become into competent readers who take advantage of higher order cognitive abilities. When students read critically, they actively and thoughtfully engage with

the text, so it requires them to examine, evaluate, and synthesize information. It is thought that proficient critical reading strategies greatly enhance students' ability for text analysis as well as interpretation, which improves reading ability as an overall competency.

A critical reading strategy is a method that helps students analyze the information that they need to know from texts they are reading and to think critically. It entails teacher-student interaction in the classroom with the objective of practicing comprehension and identifying relevant information. This approach helps students understand and apply the information presented in the text (Fita Faridah, 2019). Critical reading strategies encourage students to read critically and enhance their critical thinking (Maslakhatin, 2006). To summarize, reading is crucial for students as it provides new words, improves writing, speaking, and listening skills, and helps them pronounce sentence words. Reading also helps students understand existing conditions and situations. Students engage in reading activities, gaining information, knowledge, and ideas through words, sentences, and passages (Achmad Chrisbianto Sachran, 2022). Critical reading involves an active cognitive process that encompasses uncovering and discerning the author's intended meaning, evaluating the author's propositions through established criteria, and integrating that meaning into pre-existing knowledge (Kurt-Taspinar, 2020). In general, critical reading encourages students to become more involved and knowledgeable, which is necessary for the development of new literacies in the modern digital environment and the changing needs for literacy, particularly for secondary school students.

Some studies use eight critical reading procedures, which include previewing, contextualizing, questioning, reflecting, outlining and summarizing, evaluating an argument, and comparing comparable texts. Before reading, readers evaluate the text and predict its content based on headings and subheadings. To contextualize a text, readers must evaluate its historical, biographical, and cultural settings, make inferences, and synthesize information. Readers use questioning to explore the topic of the material they are reading (Khabiri, 2012). Readers reflect on their own responses, beliefs, and values by annotating, underlining, and taking notes. Outlining and summarizing involves identifying and restating the core point, as well as paraphrasing. To evaluate an argument, the reader considers facts, opinions, cause-and-effect relationships, claims, premise, and conclusion, and analyzes, interprets, and argues about the text. The final step involves comparing and contrasting related texts to identify similarities and contrasts for enhanced reading comprehension (Khabiri, 2012).

In addition, critical reading skills include annotating, previewing, contextualizing, outlining, analyzing opposition, summarizing, paraphrasing, synthesizing, questioning, skimming and reflecting (Nasrollahi, 2015). He also stating that basic critical reading skills include annotating, which involves circling key words and writing comments or queries. Critical reading strategies include: (1) determining the purpose of reading, previewing the text, paying attention to generic structures and language features, and (2) taking notes and connecting the text to prior knowledge or experience to monitor comprehension and (3) After reading, they should make a summary of the key points, suggested by (Tovani, 2000) cited in (Nasrollahi, 2015). Another studies states, REAP (Read, Encode, Annotate and Ponder) strategy will comprise the readers, especially the annotate and ponder steps, and will help them to read, think, and understand critically as well as comprehensively on the material that they have read (Ahmad, 2020). Meanwhile, other studies indicate that

QAR (Questions-Answer Relationship) can help students to answer questions more easily, QAR implies that answers can be found in the source material or through our own knowledge and experience (Azzahra, 2020).

Annotating involves actively reading a document and highlighting essential terms, synonyms, and definitions in the margin (Diyanni, 2002). By using this method, the learners pay attention to the unknown terms and do not ignore them in the text. Students should also have a pencil on hand to "annotate" their texts (Sousa, 2004). Learners are also encouraged to draw connections to previous readings on the topic. Additionally, participants were able to remove unnecessary or insignificant information from their reading assignment summary. A summary helped students understand the content by allowing them to express it in their own words. To fully comprehend the information, students should read it multiple times and focus on uncommon words (Meraj Talebi, 2015).

Students reported encountering reading obstacles but improved after introducing critical reading skills. These skills enabled them to read more effectively, validate existing knowledge, create new knowledge, and use contextual clues to guess meanings, identify main ideas, and synthesize materials (Roomy, 2022). Also, Teachers can improve students' comprehension and response to written argumentation by combining strategy instruction (emphasizing cognitive aspects) and structured classroom discussions based on dialogic theory (emphasizing social perspectives) (Michael Tengberg, 2016). On the other hand, to assist readers with or without reading issues, it is crucial to identify unique challenges they face during the reading process (Lau, 2006). The design anticipates students' ability to integrate knowledge through reading, writing, and discussing explanatory materials.

In this study, researchers set limitation scope by focusing only on the type of explanatory text focus on the aspect of skimming. The selection of text explanation as the focus of this research is seen as a strategic step to explore certain aspects of students' reading comprehension. By limiting coverage to certain types of text, the study is expected to provide deeper and specific insights into the effect of critical reading strategies on students' explanatory text comprehension skills at the secondary school level. These restrictions also help in detailing the impact of the use of critical reading strategies on students' reading comprehension, focusing on explanatory texts that often involve understanding concepts and relationships between information.

The problems of the study that have to be answered require an in-depth understanding of the role of critical reading strategies for developing students' reading comprehension is how the use of critical reading strategies affects the development of reading comprehension in high school students. In conclusion, this study aims to add to the current body of knowledge on reading instruction by throwing light on the significance of critical reading techniques in the conclusions are intended to give practical insights and recommendations for educators and educational administrators working to improve the quality of reading instruction in secondary schools through empirical investigation and analysis.

METHOD

The study will use a within-subject design and will carry out research for 10 meetings to examine the impact of both conventional and critical reading strategies on students' reading comprehension abilities. Samples will first receive Pre-Test, Treatment 1, and involving instructional sessions focusing on conventional reading strategies. After this, a Post Test will be given to assess the immediate effects of Treatment 1 on reading comprehension. Following the Post-Test, a Washout Period will be implemented to minimize any biases from the initial treatment. Once the washout period concludes, Treatment 2 will begin, consisting of instructional sessions centered on critical reading strategies. After Treatment 2, another Post-Test will be administered to evaluate the immediate effects of the critical reading strategies on participants' reading comprehension skills. This within-subject design facilitates a direct comparison of the impacts of both types of strategies within the same group of participants, thereby increasing the reliability and validity of the study's results. However, any evaluative approach using this design delivers limited information on the counterfactual inference (Shadish, 2002).

Population and Sample

The research focuses on the second-grade students at SMA Negeri 15 Samarinda. The selection of SMA Negeri 15 Samarinda as the research location is based on the diversity in academic performance and representation inherent in this population. This group comprises students undergoing a critical phase in both their academic and personal development.

In order to ensure representative results, random sampling techniques will be employed for class selection. This approach provides each class at a specific level an equal opportunity to be included as a research sample. The aim is to generate more generalized and reliable results that accurately reflect the overall characteristics of the second-grade student population at SMA Negeri 15 Samarinda.

Instruments

The research instrument is critical in analyzing the impact of critical reading techniques on students' reading comprehension. A standardized reading comprehension test is the primary study instrument used to collect data. The test is made up of precisely constructed questions that assess students' abilities to comprehend, interpret, and analyze written materials. The reading comprehension test adopted from (Dewi, 2018) and (Ahmad, 2020), this test is selected by adjusting the needs of the research aspect.

The study will employ a thorough method to assess how effective critical reading practices are. Students' will engage in instructional sessions, and afterward, there will be a period without specific interventions to reduce any potential carryover effects. To measure changes in students' reading comprehension skills, pre-test and post-test will be conducted. This comprehensive research approach encompasses pre-test, instructional phases, a washout period, and post-tests, aiming to gain a complete understanding of the effectiveness of critical reading practices.

FINDINGS AND DISCUSSION

Findings

Data Descriptive

This study only included class XI C, which served as both the experimental and control class, with 30 students. The purpose was to acquire data from experiments to determine if the skimming reading method improves reading comprehension of explanatory texts. The following table summarizes descriptive statistics for the post-test.

Tabel 3.1 Controlled Class Data

No	Pre-Test (X)	Post-Test (Y)
1	37	60
2	23	60
3	27	53
4	23	60
5	27	50
6	20	30
7	17	50
8	20	47
9	17	53
10	23	60
11	37	63
12	27	57
13	20	57
14	33	63
15	17	43
16	23	50
17	23	53
18	37	60
19	27	53
20	27	50
21	17	60
22	23	60
23	33	63
24	33	67
25	27	53
26	27	67
27	13	50
28	30	57
29	20	53
30	17	50

Tabel 3.2 Experimental Class Data

No	Pre-Test (X)	Post-Test (Y)
1	37	67
2	23	67
3	27	77
4	23	63
5	27	73
6	20	50
7	17	63
8	20	53
9	17	63
10	23	67
11	37	73
12	27	60
13	20	63
14	33	67
15	17	60
16	23	63
17	23	67
18	37	73
19	27	67
20	27	63
21	17	77
22	23	63
23	33	67
24	33	77
25	27	70
26	27	70
27	13	67
28	30	73
29	20	70
30	17	67

Tabel 3.3 Descriptive Statistics Data

Descriptive Statistics						
	Minimu		Maximum	Mean		Std. Deviation
	N	m		Statistic	Std. Error	
	Statistic	Statistic	Statistic	Statistic	Statistic	
Post Test 1	30	30	67	55.07	1.387	7.597
Post Test 2	30	50	77	66.67	1.156	6.332
Valid N (listwise)	30					

The table presents a detailed descriptive analysis of the post-test scores for two groups of students: the control group (Post Test 1) and the experimental group (Post Test 2). In the control group, which consists of 30 students, the scores range from a minimum of 30 to a maximum of 67. The mean score for this group is 55.07, with a standard error of 1.387 and a standard deviation of 7.597. These statistics suggest that while there is a moderate spread in the scores, the average performance indicates a relatively good level of reading comprehension post-intervention. For the experimental group, also comprising 30 students, the scores range from a minimum of 50 to a maximum of 77. The mean score for this group is significantly higher at 66.67, with a lower standard error of 1.156 and a standard deviation of 6.332. This indicates a tighter clustering of scores around the mean, suggesting that the experimental group not only performed better on average but also had less variability in their reading comprehension scores. The comparison between the two groups shows a clear improvement in reading comprehension for the experimental group, who were exposed to critical reading strategies, compared to the control group. The higher mean score and lower standard deviation for Post Test 2 highlight the effectiveness of the critical reading interventions. This detailed analysis underscores the positive impact of these strategies, as evidenced by the improved performance and more consistent scores of the students in the experimental group. Overall, the data strongly support the conclusion that critical reading strategies significantly enhance reading comprehension skills.

Data Analysis

The Test of Normality, specifically the Kolmogorov-Smirnov test, was used to determine if the pre-test and post-test data were normally distributed. This is an in-depth analysis of the results.

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test 1	.143	30	.122	.942	30	.101
Post Test 1	.152	30	.073	.909	30	.014
Pre Test 2	.143	30	.122	.942	30	.101
Post Test 2	.154	30	.066	.935	30	.067
a. Lilliefors Significance Correction						

The Kolmogorov-Smirnov test results for the four data sets (Pre Test 1, Post Test 1, Pre Test 2, and Post Test 2) indicate that all p-values are greater than 0.05, confirming that the data do not significantly deviate from a normal distribution. Specifically, Pre Test 1 and Pre Test 2 both have p-values of 0.122, suggesting that the pre-test scores are normally distributed, which implies that the students' initial reading comprehension levels are consistent and meet the assumptions necessary for parametric testing. For Post Test 1 and Post Test 2, the p-values are 0.073 and 0.066, respectively. Although these values are slightly lower than those of the pre-tests,

they still exceed the 0.05 threshold, indicating that the post-test data sets also adhere to normal distribution. The acceptance of normality in all data sets is crucial as it validates the use of parametric tests, such as t-tests, for further analysis. The normality in pre-test scores suggests that any improvements in reading comprehension can be reliably attributed to the instructional interventions, while the normality in post-test scores ensures that the effects of these interventions can be assessed without concerns about data skewness. This finding confirms the robustness of the study's design and supports the validity of the conclusions regarding the effectiveness of critical reading strategies on students' reading comprehension. Overall, the Kolmogorov-Smirnov test results strengthen the credibility and reliability of the study's outcomes, ensuring that the data meet the necessary assumptions for parametric analysis.

Hypothesis Testing

The hypothesis testing in this study aimed to establish the efficacy of critical reading strategies on students' reading comprehension by comparing pre-test and post-test results. The paired samples t-test results provide precise information about the findings' statistical significance and practical consequences.

		Paired Samples Test								
		Paired Differences						t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	Pre Test 1 - Post Test 1	-30.233	6.806	1.243	-32.775	-27.692	-24.330	29	.000	
Pair 2	Pre Test 2 - Post Test 2	-41.833	7.023	1.282	-44.456	-39.211	-32.628	29	.000	

Null Hypothesis (H₀): There is no significant difference between the pre-test and post-test scores, indicating that the critical reading strategies do not have a significant effect on students' reading comprehension.

Alternative Hypothesis (H_a): There is a significant difference between the pre-test and post-test scores, indicating that the critical reading strategies have a significant effect on students' reading comprehension.

For the first pair, which examined Pre Test 1 and Post Test 1, the mean difference was -30.233 with a standard deviation of 6.806 and a standard error of 1.243. The 95% confidence interval for this difference ranged from -32.775 to -27.692. The t-value was calculated to be -24.330 with 29 degrees of freedom, and the p-value was .000, which is well below the significance threshold of 0.05. This highly significant result led to the rejection of the null hypothesis for the first pair, indicating that the conventional reading strategies had a notable effect on improving reading comprehension scores. For the second pair, comparing Pre Test 2 and

Post Test 2, the mean difference was even greater at -41.833, with a standard deviation of 7.023 and a standard error of 1.282. The 95% confidence interval ranged from -44.456 to -39.211. The t-value for this pair was -32.628 with 29 degrees of freedom, and the p-value was also .000. This result confirms the significant impact of critical reading strategies on reading comprehension, further substantiating the rejection of the null hypothesis. These statistical outcomes clearly demonstrate that both conventional and critical reading strategies significantly improved the reading comprehension abilities of the students. However, the greater mean difference in the second pair suggests that critical reading strategies had a more substantial effect. The rigorous analysis, supported by the extremely low p-values, reinforces the reliability of these findings. Thus, the null hypothesis was consistently rejected in favor of the alternative hypothesis, affirming that critical reading strategies are highly effective in enhancing students' reading comprehension skills.

Discussion

The primary aim of this study was to investigate how critical reading strategies impacted the development of reading comprehension among high school students. The guiding research question was: "How does the use of critical reading strategies affect the development of reading comprehension in high school students?" Through a detailed analysis of the collected data, the researcher provided a comprehensive discussion of the findings, supported by prior research reviewed in Chapter 1. The findings from the study revealed that critical reading strategies significantly enhanced students' reading comprehension. The experimental group showed substantial improvements from pre-test to post-test scores in both phases of the intervention. Specifically, the mean scores for the experimental group increased from 24.83 in the pre-test to 66.67 in the post-test, reflecting a marked improvement in comprehension abilities. This finding aligned with previous research indicating that critical reading strategies could foster deeper engagement with texts and enhance comprehension skills. Furthermore, the positive impact of critical reading strategies observed in this study was consistent with the findings of Fita Faridah (2019), who reported that a critical reading technique helps students analyze and think critically, promotes comprehension, and identifies essential information through teacher-student interaction in the classroom.

Similarly, Achmad Chrisbianto Sachran (2022) states that reading also helps students understand existing conditions and situations. Students engage in reading activities, gaining information, knowledge, and ideas through words, sentences, and passages. This study contributed to the existing body of literature by providing empirical evidence supporting the effectiveness of these strategies in an Indonesian high school context. Additionally, the Kolmogorov-Smirnov test results indicated that all four data sets (Pre Test 1, Post Test 1, Pre Test 2, and Post Test 2) had p-values greater than 0.05, suggesting that the data sets followed a normal distribution. This normality was crucial for the validity of the subsequent parametric tests. The consistent normal distribution across all data sets confirmed the reliability of the study's design and ensured that the observed improvements in reading comprehension could be attributed to the critical reading strategies rather than random variation. The statistical analysis, particularly the paired t-tests, further reinforced the significant impact of critical reading strategies. For both pairs of tests (Pre Test 1 vs. Post Test 1 and Pre Test 2 vs. Post Test 2), the t-values were highly significant with p-values well below 0.05. This strong statistical evidence

allowed for the rejection of the null hypothesis, thereby confirming that the interventions had a meaningful positive effect on students' reading comprehension.

Moreover, these findings have important implications for educational practices. Integrating critical reading strategies into the curriculum could significantly enhance students' reading skills, as demonstrated by the substantial improvements in comprehension scores. Educators should consider adopting these strategies to foster better academic outcomes and prepare students for the analytical demands of higher education and professional environments. In conclusion, this study provided robust evidence that critical reading strategies are effective in improving the reading comprehension of high school students. The research question posed at the outset has been answered affirmatively through rigorous data analysis and hypothesis testing.

The findings highlighted the potential of critical reading techniques to transform reading instruction and underscored the need for their broader application in educational settings. This study not only added to the existing literature but also offered practical insights for educators aiming to enhance their students' reading comprehension through effective instructional strategies. By synthesizing these comprehensive results, we could appreciate the significant contribution of critical reading strategies to the academic development of high school students and advocate for their widespread implementation in educational curriculum to achieve superior learning outcomes.

CONCLUSION

This study aimed to determine the impact of critical reading strategies on the reading comprehension skills of high school students through a within-subject design. The findings clearly reveal that these strategies significantly enhance students' comprehension abilities in SMA Negeri 15 Samarinda, as evidenced by substantial improvements in pre-test to post-test scores across both experimental phases. Statistical analyses, including the Kolmogorov-Smirnov test and paired t-tests, consistently confirmed the positive impact of critical reading strategies, showing normal distribution and significant p-values that affirm the reliability and validity of the results. The research effectively addressed the question of how critical reading strategies affect the development of reading comprehension, providing empirical evidence that these strategies substantially improve students' skills. Incorporating critical reading strategies into the curriculum is thus highly beneficial, offering practical implications for educators and contributing valuable.

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