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Enhancing Students' Reading Comprehension through CIRC Method at Vocational High School 2 PGRI Kediri

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Abstract:

This study investigates the effectiveness of the Cooperative Integrated Reading and Composition (CIRC) method in improving students' reading comprehension at SMK PGRI 2 Kediri. The motivation arose from students' difficulties in understanding English narrative texts, often caused by limited vocabulary, low motivation, and ineffective reading strategies. A quantitative approach was used with a one-group pre-test and post-test design, involving 25 students from Class XI Accounting 2. Data was collected through multiple-choice reading comprehension tests administered before and after implementing the CIRC method. The results show a significant improvement, with average scores rising from 48.64 in the pre-test to 80.24 in the post-test. The paired sample t-test revealed a significant difference ($p < 0.05$), indicating that the CIRC method has a positive impact on reading comprehension. Moreover, CIRC encourages collaborative learning and increases student engagement, fostering a more interactive and enjoyable classroom environment. These social and emotional benefits suggest that CIRC not only enhances academic achievement but also improves classroom dynamics. In conclusion, the CIRC method is an effective strategy for boosting reading comprehension among vocational high school students and is recommended for English teachers seeking innovative, student-centered teaching approaches. Future research could explore the application of this method to other language skills or educational contexts.

Keywords: *CIRC; Reading Comprehension; Teaching Reading*

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Introduction

Reading is central to language mastery; it not only improves vocabulary but also facilitates comprehension, critical thinking, and lifelong learning. In the context of vocational high schools, reading holds a unique role. Students must acquire the ability to interpret technical documents, workplace manuals, and digital resources, which are essential for future employment. Thus, developing strong reading comprehension is not optional—it is a necessity for vocational learners to thrive in a competitive workforce.

However, literacy remains a challenge in Indonesia. The *Programme for International Student Assessment (PISA)* 2022 positioned Indonesia among the bottom five countries globally in reading performance. This suggests a systemic weakness in literacy education. If vocational students, who are expected to become the backbone of technical industries, cannot comprehend written texts effectively, their employability and contribution to national development will be compromised.

At SMK PGRI 2 Kediri, classroom observations revealed recurring issues. Students had difficulty understanding narrative texts, which form a substantial part of the English curriculum. They struggled to extract main ideas, identify supporting details, or interpret implicit meanings. These problems were compounded by limited vocabulary and low motivation. Teachers often relied on conventional “chalk and talk” methods, emphasizing explanation and translation rather than engagement and critical analysis. Consequently, reading lessons became monotonous and failed to stimulate interest or comprehension.

To address these challenges, the Cooperative Integrated Reading and Composition (CIRC) method offers an alternative. Developed by Slavin, Stevens, and Madden (1988), CIRC is a structured cooperative learning model where students work in heterogeneous groups to read, discuss, and summarize texts. Each member contributes to the group's success, fostering accountability and interdependence. Unlike traditional methods, CIRC integrates reading with writing activities, making comprehension an active and shared process.

Several studies have highlighted the potential of CIRC. Kesumadewi et al. (2020) demonstrated that CIRC, combined with illustrated stories, enhanced language proficiency in Indonesian elementary schools. Jayadi (2021) reported that CIRC improved students' ability to identify main ideas. Rafiah (2022) found that CIRC was effective in enhancing comprehension among junior high school EFL learners. Despite these promising results, little research has been conducted at the vocational high school level, where students face distinct challenges, such as mastering technical vocabulary and experiencing low academic motivation.

This study, therefore, aims to bridge this gap. It investigates the application of CIRC to enhance reading comprehension of narrative texts at SMK PGRI 2 Kediri. The research explicitly addresses two questions:

1. How does the use of CIRC improve students' reading comprehension?
2. Does the CIRC method have a statistically significant impact on comprehension outcomes?

The study is significant both theoretically and practically. Theoretically, it enriches the literature on cooperative learning in EFL by extending the context to vocational schools. Practically, it offers English teachers an innovative and effective strategy for engaging students and improving literacy outcomes.

Methods

This research employed a quantitative approach using a pre-experimental design with a one-group pre-test and post-test. According to Creswell (2014), such a design is suitable for evaluating the effectiveness of an instructional intervention because it allows the researcher to measure changes in student performance before and after treatment. Although it does not include a control group, this design is widely applied in classroom-based studies where the primary objective is to examine whether an innovation leads to significant improvement within a specific learning context (Ary, Jacobs, Sorensen, & Walker, 2018).

Context and Participants

The study was carried out at SMK PGRI 2 Kediri, Indonesia, during the academic year 2024/2025. The participants were 25 students from Class XI Accounting 2, aged 16–17 years. The class was selected using simple random sampling, ensuring that every student in the target population had an equal chance of being selected (Cohen, Manion, & Morrison, 2018). This sampling technique minimized selection bias and enhanced the sample's representativeness. The students in this class had similar levels of English proficiency, as shown by their previous semester grades and diagnostic test scores. This similarity was important to minimize confounding variables and ensure that any differences in test performance mainly resulted from the intervention.

The primary instrument was a reading comprehension test comprising 25 multiple-choice items constructed from narrative texts aligned with the curriculum. The items were designed to measure four key dimensions of comprehension (Grabe, 2009):

1. Identifying main ideas – determining the overall theme or purpose of the text.
2. Locating specific details – recognizing factual information within passages.
3. Making inferences – interpreting implied meanings beyond the literal level.
4. Understanding vocabulary in context – deducing word meanings from surrounding clues.

To ensure content validity, the test was reviewed by two senior English teachers with more than a decade of teaching experience. A pilot test was administered to a parallel class not included in the study to check clarity, item difficulty, and discrimination indices. Reliability was estimated using Cronbach's Alpha, which produced a coefficient of 0.82.

According to Fraenkel, Wallen, and Hyun (2019), a coefficient above 0.80 indicates a high level of internal consistency, thus making the instrument reliable for use in this study.

Research Procedure

The procedure consisted of three key stages:

1. Pre-test: Students took the comprehension test to establish their baseline reading performance. This step provided the initial data for comparison.
2. Treatment: The intervention included two instructional sessions using the Cooperative Integrated Reading and Composition (CIRC) method, as developed by Slavin, Stevens, and Madden (1988). Students were divided into heterogeneous groups of four to five members to promote diversity in ability levels. Within groups, they engaged in:
 - a. Reading narrative texts collaboratively,
 - b. Discussing unfamiliar vocabulary and clarifying meanings,
 - c. Producing written summaries of passages,
 - d. Presenting group findings orally to the class.

The teacher's role was primarily that of a facilitator and monitor, guiding discussions, addressing misconceptions, and reinforcing cooperative principles. This

design encouraged positive interdependence, individual accountability, and promotive interaction, which are central features of cooperative learning (Johnson & Johnson, 2009).

3. Post-test: After treatment, students completed a parallel comprehension test of equivalent difficulty. This enabled the measurement of learning gains attributable to the intervention.

Data analysis was conducted using SPSS version 25. Several statistical procedures were applied:

- a. Descriptive statistics (mean, standard deviation, minimum, maximum) were computed to provide a general profile of students' performance before and after treatment.
- b. A paired-samples t-test was performed to test the hypothesis that students' post-test scores would be significantly higher than their pre-test scores. This test was appropriate because it examines differences between two related measures taken from the same group (Field, 2018). The significance threshold was set at $\alpha = 0.05$.
- c. To assess the practical significance of the findings, the effect size was calculated using Cohen's d. Effect size complements statistical significance by quantifying the magnitude of the treatment effect (Plonsky & Oswald, 2014). A Cohen's d of 0.2 is considered small, 0.5 medium, and 0.8 or above large.

By combining descriptive and inferential analyses, the study ensured both statistical rigor and interpretive depth. This methodological framework enabled the researcher to draw reliable conclusions about the impact of the CIRC method on the reading comprehension of vocational students.

Results and Discussion

Findings

The quantitative results indicate a significant improvement in students' reading comprehension following the implementation of the CIRC method. Table 1 summarizes the descriptive statistics.

Table 1. Descriptive Statistics of Pre-test and Post-test Scores

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETEST	48.64	25	9.721	1.944
	POSTTEST	80.24	25	10.072	2.014

The pre-test mean score of 48.64 indicates that most students initially had a low comprehension level, far below the school's minimum passing grade (KKM = 75). Many students struggled to identify main ideas or interpret implicit meanings accurately, and had difficulty recognizing vocabulary. The minimum score of 32 further reflects serious comprehension gaps in the class.

After two sessions of CIRC-based instruction, the mean increased to 80.24, exceeding the KKM. The minimum score improved dramatically from 32 to 64, and the maximum increased from 67 to 100, indicating that not only did weaker students benefit, but higher achievers also reached mastery. The reduced score gap also reflects greater equity in outcomes, indicating that cooperative learning helped "lift the floor" for weaker

		Paired Samples Test							
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	PRETEST - POSTTEST	-31.600	13.339	2.668	-37.106	-26.094	-11.845	24	.000

Analysis

the effectiveness of CIRC can be explained through the lens of sociocultural theory. Vygotsky (1978) emphasized the importance of interaction and scaffolding in the learning process. In this study, students worked in diverse groups where stronger peers supported weaker ones, enabling learners to operate within their Zone of Proximal Development (ZPD).

The results also support cooperative learning theory, which posits that learning outcomes are enhanced when students engage in structured collaboration (Johnson & Johnson, 2009). In CIRC, students were accountable both individually and collectively: they had to read texts, summarize them, and present group findings. Such interdependence promoted responsibility and engagement. The improved post-test performance indicates that these principles effectively translated into higher levels of comprehension.

Furthermore, integrating reading and writing tasks within CIRC explains the notable improvements. Grabe (2009) argued that reading comprehension is enhanced when it involves productive skills, such as summarizing and discussion, because these require learners to actively reorganize information and create meaning. The current

results support this, as students who practiced summarizing and presenting texts scored higher on comprehension tests compared to their pre-test results.

Another explanation is motivational. Harmer (2007) observed that students learn more effectively when they are actively engaged and motivated. Traditional teacher-centered approaches at SMK PGRI 2 Kediri often left students passive, resulting in low baseline comprehension. The cooperative and interactive design of CIRC made reading tasks more engaging and less intimidating, reducing student anxiety while increasing participation. This positive classroom environment aligns with research by Slavin (1995), who found that cooperative learning improves both academic achievement and motivation.

The interpretation of the results also aligns with previous empirical findings. For instance, Kesumadewi et al. (2020) demonstrated that CIRC improved Indonesian students' language proficiency, while Jayadi (2021) and Rafiah (2022) found similar effects in enhancing reading comprehension at various educational levels. The current study extends this body of research by showing that CIRC is highly effective in the vocational high school context, where students face unique challenges, such as limited vocabulary, low motivation, and a curriculum that emphasizes technical subjects.

From the researcher's perspective, one of the most important insights from this analysis is that CIRC not only improved understanding but also reduced achievement gaps. Students who scored poorly on the pre-test showed significant improvement, while higher-achieving students continued to excel. This indicates that CIRC may be especially useful in diverse classrooms, as it offers equal learning opportunities.

In summary, the analysis shows that the CIRC method is effective because it:

1. Encourages scaffolding through peer collaboration (Vygotsky, 1978),
2. Promotes accountability and engagement through cooperative structures (Johnson & Johnson, 2009),
3. Integrates reading with writing to deepen processing (Grabe, 2009),
4. Enhances motivation and participation (Harmer, 2007; Slavin, 1995).

The findings therefore support both theoretical perspectives and practical applications, while also contributing new evidence regarding the value of CIRC in vocational education.

Conclusion

The present study set out to examine the effectiveness of the Cooperative Integrated Reading and Composition (CIRC) method in enhancing the reading comprehension of vocational high school students at SMK PGRI 2 Kediri. Through a pre-experimental design employing one-group pre-test and post-test, the research found clear evidence that CIRC can substantially improve students' comprehension of narrative texts. The mean score increased from 48.64 in the pre-test to 80.24 in the post-test, and the paired-samples t-test confirmed that this difference was statistically significant at $p < .05$. Moreover, the effect size, represented by Cohen's d of 2.36, indicated a very large impact, suggesting that CIRC was not only effective but transformative for the students in this study.

The improvement in reading comprehension can be explained by several factors. First, the cooperative grouping structure of CIRC provided opportunities for peer scaffolding, in which higher-achieving students supported their peers and less proficient learners benefited from immediate assistance. This reflects Vygotsky's (1978) theory of the Zone of Proximal Development, which posits that learners achieve higher outcomes when guided by more capable peers. Second, the active engagement demanded by CIRC—

through reading, summarizing, and presenting—ensured that students were no longer passive recipients of knowledge but active constructors of meaning. This shift in classroom dynamics enhanced motivation and accountability, which translated into higher comprehension performance. Third, the integration of reading with writing and oral activities deepened cognitive processing, as students were required to reorganize, paraphrase, and communicate meaning in their own words. This aligns with Grabe's (2009) argument that comprehension improves when supported by productive skills. Finally, the cooperative classroom climate created by CIRC reduced anxiety and increased motivation, fostering a positive environment for learning.

The findings of this study also resonate with previous research. Studies by Kesumadewi et al. (2020), Jayadi (2021), and Rafiah (2022) all reported significant improvements in reading or language outcomes as a result of CIRC. However, this research extends the existing literature by demonstrating that CIRC is highly effective in vocational high schools, a context often overlooked in language learning studies. Vocational students typically face challenges such as lower motivation, limited vocabulary, and curricula that prioritize technical knowledge over general English. The substantial gains observed here suggest that CIRC is well-suited to address these challenges by combining academic improvement with the development of transferable skills such as teamwork and communication.

Nevertheless, the study has limitations. The absence of a control group means that other external variables cannot be entirely excluded as potential influences on the results. Additionally, the intervention was limited to two sessions, raising questions about the sustainability of the observed improvements over time. Future studies should therefore employ more rigorous experimental designs, include larger and more diverse samples, and extend the duration of the treatment. Comparative research across different genres of texts and educational levels would also provide a broader understanding of CIRC's applicability.

In conclusion, this study provides strong empirical support for the use of CIRC in improving reading comprehension among vocational high school students. The method proved to be not only statistically effective but also pedagogically meaningful, offering benefits that extend beyond comprehension to include motivation, collaboration, and communication skills. For teachers, CIRC represents a practical and powerful strategy to transform reading instruction. For policymakers, it suggests a viable solution to address Indonesia's ongoing literacy challenges, as reflected in consistently low international assessments. Ultimately, the integration of cooperative learning methods such as CIRC has the potential to not only raise academic achievement but also prepare students with the essential competencies needed for success in the workplace and in lifelong learning.

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