
The Effectiveness of Directed Reading Thinking Activity (DRTA) Strategy on Students' Reading Comprehension Moderated by Gender

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Abstract: The aim of this study was to analyse the effectiveness of the Directed Reading Thinking Activity (DRTA) strategy on the reading comprehension of eighth-grade students at SMPN 3 Luhak Nan Duo, compared to conventional strategies, and to examine the role of gender as a moderating variable. Using a quasi-experimental design with pre- and post-tests, the findings revealed that the DRTA strategy was significantly more effective than the conventional strategy in enhancing students' reading comprehension ($p < 0.01$). Gender also influenced performance ($p < 0.05$), with female students tending to score higher than male students. However, no significant interaction was found between strategy and gender ($p > 0.05$), indicating that the effectiveness of DRTA applies equally across genders. These results suggest that DRTA is an effective strategy for enhancing students' reading comprehension in junior high schools, with practical implications for teachers to adopt more interactive and gender-responsive reading instruction.

Keywords: DRTA; reading comprehension; gender; junior high school; reading strategies

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INTRODUCTION

Reading is a fundamental skill for students' academic achievement, as it enables them to acquire knowledge, think critically, and communicate effectively (Rizal, 2018; Seventilofa, 2022). Beyond word recognition, reading comprehension is essential for understanding, reflecting on, and applying textual information (Brassell & Hallie, 2008). In the classroom context, students' success in various subjects largely depends on their ability to comprehend texts, which makes the mastery of reading comprehension skills indispensable. Despite its importance, classroom observations at SMPN 3 Luhak Nan Duo revealed that reading instruction remains monotonous and teacher-centered, with limited opportunities for interaction. Monotonous teaching usually consists of long teachers with little active participation from students (Susanti., et al, 2024). Students often display low vocabulary mastery and motivation, which negatively affect their comprehension. This situation highlights the need for effective and engaging strategies to enhance students' reading comprehension.

One promising strategy is the Directed Reading Thinking Activity (DRTA), which encourages students to make predictions, confirm their understanding, and reflect on the text. Previous studies demonstrated that DRTA can effectively improve students' reading comprehension (Satriani et al., 2022; Nerim, 2020; Agao-Agao, 2023). However, most of

these studies were limited by small samples, simple research designs, or a lack of theoretical depth. More importantly, they did not consider the potential influence of gender on the effectiveness of DRTA. Research on gender and reading comprehension has produced mixed findings. Some studies report that female students consistently outperform males (Logan & Johnston, 2010; Espinoza & Strasser, 2020; Ngongare & Rettob, 2020), while others find no significant differences (Manu et al., 2020; Nero & Zulkipli, 2020). Despite these debates, little is known about whether gender moderates the effectiveness of specific reading strategies such as DRTA, particularly in the Indonesian junior high school context. This study aims to fill that gap by investigating the effectiveness of DRTA compared to conventional methods, with gender examined as a moderating variable.

METHOD

This study employed a quasi-experimental design with a pretest–posttest control group to determine the effectiveness of the Directed Reading Thinking Activity (DRTA) strategy on students' reading comprehension. Following Creswell (2012), intact classes were used rather than random assignment, as school conditions did not permit regrouping. Two groups were included: class VIII.1 as the experimental group ($n = 31$) taught using DRTA and class VIII.4 as the control group ($n = 30$) taught using conventional strategy. In total, 61 students participated, consisting of 29 males and 32 females. The experimental group comprised 15 males and 16 females, while the control group comprised 14 males and 16 females. Gender was analysed as a moderator variable to examine its interaction with learning strategies.

The instrument was a 30-item multiple-choice reading comprehension test developed based on Barrett's Taxonomy, covering literal, reorganizational, inferential, evaluative, and appreciative levels. Prior to the main study, the instrument was piloted and validated using Pearson correlation, with items meeting the minimum threshold of $r \geq 0.30$ retained. Reliability was established through Cronbach's Alpha ($\alpha = 0.97$), indicating excellent internal consistency. Data collection involved administering pretests and posttests to both groups. The experimental group received DRTA-based instruction, while the control group continued with teacher-centered strategy. The intervention lasted four weeks. Ethical approval was obtained from the school administration, and informed consent was secured from both students and their guardians, ensuring voluntary participation.

Data analysis consisted of normality testing (Shapiro-Wilk), homogeneity testing (Levene's Test), and Wilcoxon Signed-Rank for within-group comparisons, as the data were not normally distributed. Quade Rank ANCOVA was then employed to assess the effects of learning strategy and gender, controlling for pretest scores. This method was chosen as it provides a robust nonparametric alternative to ANCOVA while accommodating covariates. Although the sample size was relatively small, it was constrained by the number of available intact classes in the school. Nonetheless, the sample reflects the typical composition of Indonesian junior high school classrooms, thus providing valid internal results. However, the findings should be interpreted with caution in terms of generalization, and future studies may extend to larger and more diverse populations.

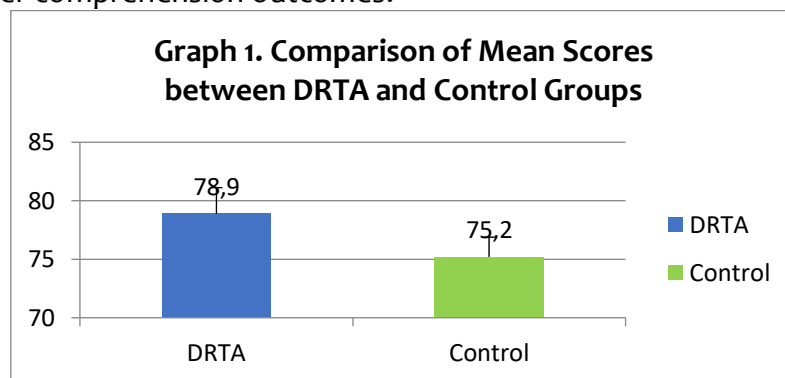
RESULT AND DISCUSSION

Descriptive Analysis

Table 1. Descriptive Analysis

Group Statistics					
	Class	N	Mean	Std. Deviation	Std. Error Mean
Students' Reading Comprehension	DRTA	31	78.9	12.3	2.22
	Control	30	75.2	9.12	1.69

The DRTA group achieved a mean post-test score of 78.9 (SD = 12.3), while the control group obtained an average score of 75.2 (SD = 9.12). The mean difference of 3.7 points indicates that students taught with the DRTA strategy performed better than those taught with conventional strategy. This practical difference suggests that the structured and interactive nature of DRTA enables students to engage more actively with texts, leading to better comprehension outcomes.



Graph 1. Comparison of Mean Scores between DRTA and Control Groups

Graph 1 shows that the DRTA group outperformed the control group with a higher mean score (78.9 compared to 75.2). Although the DRTA group displays slightly greater variability, as indicated by a longer error bar, the mean difference remains statistically significant ($p < 0.01$). This suggests that while performance among DRTA students was more diverse, the strategy still provided clear overall benefits compared to conventional strategy.

The effectiveness of the DRTA Strategy on Students' Reading Comprehension is Influenced by the Interaction between the Strategy and Gender Differences

Table 2. Quade Rank ANCOVA Results: DRTA Strategy vs. Conventional Strategy

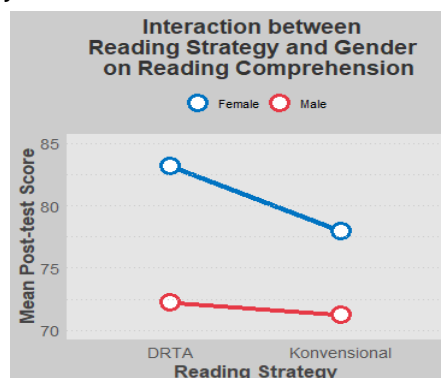
	Df	Sum Sq	Mean Sq	F-Value	p-value
Pre-test	1	1371	1371.4	15.562	0.000225
Group	1	694	693.6	7.870	0.006898
Gender	1	371	370.8	4.208	0.044917
Group × gender	1	4	4.2	0.047	0.828314
Residuals	56	4935	88.1		

The Quade Rank ANCOVA showed that the DRTA strategy had a significant positive effect on students' reading comprehension compared to the conventional strategy ($p <$

0.01). Gender also significantly influenced performance ($p < 0.05$), with female students scoring higher on average. However, the interaction between strategy and gender was not significant ($p > 0.05$), suggesting that DRTA was equally effective for both male and female students. These findings indicate that DRTA is a robust strategy that benefits learners regardless of gender differences. Its strength lies in the structured, student-centered process of predicting, reading, and confirming information (Stauffer, 1969). This process promotes cognitive engagement and metacognitive awareness, as students actively monitor their understanding during reading. The strategy is supported by a solid theoretical foundation: constructivist perspectives emphasize the active construction of meaning through interaction with text and peers (Piaget, 1952; Vygotsky, 1978), the interactive reading model highlights the interplay of bottom-up and top-down processes (Rumelhart, 1977), and schema theory underscores the role of prior knowledge in comprehension (Anderson & Pearson, 1984).

These results are consistent with Satriani et al. (2022), who found that DRTA improved comprehension through prediction and reflection, as well as with Nerim (2020) and Agao-Agao (2023), who reported DRTA's positive impact in Indonesian and Philippine contexts. The present study strengthens these findings by using a quasi-experimental design with a control group and by considering gender as a moderating variable, thus expanding the scope of DRTA research. More recent evidence also supports these results. As'ari and Sa'diah (2023) examined the implementation of DRTA in teaching narrative texts to junior high school students in Jember and reported that the strategy made students more focused, critical, and confident in expressing their understanding. Similarly, Azahro, Hamid, and Hamid (2024) demonstrated that DRTA significantly improved literal comprehension among Indonesian senior high school students. Together, these studies indicate that DRTA is effective across grade levels, school contexts, and text genres.

Another important finding is the significant effect of gender on reading comprehension outcomes, with female students outperforming males. One possible explanation is that female students often show stronger motivation, higher levels of engagement, and more consistent reading habits than male students. They also tend to use metacognitive strategies including monitoring comprehension and reflecting on meaning more effectively, which align closely with the interactive nature of DRTA. This is consistent with Logan and Johnston (2010) and Espinoza and Strasser (2020), who reported higher reading ability and motivation among girls. However, the absence of an interaction effect between strategy and gender suggests that DRTA benefits both male and female students equally. This aligns with studies that found mixed or nonsignificant gender effects, such as Manu et al. (2020) and Nero & Zulkipli (2020), indicating that the influence of gender is highly contextual.



Graph 1. Interaction Between Reading Strategy and Gender on Reading Comprehension

The graph illustrates that there is no interaction between reading strategy and gender, as both male and female students show a similar pattern of score differences between the DRTA and conventional strategies. This finding further supports the statistical results that DRTA is equally effective across genders. An important contribution of this study is the evidence that DRTA is not only effective but also gender-neutral. This aligns with the principle of equitable learning, as emphasized by Komariah and Wulandari (2023) and Salsabila et al. (2024), who highlight the importance of gender-aware instructional practices in fostering participation and academic achievement.

Beyond literal comprehension, DRTA also supports higher-order thinking skills. By encouraging students to predict, evaluate, and synthesize information, DRTA stimulates inferential and critical reasoning aligned with Barrett's taxonomy. These activities require metacognitive monitoring, as students continuously check and adjust their predictions while reading. Such processes not only enhance comprehension but also train students to become reflective, independent learners who can transfer strategies to other academic contexts. Overall, the DRTA strategy has proven effective in enhancing junior high school students' reading comprehension compared to conventional strategy. Its structured, interactive, and theoretically grounded design makes it a powerful tool for promoting inclusive, effective, and gender-responsive reading instruction.

CONCLUSION

This study highlights the practical benefits of implementing the Directed Reading Thinking Activity (DRTA) strategy in middle school classrooms. By engaging students in predicting, reading, and confirming textual information, DRTA can be integrated into routine classroom practices to promote deeper cognitive and metacognitive engagement. Teacher training on DRTA can further enhance instructional effectiveness, ensuring that the strategy is applied consistently and inclusively across diverse classrooms. While female students showed slightly higher gains, the strategy proved effective for all students, underscoring its potential as an equitable instructional approach. Teachers are encouraged to adopt DRTA as a regular classroom strategy to support reading comprehension development. For future research, longitudinal studies are recommended to assess the long-term retention effects of DRTA. Exploring digital adaptations of DRTA and its use with learners of varied reading abilities could further expand its applicability. Comparative studies with other metacognitive reading strategies may also provide valuable insights for refining literacy pedagogy.

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