

THE EFFECTIVENESS OF DIRECTED READING THINKING ACTIVITY ASSISTED WITH BOARD GAME MEDIA ON FOURTH-GRADE READING COMPREHENSION

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Article Info	Abstract
Article History Received: February 2026 Revised: April 2026 Accepted: June 2026 Published: July 2026	<i>Reading comprehension remains a persistent problem for Indonesian elementary students, as shown by the Computer-based National Assessment (ANBK) and the Progress in International Reading Literacy Study (PIRLS) outcomes. This situation calls for a reading strategy that can make students more active and engaged in constructing meaning from texts. Both Directed Reading Thinking Activity (DRTA) strategy and board game media have been proven effective separately and are potentially beneficial when integrated, yet studies on their combined use remain limited. This study aimed to examine the effectiveness of a DRTA strategy supported by board game media in improving fourth-grade students' reading comprehension. The study employed a quantitative quasi-experimental design with a nonequivalent control group involving 38 fourth-grade students of SD Labschool UNNES. Data were collected through validated reading comprehension pre-test and post-test instruments and analyzed using the Wilcoxon Signed-Rank Test, Mann-Whitney U Test, and N-Gain analysis with SPSS 27. The findings showed that both groups improved, but the experimental group achieved stronger gains than the control group. Students taught through DRTA strategy supported by board game media were better able to make predictions, monitor understanding, confirm ideas with textual evidence, and develop responses across literal, inferential, and evaluative comprehension. These findings confirm that DRTA strategy supported by board game media is effective in improving fourth-grade students' reading comprehension. This strategy also offers an interactive and meaningful alternative for elementary reading instruction.</i>
Keywords Board game media; Deep learning; DRTA strategy; Elementary schools; Reading comprehension;	
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INTRODUCTION

Reading comprehension occupies a fundamental position as it serves as the primary gateway for learners to access and construct knowledge (Sarika et al., 2024). This ability involves complex mental processes that enable learners to connect information, analyze content, and interpret messages conveyed by authors through written texts (Oktrifianty, 2021). Reading comprehension interventions can have an impact on language and literacy outcomes, but transfer to broader outcomes does not always occur automatically and depends on the intervention design, the intensity of implementation, and the context of the students targeted by the intervention (Dolean, 2026).

The reading comprehension ability of Indonesian elementary school students continues to present persistent challenges, as reflected in both PIRLS and ANBK data. In PIRLS 2006

and 2011, According to the (International Association for the Evaluation of Educational Achievement, 2012) Indonesian fourth-grade students scored 405 and 428, respectively, both still below the international benchmark of 500, showing that their reading comprehension performance had not yet reached global standards. At the national level, ANBK and KKTP in the Kurikulum Merdeka set mastery expectations at about 70%–75% of indicator achievement (Kemendikbudristek, 2023), yet the 2021 AN data for SD/MI show that schools implementing Kurikulum Merdeka since 2021 reached an average literacy score of 55.1, while schools still using Kurikulum 2013 scored 45.6; the gap was also evident by socioeconomic status, with top-20% schools scoring 57.6 and bottom-20% schools scoring 44.9. These results align with the 2023 Indonesian Education Statistics, which show that elementary school students' basic literacy achievement remains lower than their numeracy achievement. This confirms that reading comprehension remains a major educational challenge in Indonesia (BPS, 2023). These patterns confirm that reading comprehension remains a major educational challenge in Indonesia and Innovative and collaborative learning is needed to address the limitations of conventional teaching approaches in fostering text comprehension (Milah, 2025).

Low reading proficiency in Indonesia is not only linked to academic achievement but is also influenced by contextual factors that create a gap between expected literacy outcomes and actual classroom conditions. Factors influencing difficulties in reading comprehension include low reading interest, limited reading activities, disparities in students' abilities, and insufficient support from both the school and family environments (Ambarita et al., 2021). Socioeconomic background also significantly influences educational opportunities, including access to high-quality learning resources (Fukaro, 2025). Teachers are also expected to consider students' reading interests when selecting reading materials, ensuring alignment with learners' needs and comprehension levels (Permata et al., 2024). This situation shows that the challenge is not only low performance, but also the mismatch between what literacy education expects and what students actually experience in daily learning.

Preliminary observations conducted at SD Labschool UNNES in September 2025, in collaboration with the Grade IV A classroom teacher, showed that although students' general reading ability was categorized as adequate, their reading comprehension had not yet fully met the expected standards. This condition was reflected in students' tendency to read texts hastily, their lack of predictive strategies before reading, and their difficulties in drawing conclusions from key information in narrative texts. These conditions suggest that deep reading strategies had not yet become part of students' learning habits, while the use of instructional models such as Problem-Based Learning (PBL) remained centered on summarization activities that did not sufficiently develop the core cognitive processes required for reading comprehension. Instructional media used by teachers, including projector-assisted PowerPoint presentations, were effective in attracting students' attention but did not fully support critical thinking. A discernible gap therefore remains between the reading comprehension competencies expected by national standards and students' actual classroom achievement.

Technology-based interventions can improve reading, comprehension, and motivation to read when designed within a structured pedagogical approach tailored to students' needs (Balantekin, 2026). The creation of an enjoyable learning environment can be facilitated by educators' selection of appropriate instructional strategies (Herlina et al., 2022). The effective use of instructional strategies supports learners in understanding and mastering subject matter more efficiently (Koerniantono, 2020). The selection of instructional strategies should be guided by several essential criteria, one of which is alignment with content, learning objectives, and the competencies to be achieved (Nurhasanah et al., 2019; Rianto et al., 2024). One instructional strategy that is particularly relevant to reading comprehension is the Directed Reading Thinking Activity (DRTA) strategy. Stauffer (1969), as cited in Nerim (2020) described DRTA as a strategy designed to support language learners in developing stronger

reading comprehension skills. This strategy guides learners to generate predictions, read to confirm those predictions, and reflect on the content of the texts they have read (Manalu et al., 2023).

Previous studies have shown that the Directed Reading Thinking Activity (DRTA) strategy has been implemented across different educational levels and national contexts. In Jordan, research by Al-Janaydeh & Al-Jamal (2024) at the upper secondary level found that DRTA strategy helped Grade X students activate schema and prior knowledge, strengthen logical and critical thinking, and generate more varied and relevant predictions, which led to deeper text comprehension. Similar findings were reported in Indonesia by Azahro et al. (2024), whose study showed that DRTA strategy gave Grade XII students opportunities to use predictive strategies during reading, activate prior knowledge, establish reading purposes, and connect prior experiences with textual content. At the secondary school level, Satriani et al., (2022) also reported that DRTA strategy improved students' reading comprehension across literal, interpretive, and extrapolative levels, with the greatest gains at the literal level. Evidence from the early elementary level is also positive, Cubillas & Pardo (2023) found that DRTA strategy improved multiple components of reading ability among Grade II students in the Philippines, including letter-sound knowledge, initial sound identification, familiar word reading, non-word reading, reading fluency, and reading comprehension, with students' proficiency shifting from frustration toward instructional and independent levels.

In addition to the effectiveness of DRTA strategy, engaging and interactive instructional media are needed to support students' cognitive processes and strengthen the implementation of reading comprehension strategies. Board game are a promising medium in this regard because they promote active learning through interaction, collaboration, and deeper information processing (Jobert & Sanchiz, 2025). Arsa et al. (2026) also showed that board game-based activities designed to foster collaboration, communication, and teamwork improved social skills among students at risk of attention-deficit or hyperactivity disorder, while (Cès et al., 2025) noted that board game can encourage active learning, positive engagement, and prosocial behavior through immersive learning experiences. Moreover, board game that use asymmetrical information require players to ask questions and seek additional clues to solve problems, thereby creating opportunities for interaction and in-depth discussion (Wang et al., 2025). The use of board game media is also consistent with the developmental characteristics of elementary school students aged 6–12 years, who are generally moving from egocentric tendencies toward more cooperative and social orientations that can be supported through group-based learning tasks (Misbahudholam, 2021).

The integration of the DRTA strategy into board game media has the potential to strengthen students' cognitive and social engagement in reading comprehension. This integration is also aligned with the Deep Learning approach promoted in the Kurikulum Merdeka, which emphasizes mindful learning through students' awareness in activating prior knowledge and predicting text content, meaningful learning through connecting reading materials with real-life experiences and contextual understanding, and joyful learning through an enjoyable learning atmosphere supported by media-based instruction (Kemendikbudristek, 2025). Empirical studies that integrate the DRTA strategy with board game media in reading comprehension instruction remain very limited. Previous research has predominantly examined the effectiveness of DRTA strategy or board game media separately, with relatively few studies exploring the combined effects of both on reading comprehension ability and the Deep Learning approach among elementary school students, particularly in narrative text reading instruction.

The urgency of this research is further reinforced by the Kurikulum Merdeka emphasis on interactive, student-centered learning aimed at developing critical thinking skills (Alfaeni & Asbari, 2023). Fourth-grade students also constitute a cohort that will participate in ANBK in the subsequent academic year, underscoring the strategic importance of strengthening reading

comprehension skills at this level to support the attainment of nationally defined minimum literacy competencies. In this context, the integration of the DRTA strategy supported by board game media is expected to improve students' reading comprehension by combining DRTA's strengths in prediction, verification, and text-based reasoning with the motivational and interactive features of board game.

The identification of the research gap underscores the novelty of this study by combining the DRTA strategy supported by board game media into narrative text reading comprehension instruction for fourth-grade elementary school students. This combination is considered necessary because DRTA strategy provides structured cognitive scaffolding through predicting, verifying, and drawing conclusions from text, while board game media contributes interaction, motivation, collaboration, and a more engaging learning atmosphere. In other words, the board game does not merely serve as a supporting medium, but functions as a pedagogical reinforcement that can make the DRTA strategy process more active, meaningful, and enjoyable for students. This integration is expected to support reading comprehension in a more systematic and meaningful way in line with the Deep Learning orientation of the Kurikulum Merdeka. Accordingly, this study addresses two research questions: (1) to what extent does the implementation of the DRTA strategy supported by board game media improve fourth-grade students' reading comprehension of narrative texts?; and (2) to what extent do reading comprehension outcomes differ between students taught using the DRTA strategy supported by board game media ?

RESEARCH METHOD

Research Design

This study employed a quantitative quasi-experimental design because it examined the effect of an instructional intervention under natural classroom conditions without random assignment of individual students. The research followed systematic procedures, including selecting representative samples, collecting measurable data, and analyzing the data statistically (Wajdi et al., 2024). Quasi-experimental research involves pragmatically selected subject groups based on accessibility or availability, making it appropriate for this study's intact classroom groups formed by the school (Isnawan, 2020). The study used a nonequivalent control group design, in which both groups were not randomly assigned, to compare two instructional treatments while minimizing disruption to classroom routines (Sugiyono, 2019). The research began with a pre-test to determine students' initial reading comprehension and baseline equivalence between the two classes. Four treatment sessions were then conducted because reading comprehension improvement requires repeated exposure, guided practice, and gradual reinforcement of comprehension strategies rather than a single meeting.

Research Participants

The population of this study comprised all fourth-grade students at SD Labschool UNNES in the second semester of the 2025/2026 academic year, totaling 38 students in Class IV A and Class IV B, each comprising 19 students. The sample was selected through purposive sampling because the study involved intact classes that could not be randomly assigned at the individual level, and both classes were relatively similar in academic ability, learner characteristics, and prior learning outcomes (Sugiyono, 2019). Class IV A was chosen as the experimental group because it had comparable initial conditions and was suitable for receiving the treatment, whereas Class IV B was selected as the control group because it had similar characteristics but continued with regular instruction (Arikunto, 2013). This arrangement allowed the researcher to compare the effect of the intervention under equivalent starting conditions while maintaining normal classroom routines. Ethical considerations were also observed by ensuring confidentiality, age-appropriate procedures, and minimal disruption to learning.

Instruments

The reading comprehension framework proposed by Barrett (1976), as cited Umamy et al. (2025) operationally encompasses five aspects of reading comprehension ability: (1) literal comprehension; (2) reorganization; (3) inferential comprehension; (4) evaluation; and (5) appreciation. These indicators were subsequently developed into test instruments aligned with the Grade IV Indonesian language curriculum, covering the definitions of narrative texts, characters, plot, setting, conflict, purpose, moral message, and point of view. The initial instrument consisted of 30 test items, which were pilot-tested with 50 students outside the research sample. Instrument analysis was conducted using SPSS version 27. Of the 30 items tested, 15 items met all criteria for instrument feasibility and were selected for use in the study. The selected instrument comprised 5 multiple-choice items, 5 complex multiple-choice items, and 5 essay items. Item selection was based on results from validity and reliability testing, discrimination index analysis, and difficulty level analysis. Complex multiple-choice items were scored based on the number of correct responses according to the answer key, while essay items were scored using a rubric that assessed the accuracy, completeness, and relevance of students' answers. This scoring system was used to ensure that each item type measured reading comprehension consistently and objectively.

Instrument validity was examined using the Pearson Product-moment correlation. With 50 respondents, the analysis indicated that 26 of the 30 test items were valid, while 4 were invalid. The 26 valid items were subsequently subjected to reliability testing. Reliability analysis using Cronbach's Alpha yielded a reliability coefficient of 0.895. This Cronbach's alpha exceeded the minimum threshold of 0.60, indicating high internal consistency. Difficulty level analysis revealed that the selected instrument comprised 3 easy items, 10 moderate items, and 2 difficult items. Discrimination index analysis indicated that the selected instrument included 5 items with sufficient discrimination, 9 items with good discrimination, and 1 item with very good discrimination. This composition demonstrates that the instrument is comprehensive, representative, and proportionally balanced, without being dominated by overly easy or overly difficult items, and is capable of distinguishing between students with high and low reading comprehension abilities (Fatimah & Alfath, 2019; Solichin, 2017).

Data Analysis

Data were collected sequentially through preliminary observation, instrument trial, pre-test, four treatment meetings, post-test, and documentation. Data analysis was conducted using SPSS version 27. First, descriptive statistics were calculated for both the experimental and control groups, including the minimum and maximum scores, mean, and standard deviation, to describe students' reading comprehension performance. Second, assumption testing was performed using the Shapiro–Wilk test to examine data normality and Levene's test to examine variance homogeneity. The normality test showed that not all data were normally distributed, while the homogeneity test indicated that the variances were homogeneous. Because the data did not fully meet the assumption of normality, nonparametric tests were used for inferential analysis. The Wilcoxon Signed-Rank Test was applied to determine whether there were significant differences between pre-test and post-test scores within each group, while the Mann–Whitney U test was used to determine whether there were significant differences between the experimental and control groups.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

The results showed that both groups improved in reading comprehension after the intervention, but the experimental group demonstrated a greater increase than the control group. This improvement is shown by the higher post-test and N-Gain scores in the experimental group, which indicate that DRTA strategy supported by board game media was more effective

than the conventional instruction used in the control group. The following tables present the detailed statistical evidence that directly answers the research questions, particularly the difference between the two groups and the level of improvement achieved after the treatment.

The implementation of the DRTA strategy, supported by board game media, to develop narrative text reading comprehension among fourth-grade students at SD Labschool UNNES was conducted across four instructional sessions, with eight learning objectives per group. Each session in the experimental group was delivered through instruction employing the DRTA strategy, integrated with board game media. Instruction in the control group was delivered using the Problem-Based Learning (PBL) model, previously commonly implemented in classrooms, with the BUDI website as the source of narrative reading content.

The first session began with administering a pre-test to students in both groups to determine their initial narrative reading comprehension. Instructional activities then proceeded with the presentation of material on the definition of narrative texts and on main and supporting characters. During the apperception stage, students were guided through the use of triggering questions, such as “Have you ever read a story?” “What story have you read and what is its title?” and “Which character plays the most important role in a story, and how do other characters contribute to the progression of the story?” The narrative text titled *Penculikan Naya*, sourced from the BUDI website and used as content for the board game, initially led some students to misinterpret the story's character classifications. Learning activities in the experimental group employed predictive strategies to identify the main and supporting characters in the narrative.

The second session focused on instruction related to setting, including place, time, and atmosphere, as well as plot structure consisting of the beginning, middle, and ending stages. The narrative text titled *Biji Jambu Mete*, sourced from the BUDI website, was used as board game content because it can facilitate students' contextual understanding of narrative settings. Students initially demonstrated confusion in comprehending plot structure, particularly in distinguishing events occurring in the beginning, middle, and ending stages of the story. This condition emerged as students were not yet accustomed to sequencing narrative events coherently based on cause-and-effect relationships. Students in the experimental group visualized and reconstructed the plot through a series of systematic stages embedded in the game-based activities.

The third session addressed instructional content on character conflict and character goals in narrative texts. The narrative titled *Stroberi untuk Ratu Jani*, sourced from the BUDI website, was used as board game content to support students' understanding of character conflict and motivation. Learning activities guided by the DRTA strategy encouraged students in the experimental group to formulate predictions before and during reading. The predictions generated by students demonstrated high variability, with several extending beyond the story's central theme to address character conflicts and goals.

The fourth session focused on instruction related to moral messages and point of view in narrative texts. The narrative titled *Inikah Rasanya*, sourced from the BUDI website, was used as board game content to deepen understanding of the author's message and narrative perspective. The application of the DRTA strategy encouraged students in the experimental group to engage emotionally and draw upon personal experiences when generating predictions and reflections. At the conclusion of the fourth session, students completed a post-test to assess their narrative reading comprehension following instruction using the DRTA strategy, supported by board game media.

The analysis of students' reading comprehension ability in both the control and experimental groups is accompanied by descriptive statistics generated in SPSS version 27, including minimum, maximum, mean, and standard deviation. A summary of the descriptive statistics for students' reading comprehension ability in both groups is presented in Table 1.

Table 1
Descriptive Statistics

Variable	N	Minimum	Maximum	Mean
Pre-test (K)	19	13	76	44.26
Post-test (K)	19	22	80	50.79
Pre-test (E)	19	18	98	51.42
Post-test (E)	19	42	100	78.89

Based on the descriptive statistics presented in Table 2 shows that the experimental group had a higher mean score than the control group in both the pre-test and post-test. The control group increased from 44.26 in the pre-test to 50.79 in the post-test, whereas the experimental group increased from 51.42 to 78.89. This pattern indicates that both groups improved, but the experimental group showed a much greater gain.

A normality test was conducted to determine whether the data on students' reading comprehension ability in the control and experimental groups were normally distributed. Normality testing was performed as a prerequisite for selecting the appropriate statistical test. The normality of the data was examined using the Shapiro–Wilk test through SPSS version 27. The Shapiro–Wilk test was selected because the number of subjects in each group was fewer than 50 students. The decision-making criterion for the normality test was that data were considered normally distributed when the significance value (Sig.) exceeded 0.05, whereas data were considered not normally distributed when the significance value (Sig.) was less than or equal to 0.05. The results of the normality test for students' reading comprehension ability in both the control and experimental groups are presented in Table 2.

Table 2
Normality Test Results

Variable	N	Shapiro-Wilk	Sig.
Pre-test (C)	19	0.956	0.495
Post-test (C)	19	0.923	0.131
Pre-test (E)	19	0.951	0.407
Post-test (E)	19	0.850	0.007

Based on the normality test results presented in Table 3, the pre-test and post-test data in the control group were normally distributed (0.495 and 0.131), and the pre-test data in the experimental group were also normally distributed (0.407), while the post-test data in the experimental group were not normally distributed (0.007). Because not all data met the assumption of normality, nonparametric tests were used in the subsequent analysis. Homogeneity of variance testing was conducted to assess whether the variances in students' reading comprehension abilities were equal between the control and experimental groups. The decision criterion for the homogeneity test was that data were considered homogeneous when the significance value (Sig.) exceeded 0.05. The results of the homogeneity test for both the control group and the experimental group are presented in Table 3.

Table 3
Homogeneity Test Results

	Levene Statistic	Sig.
Based on Mean	0.906	0.443
Based on Median	0.585	0.627

Based on the homogeneity test results presented in Table 3, the significance values were 0.443 for the mean and 0.627 for the median. Both p-values exceeded 0.05, indicating that the variances of students' reading comprehension ability between the control and experimental groups were homogeneous. The Wilcoxon Signed-Rank Test was employed to examine differences in students' reading comprehension between pre-test and post-test scores within each group, as the normality test indicated that not all data were normally distributed. The

Wilcoxon test was used as a nonparametric statistical test to compare two paired datasets. The decision criterion for the Wilcoxon test was that a significance value (Sig.) < 0.05 indicated a statistically significant difference between scores, whereas a significance value (Sig.) > 0.05 indicated no statistically significant difference. The results of the Wilcoxon test comparing pre-test and post-test reading comprehension scores between the control and experimental groups are presented in Table 4.

Table 4
Wilcoxon Test Results

Component	Control	Experiment
N	19	19
Negative Ranks	2	0
Positive Ranks	15	18
Ties	2	1
Z	-3.179	-3.727
Sig. (2-tailed)	0.001	<0.001

The results of the Wilcoxon Signed Rank Test presented in Table 4 indicate that both groups experienced improvement in reading comprehension from pre-test to post-test, although the pattern of improvement was stronger in the experimental group. In the control group, 15 students showed positive ranks, 2 students showed negative ranks, and 2 students showed ties, with a Z value of -3.179 and a significance value of 0.001. This means that the control group also experienced a statistically significant change, but the improvement was relatively limited. In contrast, the experimental group demonstrated a more consistent upward trend, as 18 students showed positive ranks, none showed negative ranks, and only 1 student showed no change. The experimental group obtained a Z value of -3.727 and a significance value of < 0.001 , which indicates a highly significant improvement in students' reading comprehension after the treatment. Overall, these results suggest that the experimental treatment contributed to a stronger and more consistent gain in reading comprehension than the instructional approach applied in the control group.

Further analysis examined differences in students' reading comprehension between the control and experimental groups by comparing learning outcomes from two independent groups. The results of the assumption tests indicated that not all data were normally distributed. Intergroup comparisons were therefore conducted using the Mann–Whitney U test. The results of the Mann–Whitney U test for students' reading comprehension ability in the control and experimental groups are presented in Table 5.

Table 5
Mann-Whitney Test Results

Komponen	Hasil
Mann-Whitney U	60.000
Z	-3.523
Sig. (2-tailed)	<0,001

The results of the Mann–Whitney U test presented in Table 6 showed a significant difference in reading comprehension between the control and experimental groups, with a U value of 60.000, a Z value of -3.523, and a significance value of < 0.001 . This result shows that the experimental group achieved significantly higher reading comprehension scores than the control group after the treatment. The N-Gain analysis was conducted to determine the magnitude of improvement in students' reading comprehension ability in the control group and the experimental group following the instructional intervention, taking into account the differences between pre-test and post-test scores.

The results of the N-Gain analysis reveal differences in the level of improvement in reading comprehension between the control and experimental groups. The experimental group obtained a mean N-Gain score of 63.86, whereas the control group obtained a mean of 11.92, showing a clear difference in the level of improvement. The median score of the experimental group was 75.00, compared with 7.84 in the control group, suggesting that the majority of students in the experimental group experienced higher and more consistent gains. In addition, the standard deviation of the experimental group was 31.432, which was greater than that of the control group (13.668), indicating greater variability in the improvement scores within the experimental group. Overall, these findings demonstrate that the instructional treatment produced a more effective improvement in the experimental group than in the control group.

Discussion

The prediction stage in the experimental group followed the syntax of the Directed Reading Thinking Activity (DRTA) strategy by providing stimuli in the form of book cover displays with the story title and visual illustrations. These stimuli served to capture students' attention and stimulated their imagination before the reading activity. Students were required to write their initial predictions about the story's content on worksheets designed according to the DRTA strategy stages. Across four instructional sessions, students' predictions demonstrated considerable diversity and imagination, in some cases extending to plotlines and themes that differed from those presented in the text. This diversity of predictions reflects students' cognitive engagement in constructing initial assumptions based on their prior knowledge and experiences. The learning process, therefore, positioned thinking activities as a central component of reading, consistent with the findings of Al-Janaydeh & Al-Jamal (2024) on the role of the DRTA strategy in activating students' schemata and prior knowledge. In the control group, reading comprehension instruction was delivered using the Problem-Based Learning (PBL) model, with the BUDI website as the source of narrative texts. Students were directed to read the available texts and discuss the problems presented in them. This approach encouraged students to comprehend textual content as a basis for problem-solving, resulting in cognitive engagement focused more on task completion than on reflective thinking during reading.

The reading stage in the experimental group involved gradual reading activities accompanied by reflection on the predictions generated. The reading process was not solely directed toward understanding textual content but also toward comparing initial predictions with information encountered in the text. Students consciously attended to aspects of the narrative that either confirmed or contradicted their initial assumptions. This activity supported students' development of habits for monitoring comprehension during reading and adjusting predictions when new information emerged in the text. These processes align with the findings of (Manalu et al., 2023), which emphasize that the DRTA strategy encourages students to continuously evaluate their comprehension throughout the reading process. In the control group, reading activities were more oriented toward understanding textual content as a foundation for discussion within the PBL framework, resulting in a more linear reading process with less emphasis on reflection on students' cognitive strategies.

The confirmation stage in the experimental group was facilitated through board game media designed around predictive and reflective questions aligned with the reading content. Students took turns answering questions, providing justifications for their responses, and discussing their understanding collaboratively within an interactive learning environment. These activities strengthened reading comprehension while also providing opportunities for students to engage socially and emotionally in an active, collaborative manner. This finding is consistent with the study by Cès et al. (2025) which demonstrated that the use of board game promotes prosocial behavior and meaningful learning experiences through interaction and students' emotional involvement. The discussion and reflection processes embedded in

gameplay supported students in understanding character conflicts, interpreting moral messages, and drawing more comprehensive and meaningful conclusions about the narrative. These processes align with the findings of Wang et al. (2025), who emphasized that game-based activities that involve information exchange create opportunities for in-depth discussion, thereby enriching students' comprehension. In the control group, confirmation activities were conducted through group discussions without the support of game-based media, resulting in less student interaction and fewer opportunities to deepen reading comprehension.

The improvement in reading comprehension observed in the experimental group indicates that integrating the DRTA strategy supported by board game media fulfilled the three core elements of Deep Learning: mindful, meaningful, and joyful learning (Kemendikbudristek, 2025). The element of mindful learning was reflected in the DRTA strategy stages that required students to generate predictions, monitor the alignment between predictions and textual content, and consciously reflect on their understanding, thereby fostering metacognitive reading skills that play a critical role in deep text comprehension. The element of meaningful learning emerged when students connected reading content with prior knowledge and personal experiences through discussion and meaning clarification during gameplay, which is consistent with the view that reading comprehension develops optimally when learners actively and contextually construct meaning. The element of joyful learning was reinforced by the characteristics of board game media that created an enjoyable, interactive, and collaborative learning atmosphere, thereby enhancing students' motivation and engagement in reading activities and ultimately contributing positively to literacy learning outcomes. Instruction in the control group using the PBL model did not fully integrate cognitive, affective, and social dimensions in a balanced manner.

The significant differences between the experimental and control groups' achievements can be attributed to the depth of the instructional intervention. Students in the experimental group who engaged in the DRTA strategy were systematically trained to generate more comprehensive and elaborated responses across levels of comprehension, including literal, inferential, and evaluative understanding. Reading strategies implemented explicitly and repeatedly, accompanied by clear metacognitive scaffolding, exerted a stronger impact on students' ability to construct inferences and evaluate textual content. This finding aligns with the study by Satriani et al. (2022), which reported that applying the DRTA strategy enhances students' reading comprehension from the literal level to higher-order levels of understanding. Students' engagement in guided discussion and reflection strengthened comprehension, monitoring, and critical evaluation of texts, resulting in more in-depth and argumentative responses. Instruction in the control group using the PBL model, supported by the BUDI website, tended to yield brief responses focused on surface-level information, with limited elaboration due to insufficient reading scaffolding, thereby restricting students' opportunities to develop inferential and evaluative comprehension skills.

The deeper meaning of these findings is that DRTA strategy supported by board game media facilitated a shift from passive reading to active meaning construction. This combination effective in improving students' reading comprehension, as the instructional process was comprehensively designed through the stages of prediction, reflective reading, confirmation, and extended reflection, consistently providing metacognitive scaffolding. This process fostered students' cognitive engagement from the initial reading stage, trained comprehension-monitoring skills, and elicited more comprehensive and elaborated responses across levels of understanding, including literal, inferential, and evaluative comprehension. The integration of board game media further strengthened students' social and emotional engagement, resulting in meaningful and enjoyable learning experiences aligned with the principles of Deep Learning.

A comparison with the control group implementing the PBL model supported by the BUDI website indicated that reading instruction without explicit metacognitive scaffolding

tended to yield brief, less developed student responses. These findings imply that elementary reading instruction should not be limited to answering comprehension questions, but should explicitly guide students, also instructional media should be selected to reinforce the strategy being used and to create an engaging classroom environment. Integrating the DRTA strategy and board game media is an effective approach to reading comprehension instruction for elementary school students, supporting the strengthening of reading literacy in line with the direction of the Kurikulum Merdeka. To strengthen the implementation of DRTA strategy supported by board game media, teachers should provide clearer modeling at the beginning, allocate sufficient time for prediction and reflection, and gradually guide students from literal toward inferential and evaluative comprehension. The instructional process would also benefit from more varied narrative texts and more explicit metacognitive scaffolding so that students can justify, revise, and deepen their understanding more effectively.

CONCLUSION

This study concluded that DRTA strategy supported by board game media effectively improved fourth-grade students' reading comprehension at SD Labschool UNNES by shifting reading from passive text processing to active meaning construction. The strategy helped students activate prior knowledge, make predictions, monitor understanding, and confirm ideas through reflective discussion, while the board game media created an engaging and collaborative learning environment that supported mindful, meaningful, and joyful learning. Compared with the PBL model supported by the BUDI website, the experimental treatment produced more developed responses across literal, inferential, and evaluative comprehension. These findings indicate that integrating strategy and media can strengthen elementary reading instruction in line with the Merdeka Curriculum. However, the study was limited to one school, one grade level, and narrative texts, so teachers should adapt the strategy carefully to classroom conditions, and future researchers are encouraged to test it in broader settings, different grade levels, and other text genres.

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INFORMED CONSENT STATEMENT

Participation in this study was entirely voluntary. Before taking part, all participants were informed about the purpose, procedures, potential risks, and benefits of the study. They were also assured that their identities would be kept confidential and that all information provided would be used solely for research purposes. Participants were informed of their right to withdraw from the study at any time without any penalty or loss of benefits to which they were otherwise entitled. By continuing their participation, the participants provided informed consent to be involved in this research under the conditions described.

DATA AVAILABILITY STATEMENT

The data utilized in this study cannot be made publicly available due to privacy concerns and ethical obligations to safeguard participant confidentiality. This restriction ensures compliance with ethical research standards and applicable data protection regulations. However, researchers or interested parties who require access to the dataset for validation or further analysis may submit a reasonable request to the corresponding author. Such requests will be considered on a case-by-case basis. Approval from the appropriate institutional ethics review

board is mandatory before any data can be shared to ensure that the proposed use aligns with ethical guidelines and participant consent terms.

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