The Effect of Round Robin Brainstorming Assisted by ClassPoint Media on Elementary School Students' Strategic Thinking and Self-Confidence

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Abstract: This study examined the effect of Round Robin Brainstorming assisted by ClassPoint on elementary school students' strategic thinking and self-confidence. A quantitative approach with a quasi-experimental nonequivalent control group design was employed. Participants were 30 students from elementary schools in Banyumas Regency, with 15 students in the experimental class and 15 in the control class. Data were collected through essay tests, observations, questionnaires, and documentation. Data analysis included descriptive statistics, normality and homogeneity tests, independent-samples t-tests, and Pearson correlation. The experimental class obtained higher scores in strategic thinking (M = 85.27) than the control class (M = 76.87), with a significant difference ($p = .001$). Self-confidence was also higher in the experimental class (M = 79.33) than in the control class (M = 55.13; $p < .001$). Strategic thinking and self-confidence were correlated in the experimental class ($r = .555$, $p = .032$). These findings indicate that the integrated approach supports strategic reasoning and confidence.

Abstrak: Penelitian ini bertujuan menganalisis pengaruh Round Robin Brainstorming berbantuan ClassPoint terhadap strategic thinking dan self-confidence siswa sekolah dasar. Penelitian menggunakan pendekatan kuantitatif dengan desain kuasi-eksperimen nonequivalent control group. Partisipan berjumlah 30 siswa dari sekolah dasar di Kabupaten Banyumas, dengan 15 siswa pada kelas eksperimen dan 15 siswa pada kelas kontrol. Data dikumpulkan melalui tes uraian, observasi, angket, dan dokumentasi. Analisis data meliputi statistik deskriptif, uji normalitas dan homogenitas, independent-samples t-test, serta korelasi Pearson. Kelas eksperimen memperoleh skor strategic thinking lebih tinggi (M = 85,27) dibandingkan kelas kontrol (M = 76,87), dengan perbedaan signifikan ($p = 0{,}001$). Self-confidence kelas eksperimen juga lebih tinggi (M = 79,33) dibandingkan kelas kontrol (M = 55,13; $p < 0{,}001$). Strategic thinking dan self-confidence berkorelasi pada kelas eksperimen ($r = 0{,}555$; $p = 0{,}032$). Temuan menunjukkan bahwa pendekatan terintegrasi tersebut mendukung penalaran strategis dan kepercayaan diri siswa dalam pembelajaran aktif melalui partisipasi dan interaksi digital terarah.

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A. Introduction

Education in the twenty-first century increasingly emphasizes the development of higher-order cognitive abilities and personal competencies that enable students to respond effectively to complex, uncertain, and rapidly changing situations (Trilling & Fadel, 2009; OECD, 2019). At the elementary level, these competencies are particularly important because this stage provides the foundation for subsequent cognitive, social, and emotional development. Learning should therefore move beyond the transmission of factual knowledge toward experiences that encourage students to analyze information, formulate ideas, evaluate alternatives, communicate reasoning, and participate actively in learning activities. Strategic thinking and self-confidence are two complementary competencies in this context. Strategic thinking enables students to approach problems systematically, consider alternative solutions, and determine appropriate actions, whereas self-confidence supports students' willingness to express ideas, participate in classroom interactions, and persist when facing difficulties (Bandura, 1997; Facione, 2015). However, classroom instruction in elementary schools may still rely heavily on teacher explanations and conventional question-and-answer activities, providing limited opportunities for students to construct ideas collaboratively and demonstrate their reasoning independently (Sanjaya, 2016).

Strategic thinking refers to the ability to understand a situation comprehensively, identify objectives, consider possible alternatives, anticipate consequences, and select appropriate courses of action (Mintzberg, 1994; Baumgartner & Korhonen, 2010). In elementary education, this competency is closely related to students' ability to analyze problems, organize information, make decisions, and apply knowledge to unfamiliar or contextual situations. The development of strategic thinking requires learning environments in which students are not merely asked to produce correct answers but are encouraged to explain how and why they arrive at particular solutions. Brookhart (2010) argues that higher-order thinking develops when students are engaged in tasks requiring analysis, evaluation, reasoning, and decision-making rather than simple recall. Consequently, instructional approaches that provide opportunities for students to discuss alternatives, compare ideas, justify their thinking, and formulate solutions are important for strengthening strategic thinking from an early stage of education.

Alongside cognitive development, self-confidence is an important affective dimension of effective learning. Self-confidence influences students' willingness to participate, communicate ideas, respond to questions, and persist when encountering challenging tasks. Bandura (1997) explains that students' beliefs about their capabilities influence their choices, effort, persistence, and responses to difficulties. In elementary classrooms, students with stronger confidence are generally more willing to participate in discussions and communicate their understanding, whereas students with lower confidence may hesitate to speak, avoid answering questions, or remain dependent on teacher guidance. Empirical research in Indonesian elementary education has also reported a relationship between students' self-confidence and learning outcomes, indicating that

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confidence is relevant to students' academic engagement and achievement (Pusfitasari & Wati, 2021; Ambarwati et al., 2021). Therefore, instructional environments should provide not only opportunities to think but also psychologically supportive structures that allow students to express ideas without excessive fear of making mistakes.

One instructional approach that can address these needs is Round Robin Brainstorming (RRB), a cooperative learning strategy in which students contribute ideas sequentially within a group. The structured turn-taking mechanism provides each student with an opportunity to participate, thereby reducing the possibility that discussion will be dominated by a small number of outspoken students (Kagan & Kagan, 2009; Mayuni & Hidayat, 2020). Unlike unstructured brainstorming, RRB creates an explicit participation structure in which students listen to peers, formulate their own responses, and contribute ideas in turn. These processes can support strategic thinking because students are exposed to multiple perspectives and are required to consider, extend, or refine ideas generated by group members. At the same time, structured participation may strengthen self-confidence by creating predictable opportunities for students to speak and contribute. Recent research involving elementary students has demonstrated that RRB can be implemented effectively in classroom learning, while other quasi-experimental research has reported positive effects of RRB on student learning outcomes (Damayanti et al., 2024; Anggraeni et al., 2024; Asfa, 2019).

The potential of RRB can be further enhanced through the integration of interactive educational technology. ClassPoint is a digital learning tool integrated with PowerPoint that enables teachers to present interactive questions, collect student responses, provide immediate feedback, and involve students directly in classroom activities. Such features can transform classroom interaction from predominantly teacher-directed communication into a more participatory learning process. Previous studies have reported that ClassPoint-based learning can support student activity and learning outcomes, although the magnitude of its effect may vary depending on the learning context and instructional design (Zaenab, 2023; Azizah et al., 2024; Waty, 2023; Rhiyanto & Rachmadiarti, 2023). Research on ClassPoint-based interactive media has also expanded into elementary education, including the development of interactive science learning media for primary school students (Hevitria et al., 2024; Kurniawan & Yatri, 2022). These findings suggest that the pedagogical value of ClassPoint does not lie solely in its technological features but in how those features are integrated into purposeful learning activities.

The integration of RRB and ClassPoint is theoretically relevant because the two components can address complementary dimensions of classroom learning. RRB provides a pedagogical participation structure, ensuring that students have equitable opportunities to generate and communicate ideas, while ClassPoint provides a digital interaction structure that enables teachers to collect, display, and respond to students' ideas efficiently. Through this combination, students can engage in a cycle of individual thinking, sequential idea sharing, peer comparison, digital response, feedback, and collective refinement of ideas. Such a process has the potential to simultaneously support strategic thinking and self-

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confidence. Rather than treating technology as an independent intervention, the present study positions ClassPoint as a supporting medium that strengthens the implementation of a cooperative learning strategy. This distinction is important because recent evidence suggests that interactive technology is not automatically effective; its contribution depends on how it is embedded within an appropriate pedagogical design.

Although previous studies have examined cooperative learning, Round Robin Brainstorming, interactive digital media, strategic thinking, and self-confidence, the evidence remains fragmented across these areas. Research on RRB has primarily examined student participation, speaking ability, learning outcomes, or the implementation of cooperative learning structures, while studies involving ClassPoint have largely focused on learning activity, motivation, engagement, or general learning outcomes (Damayanti et al., 2024; Azizah et al., 2024). Meanwhile, research on self-confidence in elementary education has generally examined its relationship with learning achievement rather than investigating how a structured collaborative-digital learning environment can simultaneously foster confidence and higher-order cognitive processes (Pusfitasari & Wati, 2021). More importantly, limited empirical research has examined the integrated use of Round Robin Brainstorming and ClassPoint and its simultaneous relationship with strategic thinking and self-confidence among elementary school students, particularly in the Indonesian context. Thus, an empirical gap remains concerning whether a structured cooperative participation strategy supported by interactive digital technology can address both cognitive and affective dimensions of elementary learning within the same instructional framework.

The novelty of this study lies in examining Round Robin Brainstorming and ClassPoint as an integrated instructional approach rather than evaluating the cooperative strategy or digital medium independently. The study specifically investigates two complementary outcomes: strategic thinking as a cognitive competency and self-confidence as an affective competency. This integration provides a broader perspective on instructional effectiveness because students are not only expected to develop their ability to analyze, formulate, and evaluate ideas but also to gain confidence in expressing those ideas during collaborative learning. The study further contributes an instructional mechanism in which sequential participation through RRB is supported by ClassPoint's interactive response and feedback features. Accordingly, the contribution of this research is not simply to demonstrate whether a digital tool improves learning outcomes, but to explain the potential value of combining a structured cooperative learning strategy with interactive technology to create a more participatory, cognitively demanding, and confidence-supportive elementary classroom.

Based on the identified gap and novelty, this study addresses three research questions: (1) Does the Round Robin Brainstorming learning model assisted by ClassPoint significantly affect elementary school students' strategic thinking compared with conventional learning?, (2) Does the Round Robin Brainstorming learning model assisted by ClassPoint significantly affect elementary school students' self-confidence compared with conventional learning?, and (3) Is there a significant relationship between students' strategic

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thinking and self-confidence following the implementation of the integrated learning approach?. Accordingly, this study aims to examine the effect of Round Robin Brainstorming assisted by ClassPoint on students' strategic thinking and self-confidence and to analyze the relationship between these two outcomes. The findings are expected to contribute empirical evidence for the development of student-centered, collaborative, and technology-supported learning practices in elementary education.

B. Method

This study employed a quantitative approach using a quasi-experimental method with a nonequivalent control group pretest–posttest design. A quasi-experimental design is appropriate for educational research in which researchers work with existing classroom groups and cannot randomly assign individual students to experimental conditions (Sugiyono, 2017). The design was selected because the study was conducted using intact classroom groups rather than individually randomized students. Both the experimental and control groups completed a pretest and posttest to identify changes in students' strategic thinking, while self-confidence was assessed through observation and a questionnaire during and after the learning process. The experimental group received instruction using the Round Robin Brainstorming learning model assisted by ClassPoint, whereas the control group received conventional instruction using teacher explanations, question-and-answer activities, and individual assignments (Sanjaya, 2016).

The study was conducted from November 2025 to January 2026 in the Puntadewa school cluster, Somagede District, Banyumas Regency, Indonesia. The population consisted of fifth-grade elementary school students within the cluster. Cluster random sampling was used to select the participating schools and classes. The final sample comprised 30 fifth-grade students from SD Negeri 2 Klinting and SD Negeri 2 Tangeran. One class was assigned as the experimental group and the other as the control group, with 15 students in each group. The use of intact classes was maintained to preserve the natural classroom setting and minimize disruption to regular instructional activities. This sampling approach was consistent with the practical characteristics of classroom-based educational research, in which existing class structures are commonly retained to maintain authentic instructional conditions (Sugiyono, 2017).

The experimental intervention integrated Round Robin Brainstorming with ClassPoint. Round Robin Brainstorming is a cooperative learning strategy that emphasizes structured turn-taking and provides students with equitable opportunities to contribute ideas within a group (Kagan & Kagan, 2009; Slavin, 2015). Students were organized into heterogeneous groups of four to six members. The teacher presented questions or problems related to the learning topic, after which students contributed ideas sequentially. Each student was provided with an opportunity to express an idea before the discussion proceeded to the next member. This structured turn-taking was intended to encourage equitable participation, collaborative idea generation, and active reasoning. Previous studies have also reported the implementation of Round Robin Brainstorming as a strategy

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for supporting active participation and learning in elementary classrooms (Damayanti et al., 2024; Fatricia et al., 2023).

ClassPoint was integrated into PowerPoint presentations to facilitate interactive responses through features such as multiple-choice questions, short-answer responses, word clouds, slide drawing, and immediate feedback. Interactive ClassPoint-based learning provides opportunities for students to respond directly during instruction and enables teachers to monitor student responses more efficiently (Wahyuningsih et al., 2023; Wao et al., 2022). The integration of ClassPoint with Round Robin Brainstorming was therefore intended to strengthen both the collaborative structure of learning and students' active engagement with learning content. In contrast, the control group participated in conventional learning without the structured cooperative strategy and interactive digital medium, relying primarily on teacher explanations, question-and-answer activities, and individual assignments (Sanjaya, 2016).

Data were collected through essay tests, observation, questionnaires, and documentation. Strategic thinking was measured using a structured essay test administered as a pretest and posttest. The test was developed according to indicators including problem analysis, goal identification, strategy formulation, and decision-making, which represent important components of strategic thinking (Halevy, 2016; Dionisio, 2017). The use of these indicators enabled students' strategic thinking to be assessed through their ability to understand problems, establish objectives, formulate appropriate strategies, and determine decisions or solutions.

Self-confidence was assessed using an observation sheet and a 15-item questionnaire focusing on students' confidence in expressing opinions, participating in discussions, asking questions, and completing learning tasks independently. These indicators were developed based on the concept of self-efficacy and students' beliefs in their capabilities to perform learning-related tasks (Bandura, 1997; Schunk, 2012). Observation was used to capture students' observable confidence during classroom activities, while the questionnaire provided additional information regarding students' perceived confidence. Documentation was used to record relevant learning activities and student work as supporting evidence. Before implementation, the instruments were reviewed by the supervisor and relevant validators to ensure their suitability for the research objectives. Content validity and measurement consistency were considered before the instruments were administered (Sugiyono, 2017).

Data were analyzed using SPSS version 27. Descriptive statistics were calculated to summarize the mean, standard deviation, minimum, and maximum scores. Before inferential analysis, the normality of the data was examined using the Kolmogorov–Smirnov and Shapiro–Wilk tests, while Levene's test was used to examine variance homogeneity. These assumption tests were conducted to determine whether the data met the requirements for subsequent parametric analysis. Independent-samples t-tests were then used to determine whether significant differences existed between the experimental and control groups. Pearson correlation analysis was additionally employed to examine the relationship

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between strategic thinking and self-confidence within the experimental group. Statistical significance was determined at the 0.05 level. The overall analytical procedure followed quantitative research principles involving descriptive analysis, assumption testing, hypothesis testing, and interpretation of statistical findings (Sugiyono, 2017).

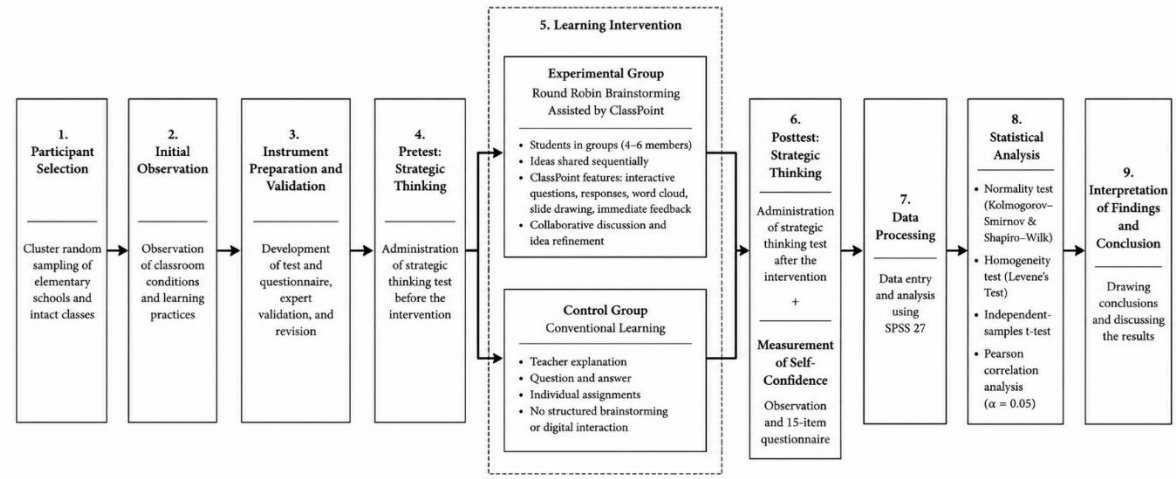

Figure 1. Research Flow of Round Robin Brainstorming Assisted by ClassPoint

C. Result

Descriptive Results of Strategic Thinking

The descriptive analysis was first conducted to examine the initial and final strategic thinking performance of students in the experimental and control groups. The pretest results indicate that the two groups started from relatively comparable levels, with a mean score of 60.53 for the experimental group and 58.93 for the control group. After the learning intervention, both groups demonstrated higher posttest scores, although the experimental group achieved a higher mean score. The complete descriptive statistics are presented in Table 1.

Table 1. Descriptive Statistics of Strategic Thinking

Group	N	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD	Mean Gain
Control	15	58.93	7.459	76.87	6.038	17.94
Experimental	15	60.53	4.673	**85.27**	6.798	**24.74**

The experimental group increased from 60.53 at pretest to 85.27 at posttest, representing a mean gain of 24.74 points. In comparison, the control group increased from 58.93 to 76.87, representing a mean gain of 17.94 points. Thus, the experimental group demonstrated a greater descriptive improvement in strategic thinking than the control group.

To provide a visual comparison of the changes in strategic thinking, Figure 2 presents the pretest and posttest mean scores for both groups. The figure illustrates that both

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groups improved after instruction, while the experimental group showed the higher posttest mean and the greater descriptive gain.

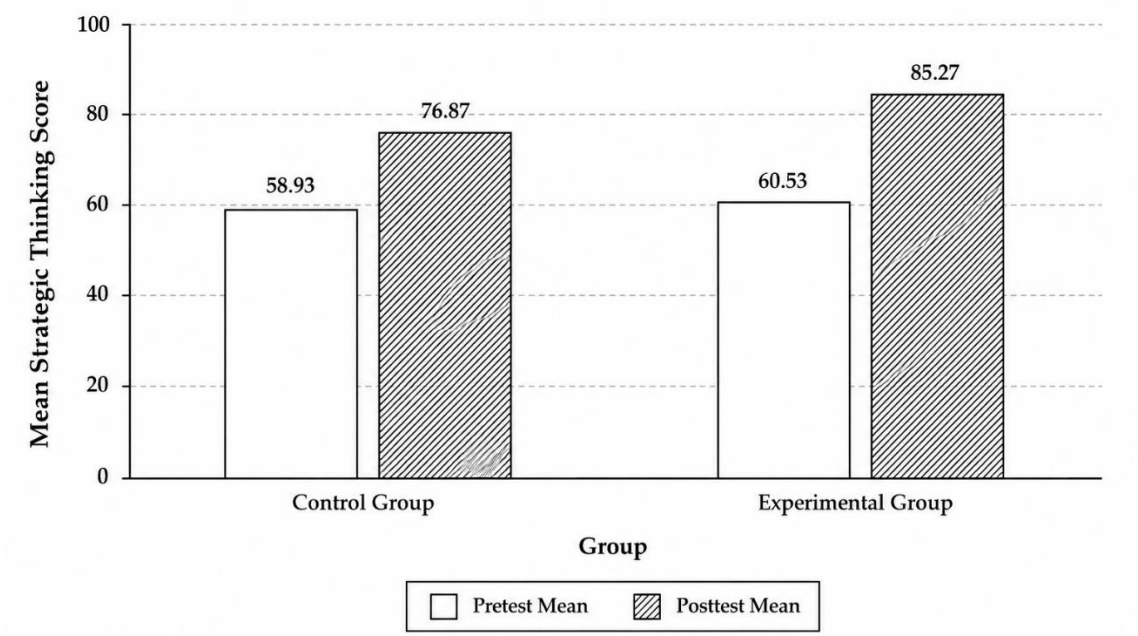

Figure 2. Comparison of Pretest and Posttest Strategic Thinking Scores Between the Control and Experimental Groups

The visual pattern in Figure 2 is consistent with the descriptive statistics presented in Table 1, showing a greater increase in the experimental group following the implementation of Round Robin Brainstorming assisted by ClassPoint.

Descriptive Results of Self-Confidence

Self-confidence was assessed using the observation and questionnaire instruments following the learning activities. The results showed a difference in self-confidence scores between the two groups. The experimental group obtained a mean score of 79.33, whereas the control group obtained a mean score of 55.13. The detailed results are presented in Table 2.

Table 2. Descriptive Statistics of Self-Confidence

Group	N	Mean	SD	Minimum	Maximum
Control	15	55.13	2.973	51	60
Experimental	15	79.33	4.835	70	88

The experimental group obtained a mean self-confidence score that was 24.20 points higher than the control group. The descriptive findings therefore indicate that students participating in Round Robin Brainstorming assisted by ClassPoint demonstrated higher self-confidence scores than students receiving conventional instruction.

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Assumption Testing

Before inferential statistical analysis, normality and homogeneity tests were conducted to determine whether the data met the assumptions for parametric analysis. The Shapiro–Wilk test was used to examine normality, while Levene's test was used to examine the homogeneity of variance. The results are summarized in Table 3.

Table 3. Results of Normality and Homogeneity Tests

Variable	Group	Shapiro–Wilk p	Levene's p	Interpretation
Strategic Thinking	Experimental	.393	.382	Normal and homogeneous
Strategic Thinking	Control	.147	.382	Normal and homogeneous
Self-Confidence	Experimental	.293	.687	Normal and homogeneous
Self-Confidence	Control	.302	.687	Normal and homogeneous

The Shapiro–Wilk results indicated that the strategic thinking data were normally distributed in both the experimental group ($p = .393$) and the control group ($p = .147$). The self-confidence data also met the normality assumption in the experimental group ($p = .293$) and control group ($p = .302$). Levene's test indicated homogeneous variances for strategic thinking ($p = .382$) and self-confidence ($p = .687$). Therefore, the data met the assumptions for subsequent parametric analysis.

Differences Between the Experimental and Control Groups

Independent-samples t-tests were conducted to determine whether statistically significant differences existed between the experimental and control groups. The analysis focused on posttest strategic thinking and self-confidence scores. The results are presented in Table 4.

Table 4. Independent-Samples t-Test Results

Outcome Variable	Mean Difference	t	p	Interpretation
Strategic Thinking	8.400	3.579	.001	Significant
Self-Confidence	24.200	13.968	< .001	Significant

The independent-samples t-test revealed a statistically significant difference in strategic thinking between the experimental and control groups ($t = 3.579$, $p = .001$). The mean difference was 8.400 points, with the experimental group obtaining the higher posttest score. A statistically significant difference was also found in self-confidence between the two groups ($t = 13.968$, $p < .001$). The experimental group obtained a mean score 24.20 points higher than the control group. These findings indicate that the observed differences between the experimental and control groups were statistically significant for both outcome variables.

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Relationship Between Strategic Thinking and Self-Confidence

The third research question examined the relationship between strategic thinking and self-confidence among students in the experimental group. Pearson's correlation analysis was conducted because the data met the normality assumption. The results are shown in Table 5.

Table 5. Pearson Correlation Between Strategic Thinking and Self-Confidence

Variables	Pearson's r	p	Interpretation
Strategic Thinking – Self-Confidence	.555	.032	Moderate positive significant relationship

The analysis showed a statistically significant positive relationship between strategic thinking and self-confidence in the experimental group ($r = .555$, $p = .032$). The correlation coefficient indicates a moderate positive association between the two variables. Thus, students with higher strategic thinking scores tended to have higher self-confidence scores within the experimental group. However, this correlation represents an association between the variables and does not establish a causal relationship.

Summary of the Main Findings

For clarity, the principal statistical findings are summarized in Table 6.

Table 6. Summary of Main Findings

Research Outcome	Experimental	Control	Statistical Result	Finding
Strategic Thinking	M = 85.27	M = 76.87	t = 3.579, p = .001	Significant difference
Self-Confidence	M = 79.33	M = 55.13	t = 13.968, p < .001	Significant difference
Strategic Thinking–Self-Confidence	—	—	r = .555, p = .032	Moderate positive relationship

Overall, the results demonstrate that the experimental group obtained higher scores in both strategic thinking and self-confidence than the control group. The statistical tests confirmed significant differences between the groups, while the correlation analysis demonstrated a moderate positive relationship between strategic thinking and self-confidence among students in the experimental group.

D. Discussion

The findings demonstrate that students who participated in Round Robin Brainstorming assisted by ClassPoint achieved significantly higher strategic thinking scores than students who received conventional instruction. The experimental group increased from a pretest mean of 60.53 to a posttest mean of 85.27, whereas the control group increased

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from 58.93 to 76.87. The independent-samples t-test confirmed a statistically significant difference between the groups ($t = 3.579$, $p = .001$). These findings suggest that the instructional approach provided a more supportive environment for developing students' strategic thinking. Rather than positioning students primarily as recipients of information, the intervention required them to formulate ideas, listen to alternative perspectives, respond to problems, and communicate their reasoning. Such activities are consistent with the characteristics of higher-order thinking, which requires students to analyze information, evaluate alternatives, and make reasoned decisions rather than merely recall information (Brookhart, 2010; Facione, 2015).

The improvement in strategic thinking can be explained by the structured participation mechanism of Round Robin Brainstorming. The turn-taking procedure gives each group member a defined opportunity to contribute an idea, reducing the possibility that classroom discussion is dominated by a small number of highly vocal students. Kagan & Kagan (2009) describe structured cooperative learning as a means of organizing interaction so that students have greater opportunities to participate and learn from one another. In the present study, this mechanism may have encouraged students to process the learning problem before expressing their responses and to consider ideas generated by their peers. Consequently, strategic thinking was developed not only through individual problem solving but also through the comparison and refinement of ideas during group interaction. This finding is consistent with previous research showing that Round Robin Brainstorming can support active participation and classroom learning through structured collaborative interaction (Damayanti et al., 2024; Fatricia et al., 2023). The present study extends this evidence by demonstrating its potential contribution to a more specific cognitive outcome, namely strategic thinking.

The role of ClassPoint is also important in understanding the observed difference. In this study, ClassPoint was not used as a stand-alone technological intervention but as a supporting medium within the Round Robin Brainstorming structure. Interactive features allowed teachers to present questions, collect responses, display students' ideas, and provide immediate feedback. This digital environment may have made the learning process more visible and interactive, allowing students to respond to prompts while maintaining the collaborative structure of the lesson. Previous studies have reported that ClassPoint can support student engagement, classroom interaction, and learning activities when integrated into instructional processes (Wahyuningsih et al., 2023; Wao et al., 2022). Therefore, the present finding suggests that the pedagogical value of ClassPoint may be strengthened when the technology is embedded within a clearly structured cooperative learning model. The technology itself should not be viewed as the sole explanation for the improvement; rather, its contribution appears to lie in facilitating the interaction, response, and feedback processes required by the instructional strategy.

A similar pattern was observed for self-confidence. Students in the experimental group obtained a substantially higher mean self-confidence score (79.33) than those in the control group (55.13), and the difference was statistically significant ($t = 13.968$, $p < .001$).

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This finding suggests that the learning environment created through structured participation may have supported students' willingness to express ideas and participate in classroom activities. From the perspective of self-efficacy, students' beliefs about their capabilities influence their willingness to engage in tasks, their persistence, and their responses to challenges (Bandura, 1997). The Round Robin structure may have reduced uncertainty about when and how students were expected to participate because every group member received an explicit opportunity to contribute. Repeated opportunities to communicate ideas may consequently have provided students with experiences of successful participation. Such experiences are relevant to the development of confidence because students can gradually perceive themselves as capable contributors rather than passive recipients of teacher explanations. This interpretation is also consistent with the principle that cooperative learning can create opportunities for interaction and participation that are less available in highly teacher-directed learning environments (Slavin, 2015).

The relationship between strategic thinking and self-confidence provides an additional finding that complements the comparison between the two groups. Pearson's correlation analysis showed a significant positive relationship between strategic thinking and self-confidence in the experimental group ($r = .555$, $p = .032$). The moderate positive correlation indicates that students with higher strategic thinking scores tended to demonstrate higher self-confidence scores. This relationship is theoretically plausible because students who are able to analyze problems, formulate strategies, and make decisions may feel more capable of participating in learning tasks. Conversely, students who feel more confident may be more willing to express ideas, ask questions, and engage in the reasoning processes required for strategic thinking. Bandura (1997) perspective on perceived capability provides a relevant explanation for this reciprocal relationship between students' cognitive engagement and their confidence in performing learning tasks. Nevertheless, the correlation should be interpreted as an association rather than evidence that strategic thinking directly causes self-confidence or vice versa.

Taken together, the findings indicate that the potential strength of the intervention lies in the integration of a structured cooperative learning strategy and interactive digital media. Round Robin Brainstorming establishes the participation structure, while ClassPoint provides technological support for presenting problems, collecting responses, displaying ideas, and providing feedback. The combination creates a learning sequence in which students are encouraged to think individually, contribute ideas, listen to peers, compare responses, and receive feedback. This sequence connects cognitive and affective aspects of learning rather than treating them as separate outcomes. The findings therefore support the argument that technology integration is most meaningful when it serves a clear pedagogical purpose rather than functioning merely as a digital replacement for conventional presentation. In this study, the combination of equitable participation and interactive response opportunities may explain why improvements were observed in both strategic thinking and self-confidence.

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The findings contribute to elementary education in two ways. Theoretically, they provide empirical support for connecting cooperative learning, interactive technology, strategic thinking, and self-confidence within a single instructional framework. Practically, they suggest that teachers can use structured turn-taking supported by interactive digital tools to create classroom environments in which students have greater opportunities to reason, communicate, and participate. However, the findings should be interpreted within the boundaries of the research design. The study involved only 30 students from two elementary schools and used intact classroom groups, so the results should not be generalized beyond similar contexts without further evidence. In addition, the relatively short intervention period limits conclusions regarding the long-term development of strategic thinking and self-confidence. Future studies involving larger samples, longer interventions, multiple schools, and more diverse learning contexts are therefore needed to examine the sustainability and generalizability of these findings.

E. Implication

The findings of this study have theoretical and practical implications for elementary education. Theoretically, the results support the integration of structured cooperative learning and interactive digital technology as an approach for developing both cognitive and affective competencies, particularly strategic thinking and self-confidence. Practically, Round Robin Brainstorming assisted by ClassPoint can be considered an alternative instructional approach for teachers, especially in subjects that require discussion, problem analysis, idea generation, and active participation. The structured turn-taking mechanism provides equitable opportunities for students to express their ideas, while ClassPoint facilitates interactive questioning, response collection, visualization, and immediate feedback. Therefore, teachers are encouraged to integrate digital media not merely as presentation tools but as pedagogical resources that strengthen meaningful student interaction. At the institutional level, schools can support this approach by providing adequate technological facilities and professional development to enhance teachers' competence in implementing collaborative and technology-supported learning.

F. Limitation and Suggestion for Further Research

This study has several limitations that should be considered when interpreting the findings. First, the study involved a relatively small sample of 30 fifth-grade students from only two elementary schools, which limits the generalizability of the findings to broader educational contexts. Second, the use of intact classroom groups means that individual students were not randomly assigned to the experimental and control conditions. Third, the intervention was implemented within a relatively limited instructional period; therefore, the study does not provide sufficient evidence regarding the long-term sustainability of changes in strategic thinking and self-confidence. In addition, the implementation of ClassPoint depended on technological availability, including devices, electricity, internet connectivity,

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and teachers' familiarity with interactive digital media. Individual factors such as students' prior learning experiences, motivation, and differences in digital literacy were also not fully controlled.

Future research should address these limitations by involving larger and more diverse samples from multiple schools and educational settings to strengthen the generalizability of the findings. Longer intervention periods are also recommended to examine whether improvements in strategic thinking and self-confidence can be maintained over time. Further studies could compare Round Robin Brainstorming assisted by ClassPoint with other cooperative learning strategies or interactive digital platforms to identify differences in instructional effectiveness. Researchers may also employ mixed-methods or qualitative approaches to investigate students' learning experiences, participation patterns, confidence development, and strategic reasoning processes during the intervention. Such research would provide deeper evidence regarding how and under what conditions the integration of structured cooperative learning and interactive technology can optimally support students' cognitive and affective development.

G. Conclusion

This study concludes that the integration of Round Robin Brainstorming assisted by ClassPoint provides a promising instructional approach for supporting elementary students' strategic thinking and self-confidence. Students in the experimental group achieved higher strategic thinking and self-confidence scores than those in the control group, with statistically significant differences between the groups. The experimental group also demonstrated a greater descriptive improvement in strategic thinking, while Pearson's correlation analysis revealed a moderate positive and significant relationship between strategic thinking and self-confidence ($r = .555$, $p = .032$). These findings suggest that combining structured turn-taking, collaborative idea generation, and interactive digital feedback can create a learning environment that supports both cognitive and affective development. Therefore, Round Robin Brainstorming assisted by ClassPoint can be considered a relevant alternative for student-centered elementary learning, particularly in activities requiring active participation, reasoning, discussion, and confidence in expressing ideas.

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https://doi.org/10.51276/edu.v7i3.1753

References

Ambarwati, S., Suhartono, S., & Nurhasanah, N. (2021). Pengaruh Kepercayaan Diri dan Motivasi Belajar terhadap Kemampuan Berpikir Kritis pada Siswa Sekolah Dasar. *EDUKATIF: Jurnal Ilmu Pendidikan*, *3*(4), 1974–1984. https://doi.org/10.31004/edukatif.v3i4.1047

Anggraeni, N., Safitri, D., & Saipiatuddin, S. (2024). Application of the RRB Type Cooperative Learning Model (Round Robin Brainstorming) in Improving Student Learning Outcomes in Social Sciences Subjects at SMPN 28 Jakarta. *East Asian Journal of Multidisciplinary Research*, *3*(6), 2219–2228. https://doi.org/10.55927/eajmr.v3i6.9353

Asfa, Z. (2019). *Pengaruh Model Pembelajaran Kooperatif Tipe Round Robin dengan Pendekatan Open-Ended Problem terhadap Kemampuan Berpikir Kreatif Siswa pada Mata Pelajaran Matematika Kelas IV A di MI Miftahul Huda Malang* [Undergraduate thesis, Universitas Islam Negeri Maulana Malik Ibrahim Malang]. *Etheses UIN Maulana Malik Ibrahim Malang*. Retrieved from http://etheses.uin-malang.ac.id/

Azizah, R. W., Gimin, G., & Mujiono, M. (2024). Penggunaan Media Pembelajaran Berbantuan ClassPoint untuk Meningkatkan Motivasi Belajar Siswa. *JIIP: Jurnal Ilmiah Ilmu Pendidikan*, *7*(8), 7872–7880. https://doi.org/10.54371/jiip.v7i8.4796

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. W. H. Freeman.

Baumgartner, R. J., & Korhonen, J. (2010). Strategic Thinking for Sustainable Development. *Sustainable Development*, *18*(2), 71–75. https://doi.org/10.1002/sd.452

Brookhart, S. M. (2010). *How to Assess Higher-Order Thinking Skills in Your Classroom*. ASCD.

Damayanti, S., Yusuf, F., & Syamsuddin, A. F. (2024). Keterlaksanaan Model Pembelajaran Kooperatif Tipe Round Robin Brainstorming pada Siswa Sekolah Dasar di Kota Makassar. *Elementary of Teacher Education Journal*, *1*(1). https://doi.org/10.62330/etedu.v1i1.120

Dionisio, M. A. (2017). Strategic Thinking: The Role in Successful Management. *Journal of Management Research*, *9*(4), 44–53. https://doi.org/10.5296/jmr.v9i4.11448

Facione, P. A. (2015). *Critical Thinking: What It Is and Why It Counts*. Insight Assessment. https://www.insightassessment.com/wp-content/uploads/ia/pdf/whatwhy.pdf

Fatricia, N., Rizhaldi, R., & Hermansah, B. (2023). Hubungan Metode Pembelajaran Brainstorming Tipe Round Robin terhadap Motivasi Belajar Siswa pada Materi Pembelajaran Tematik Kelas V SDN 9 Kayuagung. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, *9*(2), 4951–4963. https://doi.org/10.36989/didaktik.v9i2.1124

Halevy, N. (2016). Strategic Thinking. In M. P. Zanna & J. M. Olson (Eds.), *Advances in Experimental Social Psychology* (Vol. 54, pp. 129–180). Elsevier. https://doi.org/10.1016/bs.aesp.2016.02.001

https://doi.org/10.51276/edu.v7i3.1753

Hevitria, H., Arrosyad, M. I., Tohir, M., Adilliyah, A., & Pratiwi, S. (2024). Sosialisasi dan Edukasi Aplikasi ClassPoint bagi Guru pada Kurikulum Merdeka Belajar Sekolah Dasar. *Jurnal Abdimas Madani dan Lestari*, *6*(1), 62–71. https://doi.org/10.20885/jamali.vol6.iss1.art8

Kagan, S., & Kagan, M. (2009). *Kagan Cooperative Learning*. Kagan Publishing.

Kurniawan, N. D., & Yatri, I. (2022). Kuis Interaktif Menggunakan Aplikasi ClassPoint pada Materi Indahnya Keragaman di Negeriku untuk Siswa Kelas IV Sekolah Dasar. *Jurnal Ilmiah Pendidikan Profesi Guru*, *5*(1), 86–95. https://doi.org/10.23887/jippg.v5i1.48502

Mayuni, N. C., & Hidayat, D. (2020). The Implementation of the Round Robin Technique with Peer Feedback to Improve Grade 11 Science-Track Students' Speaking Skills. *Polyglot: Jurnal Ilmiah*, *16*(2). https://doi.org/10.19166/pji.v16i2.1564

Mintzberg, H. (1994). The Fall and Rise of Strategic Planning. *Harvard Business Review*, *72*(1), 107–114. https://hbr.org/1994/01/the-fall-and-rise-of-strategic-planning

OECD. (2019). *OECD Future of Education and Skills 2030: OECD Learning Compass 2030*. OECD Publishing. Retrieved from https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/

Pusfitasari, R. A., & Wati, T. L. (2021). The Relationship of Self-Confidence with Students' Science Learning Outcomes in Elementary Schools. *Indonesian Journal of Education Methods Development*, *16*. https://doi.org/10.21070/ijemd.v16i.608

Rhiyanto, D. F. P., & Rachmadiarti, F. (2023). Pengembangan Media Pembelajaran PowerPoint Interaktif Add-Ins ClassPoint Materi Bioteknologi untuk Meningkatkan Motivasi Belajar pada Peserta Didik Kelas XII SMA/MA. *Berkala Ilmiah Pendidikan Biologi (BioEdu)*, *12*(2), 452–465. https://doi.org/10.26740/bioedu.v12n2.p452-465

Sanjaya, W. (2016). *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan* (Ed. 12). Kencana.

Schunk, D. H. (2012). *Learning Theories: An Educational Perspective* (6th ed.). Pearson.

Slavin, R. E. (2015). Cooperative Learning in Elementary Schools. *Education 3–13*, *43*(1), 5–14. https://doi.org/10.1080/03004279.2015.963370

Sugiyono. (2017). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Trilling, B., & Fadel, C. (2009). *21st Century Skills: Learning for Life in Our Times*. Jossey-Bass.

Wahyuningsih, S. R., Saleh, J., Syakhruni, S., & Rahman, W. (2023). Penggunaan Media Pembelajaran Interaktif dengan ClassPoint pada Mata Pelajaran Seni Budaya yang Sesuai dengan Pembelajaran Abad 21 di SMP Negeri 3 Polewali. *Jurnal Pemikiran dan*

https://doi.org/10.51276/edu.v7i3.1753

Pengembangan Pembelajaran, *5*(3), 873–880. https://doi.org/10.31970/pendidikan.v5i3.792

Wao, Y. P., Priska, M., & Peni, N. (2022). Persepsi Mahasiswa terhadap Penggunaan Media Pembelajaran Interaktif ClassPoint pada Mata Kuliah Zoologi Invertebrata. *Jurnal Inovasi Pembelajaran Biologi*, *3*(2), 76–87. https://doi.org/10.26740/jipb.v3n2.p76-87

Waty, H. R. (2023). Pengembangan Media Pembelajaran Interaktif E-Learning Pendidikan Agama Islam melalui Aplikasi ClassPoint. *Idarah Tarbawiyah: Journal of Management in Islamic Education*, *4*(1), 1–10. https://doi.org/10.32832/itjmie.v4i1.5683

Zaenab, Z. (2023). Peningkatan Aktivitas dan Hasil Belajar Siswa melalui Strategi Pembelajaran Interaktif ClassPoint. *Jurnal Oase Nusantara*, *2*(1), 13–23.

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