Enhancing Critical Thinking Skills in Pancasila and Civic Education through the Team Games Tournament Method and the Pancasila Smart Discovery Learning Model

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Abstract

This classroom action research aimed to enhance the critical thinking skills of Grade IV students at Kebonsari 3 State Primary School in Malang City through the implementation of a combined Team Games Tournament method and Discovery Learning model, supported by Pancasila Smart interactive media. Pancasila Smart interactive media is a digital, quiz-based platform that incorporates the values of Pancasila and is designed to stimulate discussion, problem-solving, and decision-making in Pancasila and Civic Education learning. The research was conducted in three cycles, each comprising the stages of planning, implementation, observation, and reflection. Data were collected through interviews, observations, documentation, and tests, and were analyzed using the normalized gain formula to measure the effectiveness of improvements in learning outcomes between cycles relative to the maximum possible achievement. The findings revealed a consistent improvement in students' critical thinking skills from the pre-cycle phase through cycles I, II, and III, with both average scores and normalized gain values increasing steadily across cycles. These results indicate that integrating the Team Games Tournament method and the Discovery Learning model, facilitated by Pancasila Smart interactive media, has strong potential to develop the critical thinking skills of primary school students. The practical implication of this study highlights the importance of incorporating educational game-based learning strategies with guided discovery approaches in Pancasila and Civic Education to strengthen the twenty-first-century competencies of primary school learners.

Introduction

Critical thinking skills are among the essential competencies that students must possess in order to face the challenges of the twenty-first century. Based on the Programme for International Student Assessment report by the Organisation for Economic Co-operation and Development (2019), Indonesia ranked seventy-fourth out of seventy-nine countries in the aspect of reading ability, which is closely related to critical thinking. This indicates that the majority of Indonesian students still experience difficulties in evaluating, analyzing, and interpreting information. In addition, the World Economic Forum (2020) listed critical thinking skills as one of the ten most important skills that the younger generation needs to adapt to the digital era and globalization.

At the national level, the importance of strengthening critical thinking skills has been emphasized in Government Regulation Number 57 of 2021 concerning the National Education Standards, which includes the mastery of competencies in critical, creative, collaborative, and communicative thinking (Ministry of Education and Culture, 2021). However, field observations reveal that the critical thinking skills of students in Indonesia, particularly at the elementary school level, remain relatively low. National Assessment data (Ministry of Education, Culture, Research, and Technology, 2022) shows that only thirty-six percent of elementary school students are able to analyze simple information, while the majority tend to be passive and accept information without an evaluation process. This condition poses a challenge in shaping the profile of Pancasila students who are critical and independent.

A similar problem was identified at Kebonsari 3 State Primary School in Malang City. Based on the results of preliminary observations and tests, out of twenty-eight students, only three demonstrated critical thinking skills within the sufficient category, while the other twenty-five still required guidance. The average score for students' critical thinking skills was only 38.44, far below the Minimum Learning Mastery Criteria of 71. Furthermore, interviews with teachers indicated that Pancasila and Civic Education learning had so far been dominated by lecture-based methods and written exercises, without incorporating discussion activities or the use of interactive media. As a result, students tended to be passive, rarely asked questions, and were not accustomed to analyzing issues or problems encountered in daily life (Classroom Teacher Observation and Interview, 2024).

Previous research has demonstrated the effectiveness of cooperative learning models in improving students' critical thinking skills. Rusnadi et al. (2023) stated that the Team Games Tournament method can improve critical thinking through educational games based on group discussions and competitions. Meanwhile, Nugrahaeni et al. (2017) and Oktaviani et al. (2018) found that the Discovery Learning model effectively encourages exploration, analysis, and synthesis of knowledge independently. However, research that specifically combines these two models in Pancasila and Civic Education remains limited, particularly when supported by interactive digital media.

The combination of the Team Games Tournament method and the Discovery Learning model was chosen in this study because the two approaches complement each other. The Team Games Tournament method facilitates a fun, competitive-cooperative

learning atmosphere that motivates students to actively ask questions and engage in discussions, while the Discovery Learning model provides opportunities for students to construct concepts independently through direct experience. This study integrates Pancasila Smart digital media as an innovation to enrich learning activities. Pancasila Smart is an interactive quiz-based platform containing contextual questions related to the values of Pancasila, accompanied by features for group discussion and reflection, enabling students to understand the material while practicing critical thinking skills in a structured, problem-based manner.

The research gap addressed in this study lies in the lack of investigations combining the Team Games Tournament method and the Discovery Learning model with interactive digital media such as Pancasila Smart in Pancasila and Civic Education at the elementary school level. In fact, research by Hasanah and Suprapto (2020) and Fauziyah and Anugraheni (2020) has shown that digital media based on educational games holds significant potential for improving twenty-first-century skills, including critical thinking. Unfortunately, no studies have explicitly examined the potential of this combination in the context of Pancasila and Civic Education in elementary schools.

This study has both theoretical and practical significance. Theoretically, the findings are expected to enrich the literature on digital-based combinative learning models for the development of critical thinking skills in elementary education. Practically, the results may serve as an alternative solution for teachers to conduct Pancasila and Civic Education in a more interactive, engaging, and adaptive way to suit the characteristics of students in the digital era. Furthermore, for schools and education policymakers, the findings are expected to provide input for the formulation of policies on the development of educational digital media based on the values of Pancasila.

Based on this background, the present study aims to improve the critical thinking skills of Grade IV students at Kebonsari 3 State Primary School in Malang City through the application of a combination of the Team Games Tournament method and the Discovery Learning model, supported by Pancasila Smart digital media. Through this classroom action research, the effectiveness of this learning approach in optimizing students' critical thinking skills in Pancasila and Civic Education is expected to be revealed.

Method

This study employed the Classroom Action Research approach based on the Kemmis and McTaggart model, conducted at Kebonsari 3 State Primary School, Malang City, during the even semester of the 2024/2025 academic year (February–May 2025) with twenty-eight Grade IV students selected through saturated sampling. The research consisted of three cycles, each comprising planning, action implementation, observation, and reflection. Learning activities applied a combination of the Team Games Tournament method and the Discovery Learning model, supported by Pancasila Smart interactive digital media containing quiz questions, digital crossword puzzles, and case study simulations on Pancasila values to stimulate discussion and problem-solving. Data were collected through critical thinking skill tests, observation sheets, interviews, and documentation, with the test instrument developed based on the FRISCO indicators and validated by experts. Quantitative data were analyzed using the

normalized gain formula following Hake's classification, while qualitative data were analyzed through data reduction, data display, and conclusion drawing. The study was considered successful if at least eighty percent of students achieved a critical thinking score of 71 or above and demonstrated active participation, with all procedures conducted in accordance with basic education research ethics.

Results and Discussion
Results

This research was conducted at Kebonsari 3 State Primary School, located on Colonel Sugiono Street, Kebonsari, Sukun District, Malang City, East Java, 65149. The study was implemented with Grade IV students in Pancasila and Civic Education and was carried out in three cycles. In each meeting, students accessed the Pancasila Smart interactive media on their respective mobile devices. The teacher then divided the students into six groups, each consisting of four to five members. Each group participated in a "100 Family" quiz competition, and the winning group advanced to the final round. In the final round, three groups were awarded first, second, and third places. The researcher conducted observations of students' critical thinking skills in the cognitive domain using evaluation tests administered in the pre-cycle, Cycle I, Cycle II, and Cycle III. The evaluation tests were conducted at the end of each cycle and consisted of twelve descriptive questions aligned with the indicators of students' critical thinking skills. The following are the results of the students' critical thinking skills.

Table 1. Results of students' critical thinking skills Pre-Cycle

Range	Pre-Cycle		
	Number of students	Average	Criterion
89 – 100	-	-	Excellent
77 – 88	1	79	Good
65 - 76	2	72,5	Enough
<65	25	38,44	Need Guidance
Average		42,32	Need Guidance
Score max		79	Good
Min score		18	Need Guidance
Category		Need Guidance	

Table 2. Results of students' critical thinking skills Cycle 1

Range	Cycle 1		
	Number of students	Average	Criterion
89 – 100	-	-	Excellent
77 – 88	5	80,4	Good
65 - 76	8	70	Enough
<65	15	55,53	Need Guidance
Average		59,82	Need Guidance
Score max		85	Good
Min score		49	Need Guidance
Category		Need Guidance	

Table 3. Results of students' critical thinking skills Cycle 2

Range	Number of students	Cycle 2 Average	Criterion
89 – 100	7	90,28	Excellent
77 – 88	13	80,69	Good
65 - 76	4	66,25	Enough
<65	4	61.5	Need Guidance
Average		78,28	Good
Score max		93	Excellent
Min score		60	Need Guidance
Category			Good

Table 4. Results of students' critical thinking skills Cycle 3

Range	Number of students	Cycle 3 Average	Criterion
89 – 100	10	94,6	Excellent
77 – 88	14	84,42	Good
65 - 76	4	72,5	Enough
<65	-	-	Need Guidance
Average		86,32	Good
Score max		100	Excellent
Min score		70	Need Guidance
Category			Good

Based on Table 1, the results of students' critical thinking skills in the pre-cycle learning activities are as follows. The average percentage score of students' critical thinking skills was 42.32 percent, which falls into the category of needing guidance, with a classical mastery level of only 7.14 percent. Only two out of twenty-eight students were able to exceed the Minimum Learning Mastery Criteria established by the school, which was set at 75. One student (3.57 percent) obtained a score between 77 and 88, two students (7.14 percent) obtained scores between 65 and 76, and twenty-five students (89.28 percent) scored below 65. The main obstacles experienced by students during learning were a limited ability to think critically or analytically in providing explanations for a given problem and a lack of skill in managing strategies to solve the problem. Based on these pre-cycle results, classroom action research was conducted using the Team Games Tournament method combined with the Discovery Learning model, supported by Pancasila Smart interactive media, to improve the critical thinking skills of Grade IV students in Pancasila and Civic Education.

Based on Table 2, the results of students' critical thinking skills in the Cycle I learning activities are as follows. The average percentage score of students' critical thinking skills was 59.82 percent, categorized as needing guidance, with a classical

mastery level of 17.85 percent. Only five out of twenty-eight students were able to exceed the Minimum Learning Mastery Criteria set by the school, which was 75. Five students (17.85 percent) obtained scores between 77 and 88, eight students (28.57 percent) obtained scores between 65 and 76, and fifteen students (53.57 percent) scored below 65. In this cycle, the mastery criteria had not yet reached the expected standard of at least 75 percent of students achieving the target score with a good success rate; therefore, the research was continued to the next cycle.

Based on Table 3, the results of students' critical thinking skills in the Cycle II learning activities show that the average percentage score reached 78.28 percent, which falls into the "Good" category. The classical mastery level was 71.42 percent, with twenty out of twenty-eight students exceeding the Minimum Learning Mastery Criteria set by the school, which was 75. A total of seven students (25 percent) obtained scores between 89 and 100, thirteen students (46.42 percent) scored between 77 and 88, four students (14.28 percent) obtained scores between 65 and 76, and the remaining four students (14.28 percent) scored below 65. Since the classical mastery level in this cycle had not yet reached the minimum target of at least 75 percent, which serves as an indicator of success, the research was continued to the next cycle.

Based on the data in Table 4, the results of students' critical thinking skills in the Cycle III learning activities show that the average percentage of score achievement reached 86.32 percent, which falls into the "Good" category. The classical mastery level was recorded at 89.28 percent, with twenty-five out of twenty-eight students exceeding the Minimum Learning Mastery Criteria set by the school, which was 75. A total of ten students (35.71 percent) obtained scores in the range of 89–100, fourteen students (50 percent) scored between 77 and 88, and four students (14.28 percent) scored between 65 and 76. Since the classical mastery level had surpassed the minimum target of at least 75 percent—reaching 89.28 percent—this classroom action research was concluded in Cycle III. In addition to the overall mastery, this study also examined the average achievement for each critical thinking skill indicator, as presented in the following section.

Based on the data in Tables 5 to 8, the analysis of students' critical thinking skills according to the FRISCO indicators shows varying levels of achievement across cycles. In the pre-cycle, the lowest score was found in the *Inference* indicator with a value of 33, while the highest score was achieved in the *Overview* indicator with a value of 53. In Cycle I, the lowest achievement was recorded in the *Reason* indicator (51), whereas the highest was in the *Clarity* indicator (73). In Cycle II, the lowest indicator remained in *Inference* with a score of 70, while the highest was again *Clarity* with a score of 92. In Cycle III, the lowest achievement shifted back to the *Reason* indicator with a value of 79, while the highest remained in *Clarity* with a value of 96.

The improvement trend also varied by indicator. In Cycle I, the highest increase occurred in both the *Inference* and *Clarity* indicators, each improving by 21 points, while the lowest improvement was in the *Reason* indicator with an increase of 13 points. In Cycle II, the greatest improvement was observed in the *Clarity* indicator with a 40-point increase, and the smallest was in the *Overview* indicator with a 33-point increase. In Cycle III, the highest gain occurred in the *Situation* indicator with an increase of 47 points, while the lowest was again in the *Overview* indicator with an increase of 38 points. These findings indicate that while all FRISCO indicators improved throughout the intervention, *Clarity* consistently demonstrated the highest performance levels, and *Reason* or *Inference* tended to require more instructional support.

Table 5. Analysis of students' critical thinking skills per indicator

No	Indicator	Pre-cycle	
		Average	Criterion
1	Focus	42	Need Guidance
2	Reason	38	Need Guidance
3	Inference	33	Need Guidance
4	Situation	36	Need Guidance
5	Clarity	52	Need Guidance
6	Overview	53	Need Guidance

Table 6. Analysis of students' critical thinking skills per indicator

No	Indicator	Cycle 1	
		Average	Criterion
1	Focus	61	Need Guidance
2	Reason	51	Need Guidance
3	Inference	54	Need Guidance
4	Situation	53	Need Guidance
5	Clarity	73	Enough
6	Overview	67	Enough

Table 7. Analysis of students' critical thinking skills per indicator

No	Indicator	Cycle 2	
		Average	Criterion
1	Focus	79	Good
2	Reason	72	Enough
3	Inference	70	Enough
4	Situation	71	Enough
5	Clarity	92	Excellent
6	Overview	86	Good

Table 8. Analysis of students' critical thinking skills per indicator

No	Indicator	Cycle 3	
		Average	Criterion
1	Focus	87	Good
2	Reason	79	Good
3	Inference	82	Good
4	Situation	83	Good
5	Clarity	96	Excellent
6	Overview	91	Excellent

In addition to analyzing the average scores of students' critical thinking skills, this study also measured the improvement in these skills using the Normalized Gain (N-Gain) test. The results of the N-Gain analysis are presented below.

Table 9. Pre-cycle and Cycle 1 N-Gain

N-Gain Skor	
Average	0,3681
Criterion	Keep

Table 10. N-Gain Each Indicator cycle 1

No	Indicator	Pre-cycle	Siklus 1	N-gain	Criteria
1	Focus	42	61	0,32	Keep
2	Reason	38	51	0,20	Low
3	Inference	33	54	0,31	Keep
4	Situation	36	53	0,26	Low
5	Clarity	52	73	0,43	Keep
6	Overview	53	67	0,29	Low

Table 8 shows an N-Gain value of 0.3681 which means that the criteria for improving students' critical thinking skills are increased with moderate criteria. Meanwhile, from table 10, the results of the analysis of the N-Gain value of each indicator have a moderate criterion (Focus, Inference and Clarity) and some have a low N-Gain value (Reason, Situation and Overview).

Table 11. Pre-cycle and Cycle 2 N-Gain

N-Gain Skor	
Average	0,6279
Criterion	Keep

Table 12. N-Gain Each Indicator cycle 2

No	Indicator	Pre-cycle	Siklus 2	N-Gain	Criteria
1	Focus	42	79	0,63	Keep
2	Reason	38	72	0,54	Keep
3	Inference	33	70	0,55	Keep
4	Situation	36	71	0,54	Keep
5	Clarity	52	92	0,83	Tall
6	Overview	53	86	0,70	Keep

Table 11 shows an N-Gain value of 0.6279 which means that the criteria for improving students' critical thinking skills have been increased with moderate criteria. Meanwhile, from table 12, the results of the N-Gain analysis, almost all indicators have medium criteria, only the clarity indicator obtains high criteria.

Table 13. Pre-cycle and Cycle 3 N-Gain

N-gain Skor	
Average	0,7721
Criterion	Tall

Table 14. N-Gain Each Indicator cycle 3

No	Indicator	Pre-cycle	Siklus 2	N-gain	Criteria
1	Focus	42	87	0,77	Tall
2	Reason	38	79	0,66	Keep
3	Inference	33	82	0,73	Tall
4	Situation	36	83	0,73	Tall
5	Clarity	52	96	0,91	Tall
6	Overview	53	91	0,80	Tall

Table 13 shows an N-Gain value of 0.7721, indicating that the improvement in students' critical thinking skills falls within the high category. Furthermore, Table 14 presents the N-Gain analysis for each FRISCO indicator, where almost all indicators achieved a high improvement criterion, with the exception of the *Reason* indicator, which was classified in the medium category.

Discussion

The results of the study showed an improvement in the critical thinking skills of Grade IV students at Kebonsari 3 State Primary School in Malang City through the application of a combination of the Team Games Tournament method and the Discovery Learning model, supported by Pancasila Smart interactive media. This improvement was evident from the normalized gain values, which consistently increased from one cycle to the next, namely 0.3681 (medium category) in the first cycle, 0.6279 (medium category) in the second cycle, and 0.7721 (high category) in the third

cycle. In addition, the average score of students' critical thinking skills rose significantly from 42.32 in the pre-cycle stage to 59.82 in the first cycle, 78.28 in the second cycle, and 86.32 in the third cycle. This positive trend occurred in line with the implementation of cooperative-based learning and guided discovery approaches, which were accompanied by interactive digital media. Such integration encouraged students to participate more actively in discussions, engage in problem analysis, and formulate conclusions based on the information obtained.

If examined further based on the Focus, Reason, Inference, Situation, Clarity, and Overview (FRISCO) critical thinking ability indicators, all indicators showed improvement from the pre-cycle stage to the third cycle. The Focus and Inference indicators exhibited a significant increase from the beginning of the action implementation, while the Clarity and Overview indicators recorded the highest growth in the third cycle. These results are consistent with the findings of Anam et al. (2024), who stated that the tournament-based cooperative learning model can enhance students' cognitive engagement in searching for information, conducting analysis, and formulating conclusions. Similarly, the findings of Putri et al. (2018) demonstrate that the Team Games Tournament method is more effective than other cooperative methods in fostering the critical thinking skills of primary school students.

The role of Pancasila Smart interactive media is also a crucial factor in supporting the enhancement of students' critical thinking skills. This media offers an interactive digital learning experience in the form of simulations of Pancasila values, quizzes, and interactive illustrations that facilitate students in exploring concepts, testing information, and collaboratively discussing possible solutions. Furthermore, through this media, students are able to gain contextual learning experiences that are directly related to their daily lives. These findings are consistent with the research of Hasanah and Suprapto (2020), which states that interactive digital media can increase the active participation and engagement of students in the learning process.

However, this study has several limitations that require further examination. First, the duration of the action implementation, which consisted of only three cycles within a relatively short period of time, cannot ensure the sustainability of the results in the long term. Second, the possibility of a novelty effect associated with the use of digital media, such as Pancasila Smart interactive media, may have temporarily influenced the improvement of students' critical thinking skills. Students who are enthusiastic about newly introduced media often display optimal performance in the early stages; however, it remains uncertain whether these skills can be maintained when the media is replaced with conventional tools or under ordinary learning conditions.

Second, the implementation of a combination of the Team Games Tournament method and the Discovery Learning model supported by interactive digital media such as Pancasila Smart requires the readiness of school infrastructure, including liquid

crystal display projectors, laptops, and stable internet connections. This requirement can present a challenge for schools located in areas with limited facilities. Therefore, further research in schools with varying infrastructure conditions is necessary to examine the flexibility, effectiveness, and feasibility of implementing this combined learning model on a broader scale.

Third, this study involved classroom teachers acting both as researchers and as observers. Although efforts were made to maintain objectivity, there remains the potential for assessment bias regarding students' activities during the learning process. The dual role of teacher-researchers may influence perceptions and judgments during observation, particularly due to expectations related to the desired outcomes. Therefore, follow-up studies that involve independent observers or experimental trials in different classrooms are strongly recommended to ensure the validity of the findings.

Despite these limitations, this study makes a significant contribution to the practice of interactive, digital-based Pancasila and Civic Education learning in primary schools. The combination of the Team Games Tournament method and the Discovery Learning model, supported by Pancasila Smart interactive media, has proven to be an effective alternative learning strategy for enhancing students' critical thinking skills in the digital era. Furthermore, this study expands the body of references on combinative learning models that are adaptive to the advancement of educational technology, while simultaneously supporting the strengthening of twenty-first-century competencies within the primary education context.

Conclusion

Based on the results of the classroom action research that was conducted, it can be concluded that the application of a combination of the Team Games Tournament method and the Discovery Learning model, assisted by Pancasila Smart interactive media, has the potential to be effective in improving the critical thinking skills of Grade IV students at Kebonsari 3 State Primary School in Malang City. This is evidenced by the increase in the average score of critical thinking skills from 42.32 in the pre-cycle stage to 86.32 in the third cycle, as well as a normalized gain value of 0.7721, which falls into the high category. The Pancasila Smart interactive media in this study functioned as a presentation-based digital platform containing simulations of Pancasila values, evaluation quizzes, and visual illustrations of the figures who formulated Pancasila. This design helped students to understand the material in a contextual manner and actively participate in the discovery learning process. These findings suggest that the combination of tournament-based cooperative learning models and discovery-oriented approaches, supported by contextual digital media, can serve as an effective alternative learning strategy for developing students' critical thinking skills in the digital era. However, this study has limitations, as it was implemented in only one class without a

control group, making its comparative effectiveness uncertain and the observed improvement in critical thinking skills still limited to the short term. Therefore, further research is recommended to include control groups, examine the sustainability of results over a longer period, and develop the Pancasila Smart interactive media into an online, application-based format so that it can be accessed more widely by students across different educational levels and school contexts.

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