JOSAR, Vol.11 No.2 September 2026, pp. 347-360
ISSN: 2502-8521 (Print) / 2503-1155 (Online)
DOI: https://doi.org/10.35457/0b46t819

# The Effectiveness of the Think Pair Share Model Assisted by Digital Comics on the Critical Thinking Skills of Fourth Grade Elementary School Students

**Fadila Fitri Oktavia**[1]
**Nanda William**[2]
**Diyanti Jati Pratiwi**[3]

[1,2,3]Primary Teacher Education, STKIP PGRI Trenggalek, Trenggalek, Indonesia

**Article Info**

***Article history:***

Received July 28, 2026
Revised August 16, 2026
Accepted September 13, 2026

***Keywords:***

Think Pair Share
Digital comics
Critical thinking skills
Elementary school

**ABSTRACT**

*This study aimed to examine the effect of the Think Pair Share (TPS) learning model assisted by digital comics on elementary school students' critical thinking skills in Pancasila Education. The study was motivated by students' limited ability to interpret information, analyze problems, evaluate arguments, and draw logical conclusions. This condition is associated with teacher-centered learning practices that provide limited opportunities for active student participation and the limited use of engaging instructional media. Therefore, an innovative learning model that actively involves students and promotes higher-order thinking skills is needed. This study employed a quantitative approach using a Quasi-Experimental Design with a Nonequivalent Control Group Design. The research sample consisted of an experimental class receiving the Think Pair Share (TPS) learning model assisted by digital comics and a control class receiving conventional instruction. Data were collected through pretests and posttests using a valid and reliable critical thinking skills test and were analyzed using normality, homogeneity, Independent Sample t-test, and N-Gain tests with IBM SPSS Statistics. The results indicated a significant effect of the Think Pair Share (TPS) learning model assisted by digital comics on students' critical thinking skills, with a significance value of 0.001 ($p < 0.05$). The mean score of the experimental class increased from 68 to 83, while the control class improved from 53 to 65. The average N-Gain score was 0.4470, indicating a moderate level of improvement.*

*This is an open access article under the CC BY-SA license.*

***Corresponding Author:***
Fadila Fitri Oktavia
Primary Teacher Education, Faculty of Teacher Training and Education
STKIP PGRI Trenggalek
Jl. Supriadi No. 22, Nggempleng, Ngares, Trenggalek, Indonesia
Email: dilaokta152@gmail.com

## 1. INTRODUCTION

Education at the elementary school level plays an essential role in developing students' thinking abilities and character. In line with the demands of twenty first century education, learning in elementary schools should not only focus on mastering subject content but also on developing higher-order thinking skills required to solve problems encountered in daily life. One of the most important competencies emphasized in twenty-

**ISSN: 2502-8521 (Print) / 2503-1155 (Online)**
DOI: https://doi.org/10.35457/0b46t819

first century learning is critical thinking. This skill enables students to understand concepts deeply, evaluate information, analyze problems, and make decisions based on logical reasoning. Therefore, elementary schools have a strategic responsibility to cultivate students' critical thinking skills through active, collaborative, and student-centered learning.

Critical thinking is defined as the ability to identify problems, collect and evaluate information logically, and draw conclusions based on rational reasoning and valid evidence (Tumanggor, 2021). This ability requires students not merely to memorize information but also to analyze, evaluate, and interpret knowledge so that it can be applied to solving real-life problems. Consequently, critical thinking serves as a fundamental basis for students' intellectual development because, without this ability, they will encounter difficulties in understanding concepts comprehensively and making appropriate decisions during the learning process. Furthermore, critical thinking has become one of the key indicators of successful learning in elementary education, particularly in supporting higher-order thinking skills (HOTS) as emphasized in the Kurikulum Merdeka (Adnyana, et al., 2022).

Despite its importance, numerous studies indicate that elementary school students' critical thinking skills remain underdeveloped. Preliminary observations conducted by the researchers on August 11, 2025, during the School Field Introduction Program (PLP) at SD Negeri 2 Surodakan revealed that many fourth-grade students experienced difficulties in expressing opinions, answering questions requiring logical reasoning, and drawing conclusions from the learning materials. Students tended to wait for the teacher's instructions and usually provided short answers without sufficient explanations. In addition, classroom instruction was still predominantly teacher-centered, limiting students' opportunities to participate in discussions and develop their critical thinking skills.

These findings are supported by the study of Wibowo, et al., (2021), which reported that the critical thinking skills of fourth-grade students at SDN 03 Sebungkang reached only 29.58%, placing them in the very low category. Moreover, the percentage for the indicator of drawing conclusions was only 13.33%. More broadly, educational studies also indicate that more than 60% of elementary school students remain in the low category of critical thinking, particularly in analyzing, evaluating, and drawing conclusions (OECD, 2019). These findings suggest that students' critical thinking skills require greater attention through learning approaches that actively engage students in the thinking process.

The low level of students' critical thinking skills is closely related to classroom learning practices that remain predominantly teacher-centered. Many students are still passive, reluctant to express their opinions, and experience difficulties in analyzing problems presented by the teacher. They tend to focus on memorizing learning materials rather than understanding concepts and reasoning about relationships among ideas. This condition indicates that classroom instruction has not fully encouraged students to think independently and reflectively (Desky, et al., 2025). Furthermore, the use of monotonous instructional models with limited collaborative activities reduces students' motivation and active participation in learning. Teacher-centered instruction also provides few opportunities for students to engage in activities that challenge higher-order thinking skills. Consequently, students' critical thinking abilities are not optimally developed. Therefore, the low level of critical thinking skills is associated with the limited

implementation of interactive and engaging learning models that encourage students to ask questions, discuss ideas, and discover solutions through meaningful learning experiences (Putri & Azzizah, 2025).

One instructional model considered relevant to addressing these problems is the Think Pair Share (TPS) model. This cooperative learning model consists of three main stages: think, pair, and share, allowing students to think individually, discuss ideas with a partner, and present the results of their discussion to the class (Harefa, et al., 2025). Through TPS, students are encouraged to think critically about the given problems, evaluate both their own and their peers' opinions, and develop communication as well as collaborative skills.

To make learning more engaging and meaningful, the Think Pair Share (TPS) model can be integrated with digital comic media. Digital media are selected because they provide interactive and contextual visual representations that can increase students' learning motivation while strengthening digital literacy, which is one of the essential competencies in twenty-first century education (Yunitasari, et al., 2025). Digital comics help students understand learning materials through attractive visualizations and contextual stories, making the learning process more enjoyable and facilitating students' ability to analyze learning content. Therefore, integrating the TPS model with digital comic media is expected to create an active, collaborative, and creative learning environment while effectively improving elementary school students' critical thinking skills (Sutomo & Kusmaryono, 2025).

Several previous studies have demonstrated the positive effects of innovative instructional models and digital learning media. Dewi, et al., (2024) reported that the implementation of the Problem-Based Learning model assisted by digital comic media improved students' classroom engagement and critical thinking skills. Likewise, Rismayanti, et al., (2024) found that the implementation of the Think Pair Share (TPS) model assisted by interactive learning media using the Educandy application enhanced students' participation and conceptual understanding. Furthermore, Alifah, et al., (2023) concluded that digital learning media, including digital comics, improve students' learning outcomes by creating more interactive, engaging, and technology-oriented learning experiences. However, these studies investigated the TPS model and digital media in different learning contexts, subjects, and dependent variables. Studies specifically examining the effect of the Think Pair Share (TPS) learning model assisted by digital comic media on elementary school students' critical thinking skills remain very limited. This research gap indicates the need for further investigation into the effectiveness of integrating the TPS model with digital comic media to improve elementary school students' critical thinking skills.

Based on these considerations, this study offers a novel approach by integrating the Think Pair Share (TPS) learning model with digital comic media to improve elementary school students' critical thinking skills. This study is expected to contribute to the development of innovative, collaborative, and technology-integrated instructional strategies while providing teachers with an alternative approach for promoting students' critical thinking through active and meaningful learning. Therefore, the objective of this study is to analyze the effect of the Think Pair Share (TPS) learning model assisted by digital comic media on the critical thinking skills of fourth-grade elementary school students.

**ISSN: 2502-8521 (Print) / 2503-1155 (Online)**
DOI: https://doi.org/10.35457/0b46t819

## 2. LITERATURE REVIEW

### 2.1. Definition of Critical Thinking

Critical thinking is one of the essential competencies that must be developed in twenty-first century education. The rapid advancement of science, technology, and information has shifted the focus of education from merely mastering knowledge to developing higher-order thinking skills that enable students to solve real-life problems. According to Marope (2014), twenty-first century education requires students to possess critical thinking, creativity, digital literacy, communication skills, and the ability to acquire and apply knowledge in various situations. These competencies prepare learners to become adaptive, competitive, and capable of responding to increasingly complex global challenges. Consequently, the development of critical thinking has become an important objective of learning, particularly at the elementary school level where students begin to develop reasoning skills.

Critical thinking is generally understood as an active cognitive process that enables students to construct knowledge through reasoning and investigation. Cahyono (2017) defines critical thinking as a skill that allows students to explore new knowledge, including concepts and facts, through direct experiences such as experiments and observations. This perspective emphasizes that students should not merely receive information passively or memorize learning materials but should actively construct understanding based on evidence they discover. Similarly, Hidayanti, et al., (2016) explain that critical thinking involves logical, analytical, and systematic reasoning in solving problems. Students with strong critical thinking skills carefully consider various alternatives before making decisions and are less likely to accept invalid information without evaluation. These perspectives indicate that critical thinking is not limited to reasoning ability but also involves evaluating information and making justified conclusions.

The development of critical thinking is closely related to learning environments that actively engage students in exploration, discussion, and problem-solving activities. Such learning experiences provide opportunities for students to evaluate information, identify problems, formulate arguments, and justify conclusions using evidence. Furthermore, Wijaya, et al., (2016) argue that digital literacy and the integration of modern technology strengthen students' analytical and problem-solving abilities, which are fundamental components of critical thinking. Therefore, instructional approaches that combine collaborative learning with technology-based media are considered effective in supporting the development of critical thinking skills in elementary education.

Critical thinking consists of several interconnected cognitive processes. According to Rositawati (2018), critical thinking comprises six major aspects: interpretation, analysis, inference, evaluation, explanation, and self-regulation. Interpretation refers to the ability to understand and identify the meaning of information, while analysis involves examining relationships among ideas and arguments. Inference enables students to draw logical conclusions based on available evidence, whereas evaluation focuses on assessing the credibility of information and the strength of arguments. Explanation refers to the ability to communicate reasoning clearly, and self-regulation reflects students' ability to monitor and improve their own thinking processes. These aspects demonstrate that critical thinking is a complex cognitive ability requiring students to understand information,

analyze evidence, evaluate arguments, and reflect on their reasoning. Consequently, the development of critical thinking requires learning environments that actively involve students in discussion, investigation, and collaborative problem-solving activities.

## 2.2. Definition of the Think Pair Share (TPS) Learning Model

The Think Pair Share (TPS) model is one of the cooperative learning models designed to encourage students' active participation through structured interaction and collaborative learning. In the learning process, instructional strategies should not only facilitate students' understanding of learning materials but also provide opportunities for active engagement and meaningful interaction. TPS offers a systematic learning sequence that enables students to think independently, discuss ideas with peers, and communicate the results of their discussions to a larger group. This structured process bridges individual reasoning and collaborative learning, creating a learning environment that actively involves all students.

According to Ferdianto (2024), Think Pair Share is a cooperative learning model designed to develop more effective interaction patterns among students through three sequential stages: thinking individually, discussing ideas with a partner, and sharing discussion outcomes with the whole class. This learning process allows students to process information independently before exchanging ideas with their peers, ensuring that each student is adequately prepared to participate in classroom discussions. Beyond improving conceptual understanding, TPS also promotes students' self-confidence, communication skills, and collaborative abilities. These characteristics indicate that TPS not only supports cognitive development but also facilitates the acquisition of essential social competencies required in twenty-first century learning.

Similarly, Rukmini (2020) emphasizes that TPS provides students with opportunities to think independently, discuss learning materials with partners, and assist one another in constructing understanding before sharing their ideas with other groups. This collaborative process demonstrates that TPS extends beyond conceptual learning by fostering communication, cooperation, and the ability to express opinions confidently. The sequential stages of thinking, pairing, and sharing enable students to refine their ideas before presenting them publicly, thereby increasing their confidence and encouraging more meaningful classroom participation.

The implementation of TPS is particularly appropriate for students who are beginning to experience cooperative learning because its procedures are relatively simple, systematic, and easy to follow. Suroyya (2024) explains that the three fundamental stages of thinking, pairing, and sharing gradually introduce students to cooperative learning without requiring complex group-work skills. This structured learning process supports active participation while creating an organized and student-centered classroom environment. Consequently, TPS has considerable theoretical and pedagogical potential to improve students' engagement, collaborative learning experiences, and higher-order thinking skills. These characteristics make the TPS learning model relevant for this study, which aims to improve elementary school students' critical thinking skills through collaborative learning supported by digital comic media.

**ISSN: 2502-8521 (Print) / 2503-1155 (Online)**
DOI: https://doi.org/10.35457/0b46t819

## 2.3. Digital Comic Media

Digital comic media has become one of the innovative instructional media widely utilized in elementary education to create more engaging and interactive learning experiences. The integration of visual narratives with digital technology enables students to understand learning materials more effectively while increasing their motivation and participation during the learning process. Compared with conventional printed media, digital comics offer greater flexibility because they can be accessed through various electronic devices and support learning activities both inside and outside the classroom.

Comics are generally defined as visual communication media that convey ideas through a sequence of images arranged systematically and often accompanied by text. According to Payanti (2022), comics consist of sequential illustrations organized to form a coherent story that communicates information, ideas, and specific messages to readers. The combination of visual elements and written text enables comics to attract learners' attention, facilitate comprehension, and stimulate imagination. These characteristics make comics particularly appropriate for elementary school students, whose learning tends to be more effective when supported by concrete and visually appealing representations.

The rapid development of digital technology has transformed conventional printed comics into digital comics that are created and distributed through electronic devices such as computers, tablets, and smartphones. Castillo-Cuesta and Quinonez-Beltran (2022) explain that digital comics are presented in online formats, allowing readers to access learning materials without relying on printed media. Although delivered digitally, digital comics retain the essential characteristics of traditional comics, including sequential panels, speech balloons, visual frames, and typographic elements that reinforce the meaning of the story (Pedro, et al., 2018). The integration of these visual components creates a more dynamic and contextual learning experience while supporting students' comprehension of instructional content.

Furthermore, Zakiyah, et al., (2022) describe digital comics as the result of the evolution of traditional comics, characterized by significant improvements in both visual presentation and delivery systems. These developments have made digital comics more interactive, accessible, and compatible with the growing digital literacy culture in contemporary education. The transformation from printed to digital formats also enables teachers to integrate multimedia-based learning resources that accommodate students' characteristics and technological developments in twenty-first century classrooms.

Based on these perspectives, digital comics can be understood as a modern development of traditional comics that utilizes digital technology to present stories through integrated visual and textual elements in a more interactive and accessible format. Beyond functioning as entertainment media, digital comics serve as effective instructional media because they facilitate students' understanding of learning content through attractive visualizations and contextual narratives. Their flexibility, accessibility, and ability to enhance students' attention, motivation, and engagement make digital comics highly relevant for supporting active learning. Therefore, in this study, digital comic media are employed as instructional support within the Think Pair Share (TPS) learning model to facilitate students' critical thinking through collaborative discussion and contextual visual learning experiences.

JOSAR, Vol.11 No.2 September 2026, pp. 347-360
ISSN: 2502-8521 (Print) / 2503-1155 (Online)
DOI: https://doi.org/10.35457/0b46t819

## 3. METHODS

This study employed a quantitative approach using a quasi-experimental method to examine the effect of the Think Pair Share (TPS) learning model assisted by digital comic media on fourth-grade elementary school students' critical thinking skills. The study adopted a Nonequivalent Control Group Design, consisting of one experimental class and one control class. Both groups were administered a pretest to measure students' initial critical thinking skills before the treatment. The experimental class received instruction using the Think Pair Share (TPS) learning model assisted by digital comic media, whereas the control class was taught using conventional learning. At the end of the intervention, both groups completed a posttest to determine changes in students' critical thinking skills.

The research was conducted at SD Negeri 2 Surodakan during the second semester of the 2025/2026 academic year. The participants were fourth-grade students consisting of one experimental class and one control class. The sample was selected using purposive sampling, in which participants were chosen based on predetermined criteria established by the researcher. The independent variable in this study was the implementation of the Think Pair Share (TPS) learning model assisted by digital comic media, whereas the dependent variable was students' critical thinking skills. The TPS learning process was implemented through three learning stages, namely Think, Pair, and Share, while digital comic media were used to support students' understanding of the learning materials and encourage active participation during classroom activities.

Data were collected using achievement tests and observation sheets. The achievement test, consisting of 30 multiple-choice questions, was administered as both the pretest and posttest to measure students' critical thinking skills before and after the treatment. Before being implemented, the instrument underwent content validity testing using Aiken's V through expert judgment involving three validators, followed by empirical validity testing using the Pearson Product-Moment correlation, reliability testing using Cronbach's Alpha, item difficulty analysis, and discrimination index analysis. The content validity results showed that all items obtained Aiken's V values ranging from 0.62 to 0.82, indicating that all items were valid. The empirical validity test indicated that 21 items were valid, while 9 items (Nos. 2, 3, 7, 8, 10, 13, 15, 22, and 25) were not valid. The reliability analysis produced a Cronbach's Alpha coefficient of 0.867, indicating a high level of reliability. The item difficulty analysis showed that 18 items were classified as easy and 12 items as moderate, while the discrimination index analysis indicated that 6 items were categorized as poor, 8 items as fair, 15 items as good, and 1 item as very good.

Observation sheets were also employed to evaluate the implementation of the Think Pair Share (TPS) learning model assisted by digital comic media throughout the learning process in the experimental class. The observation instrument measured the implementation of the independent variable using a five-point Likert scale adapted from (Syofian, et al., 2015).

Data analysis was performed using IBM SPSS Statistics. Preliminary analyses included normality testing using the Kolmogorov–Smirnov test (Nasrum, 2013) and homogeneity testing using Levene's test (Sianturi, 2022) to determine whether the data met the assumptions required for parametric statistical analysis. The research hypothesis was tested using an Independent Samples t-test to determine whether there was a significant difference in critical thinking skills between the experimental and control

**ISSN: 2502-8521 (Print) / 2503-1155 (Online)**
DOI: https://doi.org/10.35457/0b46t819

groups (Ningsih, et al., 2021). Furthermore, the effectiveness of the Think Pair Share (TPS) learning model assisted by digital comic media was evaluated using the Normalized Gain (N-Gain) test (Novita, et al., 2019) to measure the improvement in students' critical thinking skills after the intervention. All statistical analyses were conducted at a significance level of $\alpha = 0.05$.

ChatGPT (OpenAI) were used solely to assist in refining academic language and improving manuscript structure. These AI tools were not used for research design, data collection, data analysis, interpretation of results, or the formulation of scientific conclusions. All scientific content, research findings, and the final version of the manuscript were independently reviewed, verified, and approved by the authors, who bear full responsibility for the accuracy and integrity of the published work.

## 4. RESULTS

This study involved a total of 53 fourth-grade students from SD Negeri 2 Surodakan during the 2025/2026 academic year, consisting of 27 students in Class IVA as the experimental class and 26 students in Class IVC as the control class. The study employed a quantitative approach using a quasi-experimental design with a nonequivalent control group design to examine the effect of the Think Pair Share learning model on elementary school students' critical thinking skills. The experimental class received instruction using the Think Pair Share learning model, whereas the control class was taught using conventional learning. The purpose of this design was to determine the causal relationship between the treatment administered to the experimental class and the control group, which did not receive the additional treatment. The intervention was conducted over six meetings, each consisting of two 35-minute learning sessions. Learning activities in the experimental class were carried out from May 4 to May 6, 2026, while learning activities in the control class were conducted on April 22, April 24, and May 4, 2026.

Data were collected using multiple-choice tests administered before and after the instructional intervention. A pre-test was conducted prior to the implementation of the learning activities to measure students' initial critical thinking skills, whereas a post-test was administered after the intervention to evaluate students' critical thinking skills following the implementation of the Think Pair Share learning model. The administration of both pre-test and post-test enabled the researchers to identify differences in students' critical thinking skills before and after the implementation of the instructional treatment, thereby providing a clearer and more objective evaluation of the effect of the Think Pair Share learning model.

The research results indicate that both the experimental and control classes experienced an increase in scores following the intervention. However, a greater score improvement was observed in the experimental class (Table 1). A comparison of the pre-test and post-test results obtained by the experimental and control classes is presented in Figure 1.

**Table 1.** Summary of results for the experimental and control groups.

| Group | Number of Students | Average Pre-test Score | Average Post-test Score | Improvement |
|---|---|---|---|---|
| Control | 26 | 53 | 65 | 12 |
| Experimental | 27 | 68 | 83 | 15 |

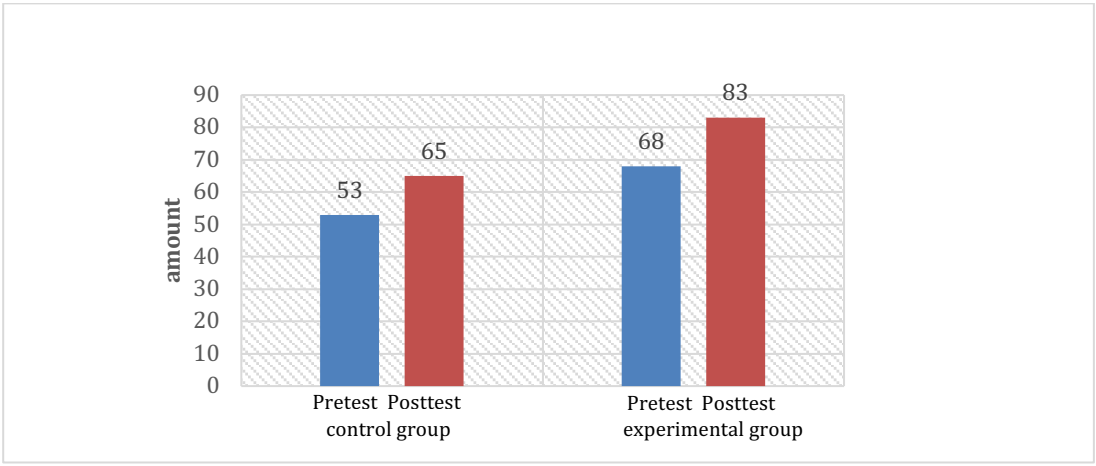



**Figure 1.** The comparison of results.

The results indicate that the average critical thinking ability of students improved after the implementation of the Think Pair Share (TPS) learning model. The prerequisite test results showed that all datasets were normally distributed, with significance values of 0.196 and 0.159 for the control class and 0.200 for both the pretest and posttest of the experimental class ($p > 0.05$). In addition, the homogeneity test demonstrated that the pretest and posttest data were homogeneous, with significance values of 0.810 and 0.385, respectively.

Furthermore, the hypothesis test using an Independent Sample *t*-test produced a significance value of 0.001 ($p < 0.05$), indicating a statistically significant difference in posttest critical thinking scores between the experimental and control groups. These findings suggest that the Think Pair Share (TPS) learning model had a greater effect on improving students' critical thinking skills than conventional learning.

The effectiveness test using the N-Gain method yielded an average N-Gain score of 0.4470, which falls into the moderate improvement category. In percentage terms, the average N-Gain was 44.70%, indicating that the implementation of the Think Pair Share (TPS) learning model was moderately effective in improving students' critical thinking skills. A summary of the statistical analysis results is presented in the Table 2.

**Table 2.** Summary of Data Analysis Results

| No | Analysis | Results |
|---|---|---|
| 1. | Normality Test | All data are normally distributed (Sig. > 0.05). |
| 2. | Homogeneity Test | Homogeneous data (Pretest = 0.810; Posttest = 0.385) |
| 3. | Independent Sample T-Test | Sig. = 0,000 |

Based on the summary of the analysis results presented in the Table 2, all research data met the prerequisite assumptions for statistical analysis, as indicated by the normal distribution of the data and homogeneous variances between the control and experimental groups. The hypothesis test for the posttest scores yielded a significance value of 0.001 ($p < 0.05$), indicating a statistically significant difference in students' critical thinking skills between the experimental and control classes after the implementation of the learning model. Furthermore, the effectiveness test using the N-Gain method produced an average score of 0.4470, which falls into the moderate category, with an average

**ISSN: 2502-8521 (Print) / 2503-1155 (Online)**
DOI: https://doi.org/10.35457/0b46t819

percentage of 44.70%, indicating that the Think Pair Share (TPS) learning model was moderately effective in improving students' critical thinking skills.

## 5. DISCUSSION

The main findings of this study indicate that the implementation of the Think Pair Share (TPS) learning model assisted by digital comics contributed to improving elementary school students' critical thinking skills in Pancasila Education. These findings suggest that student-centered and collaborative learning provides richer learning experiences than conventional instruction because students are actively involved in interpreting information, analyzing problems, evaluating different viewpoints, and drawing logical conclusions. Consequently, the development of critical thinking skills is not achieved merely through teacher explanations but through learning activities that encourage students to construct knowledge actively during the learning process.

The effectiveness of the Think Pair Share learning model can be explained by the characteristics of its learning stages. During the Think stage, students are encouraged to interpret information, identify problems, and develop initial ideas independently, thereby strengthening their ability to understand learning situations (Ririn, et al., 2021). The Pair stage enables students to exchange opinions, compare different perspectives, clarify concepts, and evaluate arguments through collaborative discussion, which supports the development of analytical and evaluative thinking (Agustin, et al., 2026). Furthermore, the Share stage provides opportunities for students to communicate their ideas, justify their arguments, respond to feedback, and formulate logical conclusions, thereby enhancing their inferential thinking skills (Lasari, et al., 2020). These sequential learning activities reflect the principles of constructivist learning theory, which emphasizes that knowledge is actively constructed through meaningful experiences and social interaction. Therefore, the improvement in students' critical thinking skills can be understood as the outcome of a learning process that consistently engages students in higher-order thinking activities.

The integration of digital comics further strengthened the learning process by presenting Pancasila Education materials through contextual stories, illustrations, and dialogues that were closely related to students' daily experiences. Such visual and contextual representations encouraged students not only to understand the learning content more easily but also to identify problems, analyze information, express opinions, and formulate appropriate solutions. These learning experiences made classroom discussions more interactive and increased students' confidence in expressing their ideas (Saqjuddin & Saputra, 2025). This finding is also consistent with multimedia learning theory, which explains that combining verbal and visual information facilitates deeper cognitive processing, improves attention, and promotes meaningful learning. Consequently, the integration of the Think Pair Share learning model and digital comics creates an interactive learning environment that supports the development of students' critical thinking skills.

The findings of this study are consistent with previous research reporting the effectiveness of both the Think Pair Share learning model and digital learning media. Dewi, et al., (2024) found that digital comics facilitate students' critical thinking by presenting learning materials in an engaging and contextual manner. Similarly, Rismayanti, et al., (2024) reported that the Think Pair Share learning model promotes

active participation through structured stages of individual thinking, collaborative discussion, and idea sharing. In addition, Alifah, et al., (2023) concluded that digital learning media increase students' engagement by creating more interactive learning experiences. Unlike these previous studies, the present study integrates the Think Pair Share learning model with digital comics specifically to promote critical thinking skills in elementary Pancasila Education. This integration demonstrates that combining collaborative learning strategies with contextual digital media provides more meaningful learning experiences that facilitate students' higher-order thinking. Therefore, this study contributes additional empirical evidence regarding the implementation of innovative learning models in elementary Pancasila Education.

The implications of this study indicate that the successful development of students' critical thinking skills depends largely on learning strategies that actively engage students throughout the learning process. In this context, teachers function not only as providers of information but also as facilitators who design meaningful learning experiences that encourage students to think independently, collaborate with peers, evaluate different perspectives, and communicate logical arguments. Therefore, the implementation of the Think Pair Share learning model assisted by digital comics can serve as an effective instructional alternative for Pancasila Education because it promotes active participation, meaningful interaction, and the development of higher-order thinking skills while supporting the competency-oriented goals of the Independent Curriculum.

## 6. CONCLUSION

This study demonstrates that the implementation of the Think Pair Share (TPS) learning model assisted by digital comics is an effective instructional approach for improving elementary school students' critical thinking skills in Pancasila Education. The integration of collaborative learning activities with contextual digital learning media creates meaningful learning experiences that encourage students to interpret information, analyze problems, evaluate different perspectives, and formulate logical conclusions. These findings indicate that learning environments that actively engage students in knowledge construction are more effective in fostering critical thinking than conventional teacher-centered instruction. Therefore, the combination of the Think Pair Share learning model and digital comics represents a relevant instructional alternative for supporting competency-based learning in elementary schools.

This study contributes both theoretically and practically. Theoretically, it enriches the literature on collaborative learning in elementary Pancasila Education by providing empirical evidence that integrating the Think Pair Share learning model with digital comics facilitates the development of students' critical thinking skills. Practically, the findings provide teachers with an alternative instructional strategy that promotes active participation, collaborative discussion, and meaningful learning experiences. The integration of digital comics into classroom instruction also offers an engaging learning environment that can increase students' motivation, participation, and confidence in expressing their ideas during the learning process. Overall, this study contributes to the growing body of evidence supporting the integration of collaborative learning models and digital learning media to enhance higher-order thinking skills in elementary education.

Nevertheless, this study has several limitations. First, the research was conducted in only one elementary school with a relatively limited number of participants; therefore, the findings cannot be generalized to broader educational contexts. Second, the study

**ISSN: 2502-8521 (Print) / 2503-1155 (Online)**
DOI: https://doi.org/10.35457/0b46t819

focused only on the effects of the Think Pair Share learning model assisted by digital comics on students' critical thinking skills and did not examine other learning outcomes, such as learning motivation, communication skills, collaboration skills, or long-term retention. Third, the intervention was implemented within a limited period of classroom instruction, making it difficult to evaluate the long-term sustainability of the observed improvements.

Based on these limitations, future research is recommended to involve larger samples from schools with different characteristics to improve the generalizability of the findings. Future studies are also encouraged to investigate the long-term effects of the Think Pair Share learning model assisted by digital comics and to examine its influence on other cognitive and affective outcomes. In addition, future researchers may integrate this learning model with other innovative digital learning media or apply it to different subjects and educational levels. Such studies would provide a more comprehensive understanding of the effectiveness of collaborative learning supported by digital media and contribute further to the development of innovative instructional practices in elementary education.

## REFERENCES

Adnyana, K. S., Widiastuti, N. P. K., & Suastra, I. W. (2022). Pengembangan Kurikulum Paradigma Baru Melalui Penguatan Berfikir Kritis pada Siswa SD di Kelas Tinggi. *Jurnal Pendidikan Dasar Flobamorata*, *3*(2), 302–307.

Agustin, N. P., Marzuqi, M. I., Nasution, & Animawati. (2026). *Pengaruh Model Pembelajaran Kooperatif Tipe Think – Pair – Share Terhadap Kemampuan Berfikir Kritis Siswa Pada Mata Pelajaran Ips Di Smp Labschool Unesa 1*. *6*(1), 219–240.

Alifah, H. N., Virgianti, U., Imam, M., Sarin, Z., Studi, P., Guru, P., Dasar, S., & Kudus, U. M. (2023). *Systematic Literature Review : Pengaruh Media Pembelajaran Digital pada Pembelajaran Tematik Terhadap Hasil Belajar Siswa SD*. *1*(3), 103–115. https://doi.org/https://doi.org/10.54066/jikma-itb.v1i3.463

Alifah, H. N., Virgianti, U., Imam, M., Sarin, Z., Studi, P., Guru, P., Dasar, S., & Kudus, U. M. (2023). *Systematic Literature Review : Pengaruh Media Pembelajaran Digital pada Pembelajaran Tematik Terhadap Hasil Belajar Siswa SD*. *1*(3), 103–115. https://doi.org/https://doi.org/10.54066/jikma-itb.v1i3.463

Cahyono, B. (2017). *Analisis Ketrampilan Berfikir Kritis Dalam Memecahkan Masalah Ditinjau Perbedaan Gender*. *8*(1), 50–64.

Castillo-Cuesta, L., & Quinonez-Beltran, A. (2022). *Using Digital Comics for Enhancing EFL Vocabulary Learning during the COVID-19 Pandemic*. *21*(5). https://doi.org/https://doi.org/10.26803/ijlter.21.5.24

Desky, R. A., Fatmawati, S. N., Kastur, A., Mustain, M., Julianto, J., & Rukmi, A. S. (2025). Strategi dan Tantangan Pengembangan Berpikir Reflektif dalam Pembelajaran IPA Sekolah Dasar. *Tahun*, *31*(2), 366–379. https://doi.org/10.30587/didaktika.v31i2.9845

Dewi, R. A. M., Agnafia, D. N., & Setyowati, R. (2024). Pengaruh Model Pembelajaran Problem Based Learning Berbantuan Media Komik Digital Terhadap Kemampuan Berpikir Kritis Siswa Pada Materi Fotosintesis Kelas IV SD Negeri. *EDUKASIA: Jurnal Pendidikan dan Pembelajaran*, *5*(1), 841–850.

https://doi.org/10.62775/edukasia.v5i1.867

Dewi, R. A. M., Agnafia, D. N., & Setyowati, R. (2024). Pengaruh Model Pembelajaran Problem Based Learning Berbantuan Media Komik Digital Terhadap Kemampuan Berpikir Kritis Siswa Pada Materi Fotosintesis Kelas IV SD Negeri. *EDUKASIA: Jurnal Pendidikan dan Pembelajaran*, *5*(1), 841–850. https://doi.org/10.62775/edukasia.v5i1.867

Ferdianto, T. (2024). *Penerapan Model Pembelajaran Kooperatif Tipe Think-Pair-Share (TPS) Dalam Pendidikan Agama Islam*. *1*(1). https://doi.org/https://doi.org/10.62448/ajpi.v1i1.51

Harefa, D. A. L., Harahap, H. R., Hidayat., & Sidabutar, F. Y. (2025). Implementasi Model Pembelajaran Think Pair Share Dalam Upaya Meningkatkan Keterampilan Kolaboratif Siswa Pada Mata Pelajaran Pancasila Di Kelas V SDN 066666 Medan Denai. *PESHUM : Jurnal Pendidikan, Sosial dan Humaniora*, *4*(4), 6112–6123. https://doi.org/10.56799/peshum.v4i4.9329

Hidayanti, D., As'ari, A. R., & Chandra, T. D. (2016). *Analisis kemampuan berpikir kritis siswa smp kelas ix pada materi kesebangunan*. *Knpmp I*, 276–285. http://ejournal.unesa.ac.id/index.php/bioeduT

Lasari, V. N., Faudah, A., & Widiyanto, R. (2020). Penerapan Model Pembelajaran Think Pair Share untuk Meningkatkan Keteramplan Kerjasama dan Hasil Belajar SiswaKelas IV. *Journal of Elementary School (JOES)*, *3*(2), 73–84. https://doi.org/10.31539/joes.v3i2.1867

Marope, P. T. M. (2014). *Learning and competences for the 21*. *2014*, 483–486. https://doi.org/10.1007/s11125-014-9333-y

Nasrum, A. (2013). Uji Normalitas Data Untuk Penelitian. *Uji Normalitas Data Untuk Penelitian*, 117.

Ningsih, Y. M., Sucipto, L., & Fitriyah, A. T. (2021). *Pengaruh penerapan model pembelajaran kooperatif tipe think pair share ( TPS ) terhadap motivasi belajar matematika siswa MTs*. *01*(01), 26–39. https://jurnal.jurmat.com/index.php/jmt/index

Novita, L., Sukmanasa, E., & Pratama, M. Y. (2019). Penggunaan Media Pembelajaran Video terhadap Hasil Belajar Siswa SD. *Indonesian Journal of Primary Education*, *3*(2), 64–72. https://doi.org/10.17509/ijpe.v3i2.22103

OECD. (2019). *PISA 2018 Results (Volume I) What Students Know and Can Do: What Students Know and Can Do*. OECD Publishing. https://books.google.co.id/books?id=smnBDwAAQBAJ

Payanti, D. A. K. D. (2022). *Peran Komik Digital sebagai Media Pembelajaran Bahasa yang Inovatif*. *4*(April), 464–475.

Pedro, L. F. M. G. P., Barbosa, C. M. M. de O., & Neves, S. C. M. das. (2018). *A critical review of mobile learning integration in formal educational contexts*. https://doi.org/10.1186/s41239-018-0091-4

Putri, N. F., & Azzizah, D. K. (2025). *Analisis Kemampuan Berfikir Kritis Dan Kreatif Siswa Melalui Strategi Pembelajasan Berbasis Diskusi Di Mata Pelajaran Pkn Di SD Kelas IV*. *1*, 442–447. https://doi.org/https://doi.org/10.59435/menulis.v1i5.290

Ririn, R., Budiman, H., & Muhammad, G. M. (2021). *Peningkatan Kemampuan Berpikir Kritis Matematis dan Kemandirian Belajar Siswa melalui Model Pembelajaran Problem Solving*. *3*(1), 1–15.

Rismayanti, Rahayu, P., & Putri, H. E. (2024). Penerapan Pendekatan Cooperative

**ISSN: 2502-8521 (Print) / 2503-1155 (Online)**
DOI: https://doi.org/10.35457/0b46t819

Learning Tipe Think Pair Share (TPS) Berbantuan Media Pembelajaran Interaktif Menggunakan Aplikasi Educandy untuk Meningkatkan Kemampuan Pemahaman Konsep Siswa Kelas 3 pada Pelajaran Matematika. *Jurnal Ilmiah Wahana Pendidikan*, *10*(2), 795–803. *https://doi.org/https://doi.org/10.5281/zenodo.*10499224

Rismayanti, Rahayu, P., & Putri, H. E. (2024). Penerapan Pendekatan Cooperative Learning Tipe Think Pair Share (TPS) Berbantuan Media Pembelajaran Interaktif Menggunakan Aplikasi Educandy untuk Meningkatkan Kemampuan Pemahaman Konsep Siswa Kelas 3 pada Pelajaran Matematika. *Jurnal Ilmiah Wahana Pendidikan*, *10*(2), 795–803. *https://doi.org/https://doi.org/10.5281/zenodo.*10499224

Rositawati, D. N. (2018). *Kajian berpikir kritis pada metode inkuiri*. 74–84.

Rukmini, A. (2020). *Model Kooperatif Tipe Think Pair Share (TPS) Dalam Pembelajaran Pkn SD*. *3*(3), 2176–2181.

Saqjuddin, & Saputra, E. E. (2025). Pengembangan Media Komik Digital untuk Meningkatkan Minat Belajar IPS pada Siswa Sekolah Dasar. *Sinergi: Jurnal Ilmiah Multidisiplin*, *1*(2), 65–74. https://publikasi.ahlalkamal.com/index.php/sinergi/article/download/92/83

Sianturi, R. (2022). Uji homogenitas sebagai syarat pengujian analisis. *Jurnal Pendidikan, Sains Sosial, dan Agama*, *8*(1), 386–397. https://doi.org/10.53565/pssa.v8i1.507

Suroyya, L. N. (2024). *Karakter Toleransi : Pembelajaran PKN Berbasis Model Kooperatif Tipe Think Pair Share ( TPS ) MI NU Miftahul Ulum*. *3*, 26–32. https://doi.org/https://doi.org/10.62383/dilan.v1i3.378

Sutomo, & Kusmaryono, I. (2025). Penggunaan Komik Digital sebagai Media Pembelajaran untuk The Use of Digital Comics as a Learning Medium to Enhance Learning Independence and Critical Thinking. *Jurnal Riset Madrasah Ibtidaiyah (JURMIA) Februari, 2025*, *5*(1), 101–112. https://doi.org/10.32665/jurmia.v5i1.4074

Syofian, S., Setiyaningisih, T., & Syamsiah, N. (2015). *Otomatisasi Metode Penelitian Skala Likert Berbasis Web*. *November*, 1–8. http://jurnal.fkip.unla.ac.id/index.php/jp2ea/article/view/329

Tumanggor, M. (2021). *Berfikir Kritis : Cara jitu menghadapi tantangan pembelajaran abad 21*. Gracias Logis Kreatif. https://books.google.co.id/books?id=51gwEAAAQBAJ

Wibowo, D. C., Handayani, A. F., Setiawan, B., Dores, J., Persada, S., & Sintang, K.(2021). *Peningkatan Hasil Belajar Siswa Menggunakan Media Dakon Matematika ( Dakota )*. *2*, 176–185.

Wijaya, E. Y., Sudjimat, D. A., & Nyoto, A. (2016). *Transformasi pendidikan abad 21 sebagai tuntutan pengembangan sumber daya manusia di era global*. *1*, 263–278.

Yunitasari, S., Budiretnani, D. A., & Sulistiyowati, T. I. (2025). Penerapan Model Pembelajaran Kooperatif Think Pair Share (Tps) Menggunakan Media Gambar Untuk Meningkatkan Hasil Belajar Ipa Siswa Smp Hasanudin. *Variabel*, *6*(1), 49. https://doi.org/10.26737/var.v6i1.4209

Zakiyah, Z., Arisandi, M., Oktora, S. D., Hidayat, A., & Saputra, E. R. (2022). *Pengembangan Buku Teks Bahasa Indonesia Berbasis Media Komik Digital Bermuatan Keterampilan Berpikir Kritis*. *6*(5), 8431–8440. https://doi.org/https://doi.org/10.31004/basicedu.v6i5.3869