ALENA – Journal of Elementary Education
Vol. 4 No. 1, January, 2026, Pages 99-108
e-ISSN: 2963-0649 | DOI: XX.XXXXX

INFLUENCE OF PROJECT BASED LEARNING MODELS COMICS ON STUDENT CHARACTERS PANCASILA CLASS V STUDENTS

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ARTICLE INFO

***Article History* :**

Received : 2025-10-18
Accepted : 2025-11-17

Keywords :

***Keywords** 1; Project Based Learning, Comics*
***Keywords** 2; Pancasila Student Character*
***Keywords** 3; PPKn, Elementary School*

ABSTRAK

This research is driven by the urgent need for innovative learning strategies in elementary schools to improve students' Pancasila character, especially in the context of science development with the aim of testing the effectiveness of the comic-based Project-Based Learning (PjBL) model in improving students' Pancasila character in elementary schools. This model was chosen because it is able to combine contextual project activities with visual media that attracts students' interest. This study uses a quantitative approach with a one-group pretest-posttest design, involving 30 fifth-grade students at SDN 127 Inpres Moncongloe as subjects. The instruments used include observation, tests, interviews, and documentation. The pretest results showed an average student character score of 53.95, while in the posttest it increased to 80.20. In addition, the level of teacher and student activity during the implementation of this model exceeded 90%, indicating a high level of engagement. Inferential statistical analysis using a t-test showed a significant difference between the conditions before and after the implementation of the learning model. This finding indicates that the comic-based PjBL model is not only effective in improving academic understanding but also in instilling character values such as mutual cooperation, independence, and creativity. This study recommends the use of comics as an engaging and educational alternative learning medium to strengthen PPKn learning at the elementary level.

1. INTRODUCTION

Pancasila and Citizenship Education (PPKn) plays a crucial role in realizing Indonesia's national education goals, particularly in fostering moral integrity and improving the quality of human resources. Within the context of basic education, PPKn serves to instill the values of citizenship, independence, and responsibility, and to shape students into citizens with noble character who reflect the nation's identity and culture (Mahardika, 2023).

As mandated by the National Education System Law (UU Sisdiknas), early character building is a fundamental aspect in producing a dignified and superior generation. One innovative learning approach

recognized for its ability to encourage active participation and creative expression in students is the Project-Based Learning (PjBL) model. According to Kurniasih and Sari in Alghaniy Nurhadiyati & Rusdinal (2021), PjBL emphasizes contextual learning through complex activities, with teachers acting as facilitators and mediators. Satria et al. (2025) added that PjBL encourages students to solve real-world problems through collaboration and creativity, closely aligned with the needs of 21st-century skills. Furthermore, Manfa'ati et al. (2025) demonstrated that PjBL has been shown to increase student enthusiasm and learning outcomes. Meanwhile, comics are an effective visual aid because they present engaging stories in an easy-to-understand visual format (Hasian, 2018). Previous research by Ambaryani & Airlanda (2017) also showed that comics improve learning outcomes and student engagement.

Initial observations and interviews conducted on July 17, 2024, at SDN 127 Inpres Moncongloe revealed a number of character issues among fifth-grade students. These issues include inter-student conflicts due to character differences, violations of school rules, and declining respect for teachers. One of the main causes is gadget addiction, which exposes students to negative digital content and weakens character values. This phenomenon reflects similar character challenges in the wider community, such as inter-ethnic conflict, bullying, and youth violence. If left unaddressed, these issues have the potential to hinder students' academic success and disrupt the school's vision as a character-based educational institution.

Conventional teaching methods such as lectures often fail to motivate students and foster active engagement. Therefore, innovative learning approaches are needed to create a meaningful and enjoyable learning environment. The Project-Based Learning (PjBL) model offers an active, student-centered approach, enabling students to understand abstract concepts through real-world applications and improve academic performance through problem-solving and the expression of ideas. The project-based focus makes students the primary actors in the learning process, thereby increasing their overall participation and engagement.

The use of comics as a medium within the PjBL framework aims to create an engaging learning environment and reduce student boredom. Comics are defined as a series of illustrative images complemented by a storyline and humor, making it easier for students to understand the material. Putra & Milenia (2021) stated that comics can improve reading comprehension, vocabulary, and memory due to their engaging combination of text and images. Their simple and visual nature makes them highly suitable for elementary school students. The integration of PjBL and comics is expected to strengthen students' character holistically in line with national education goals.

Project-Based Learning (PjBL) encourages independent learning by actively engaging students in real-life projects and fostering critical thinking, collaboration, and communication skills. This learning process, which involves exploration, research, and presentation, develops a variety of essential competencies that support lifelong learning (Tubagus et al., 2024). Therefore, Project-Based Learning (PjBL) is an effective approach to developing basic skills in elementary school students.

Widodo & Sriyanto (2022) emphasize that PjBL hones students' creativity, collaboration, and adaptability. This learning provides opportunities to interact with real-world contexts, apply knowledge meaningfully, and create a fun learning environment. However, PjBL also presents challenges, such as the need for competent teachers, adequate facilities, and effective group engagement strategies (Sunita et al., 2019).

Comics as a learning medium add appeal to the learning process, simplifying complex material through visual narratives. McCloud, as quoted by Anwar & Anistyasari (2019), defines comics as a sequential arrangement of images that function as a powerful storytelling medium, because they are able

to attract the emotions and thoughts of readers. Visual elements are an effective medium to help students understand and internalize educational messages. Based on this description, this study aims to examine the effect of implementing a comic-based Project Based Learning model on strengthening the Pancasila character in elementary school students. This integration is expected to be a fun and effective learning approach in instilling citizenship values from an early age.

2. METHODS

This research employs a quantitative approach with the intent of testing hypotheses through measurable numerical data. This method is justified by the study's aim to significantly evaluate the impact of the comic-based Project-Based Learning (PjBL) model on students' Pancasila character development. Quantitative analysis offers objectivity by relying on standardized data collection and statistical computations to examine the relationship between variables (Waruwu et al., 2025).The research follows a one-group pretest-posttest design. This design involves only one experimental group and no control group, allowing the researchers to measure the initial condition of the students (pretest) and compare it to their condition after the intervention (posttest). This method helps in identifying the change attributable to the treatment.

The study was conducted at SDN 127 Inpres Moncongloe, specifically targeting fifth-grade students. The sampling technique employed was non-probability sampling, selected for its efficiency in terms of time and cost. A total of 30 students participated in the study.

Several tools were utilized to gather data. These included observation sheets, interview guides, tests, and documentation. Observations focused on student behavior, engagement, and teacher-student interactions during the learning process. Interviews provided deeper insights into student perceptions and teacher evaluations. Meanwhile, tests were administered to assess students' character development before and after the intervention. Documentation was used to support findings from other data sources.

The independent variable in this study is the Project-Based Learning model utilizing comic media, while the dependent variable is the development of Pancasila character traits among students. The PjBL model engages students in hands-on projects that are both reflective of real-life contexts and aligned with civic education objectives. By combining this model with comics, which present narratives in visual form, the learning experience becomes more relatable and effective.

The data collected were analyzed using both descriptive and inferential statistics. Descriptive analysis involved calculating mean, median, minimum and maximum scores, standard deviation, and variance. These analyses provided an overview of students' performance before and after the intervention. IBM SPSS Statistics Version 25 was used to process the data.

To support inferential analysis, a set of assumption tests was performed, including normality and homogeneity assessments, to confirm that the data satisfied the required statistical criteria. The Kolmogorov-Smirnov test was utilized to evaluate normality, while Levene's Test was applied to assess the homogeneity of variances. If assumptions were met, a paired sample t-test was performed to test the significance of differences between pretest and posttest results (Nurhaswinda et al., 2025; Sianturi, 2022).

The hypothesis testing followed a structured approach to determine whether the application of comic-based PjBL significantly improved students' character development. The null hypothesis (H0) stated that there was no significant difference in students' Pancasila character before and after the intervention, while the alternative hypothesis (H1) posited a significant improvement. The threshold for

significance was set at 0.05. If the calculated t-value exceeded the critical value from the t-distribution table, H0 would be rejected in favor of H1 (Anuraga et al., 2021).

In conclusion, the methodological framework of this study is designed to rigorously assess the educational impact of combining Project-Based Learning with comic media, providing a comprehensive understanding of its influence on character education among elementary school students

3. RESULTS AND DISCUSSION

The results of the teacher observations indicate that the teacher's ability to manage learning material on various energy sources through the comic-based Project Based Learning model achieved a score of 91.57, which falls into the very good category. This demonstrates that the teacher was able to effectively implement the aspects of the Project Based Learning model using comic media. On the other hand, the results of student learning activities show that, in applying the comic-based Project Based Learning model, students achieved a percentage score of 92.29. Therefore, the research category percentage of 92.29 also falls into the very good category, as students were able to effectively apply the aspects of the model.

Through a pretest (Pretest) and final test (Posttest), descriptive statistical analysis aims to obtain an overview of the creativity of class V students at SDN 127 Inpres Moncongloe, Maros Regency. The purpose of the pretest is to assess the initial condition of students before receiving treatment, and the posttest is used to determine the character of students' Pancasila students after implementing the comic-based project based learning model using the SPSS Statistics Version 25 program. The data from the Pretest and Posttest results can be seen as follows:

The pretest was carried out on August 6 2024 with a total of 30 students as research subjects.

Figure 3.1 Implementation of the Pretest Test

After the Pretest data was obtained, the creativity results were concluded and then processed using the IBM SPSS Statistics 25 program to find out the students' Pretest description data. Pretest result data can be seen in the following table:

Table 4.1 Descriptive Statistical Analysis of Class V Students' Pretest Scores

Pretest	
Number of Samples (n)	30
Average	53,95
Median	53,12
Standard Deviation	10,571
Minimum Value	37
Nilai Maksimum	75
Sum	1618

Source: *IBM SPSS Statistic 25*

Based on the table above, it can be observed that the lowest pretest score obtained by the students was 37, while the highest was 75. After analyzing the data, the average score for Pancasila student character among fifth-grade students at SDN 127 Inpres Moncongloe, Maros Regency, prior to implementing the Project Based Learning model was 53.95, with a median of 53.12 and a standard deviation of 10.571. The total number of pretest scores was 1681. If the student characteristics are categ orized into four groups, the resulting frequency and percentage distribution can be presented as follows.

Table 4.2 Frequency Distribution and Percentage of Class V Students' Pretest Scores

No	Value Interval	Information	Pretest	
			Frequency	Presentation
1	0-41	Need guidance	3	10%
2	41-74	Enough	26	86,66%
3	75-89	Good	1	3,33%
4	90-100	Very well		
Amount			30	100%

Source: *IBM SPSS Statistic 25*

The table above shows that of the 30 students who took the pretest, the majority of students were still in the Pancasila Student character development category which was classified as sufficient. The following is an explanation based on each category.

The posttest was carried out on Thursday, August 7 2024 with a total of 30 students as research subjects.

Figure 3.2 Implementation of the Posttest

After obtaining the Posttest data, the results of the student's character are summarized and then processed using the IBM SPSS Statistics 25 program to determine the descriptive data for the student's Posttest. The Posttest result data can be found in the following table:

Table 4.3 Descriptive Statistical Analysis of Class IV Students' Posttest Scores

	Posttest
Number of Samples (n)	30
Average	80,20
Median	81,25
Standard Deviation	7.713
Minimum Value	68
Maximum Value	93
Sum	2406,25

Source: IBM SPSS Statistic 25

Based on the table above, the lowest posttest score achieved by students was 68, while the highest reached 93. After analyzing the data, the average character score for fifth-grade students at SDN 127 Inpres Moncongloe, Maros Regency following the implementation of the project-based learning model was 80.20, with a median of 81.25 and a standard deviation of 7.713. The total posttest score amounted to 2406.25. When student character scores are classified into four categories, the resulting frequency and percentage distribution is as follows.

Tabel 4.4 Frequency and Percentage Distribution of Posttest Scores of Class V Students

No	Interval Nilai	Information	Pretest	
			Frequency	Frequency
1	0-41	Need guidance		
2	41-74	Enough	4	13,33%
3	75-89	Good	24	80%
4	90-100	Very well	2	6,66%
	Jumlah		30	100%

Source: *IBM SPSS Statistic 25*

The table above shows the distribution of post-test scores from 30 students after participating in the learning process, which reflects the increased understanding and development of the Pancasila students' character. Based on these results, there was a positive shift in student character achievement compared to the pretest results. In the Need Guidance category (Scores 0–41), there are no students in this category. This shows that all students have reached an adequate level of basic character development, especially in terms of learning motivation, self-confidence, and critical and creative thinking skills. In the Sufficient Category (Grades 41–74), 4 students (13.33%) were still in the sufficient category. Students in this category have shown progress, although character strengthening such as creativity, ability to collaborate and effective communication still needs to be improved. Good Category (Grades 75–89), the majority of students, namely 24 students (80%), are in the good category. This shows that the majority of students have shown strong character development, especially in the dimensions of critical, independent and creative thinking. Very Good Category (Scores 90–100), there are 2 students (6.66%) who are in the very good category. They show the character of Pancasila Students as a whole, not only in understanding the material but also in applying values such as mutual cooperation, independence, creativity, as well as communication and self-reflection skills.

Students in this category are examples of implementing the ideal Pancasila Student profile at the elementary school level.

The outcomes of the inferential statistical analysis are meant to address the research hypothesis that has been developed.. Before carrying out inferential statistical analysis, assumption tests are first carried out, namely normality tests, homogeneity tests and hypothesis tests.

a. Normality Test

The normality test is employed to evaluate whether the data follows a normal distribution and whether it originates from a normally distributed population (Nurhaswinda et al., 2025). In this study, the test was conducted using IBM SPSS Statistics Version 25, applying the Kolmogorov-Smirnov method. Data is considered to be normally distributed if the resulting significance value exceeds the 5% threshold (0.05). A summary of the normality test results for both the Pretest and Posttest is presented in the following table :

Table 4.5 Normality Test Results of Pretest and Posttest Data

Probability	Probability Value	Information
Pretest	0,102	0,102 > 0.05 Normal
Posttest	0,068	0,068 > 0.05 Normal

Source: IBM SPSS Statistic 25

Based on this data, it shows that the Pretest result data is 0.0102. This means that the Sig value is greater than the α value (0.102 > 0.05). This shows that the Pretest data is normally distributed. Meanwhile, the Sig value for the Posttest is 0.068. This means that the sig value is greater than the α value (0.068 > 0.05). This shows that the posttest data is also normally distributed.

b. Homogeneity Test

The homogeneity test is used to determine whether the variances of several populations are the same or different. In statistical analysis, the purpose of this test is to ensure that the variability in data from different groups being studied does not have significant differences (Sianturi, 2022). Homogeneity test processing uses the IBM SPSS Statistics Version 25 program. The homogeneity test in this study uses the Levere Statistics test. Data is considered homogeneous if the probability value in the Levene Statistics output exceeds the established threshold of 5% (0.05). A summary of the results from the homogeneity tests for the Pretest and Posttest can be found in the following table:

Tabel 4.6 Homogeneity Test Results of Pretest and Posttest

Probability	Probability Value	Information
Pretest dan Posttest	0,232	0,232 > 0,05 = Homogen

Source: IBM SPSS Statistic Version 25

Based on the data above, it is known that the significance of the Pretest and Posttest is 0.232. Because the significance level is greater than 0.05 (α > 0.05), it can be concluded that the Pretest and Posttest come from the same or homogeneous group of variants.

c. Hypothesis Testing

Hypothesis testing, as part of inferential statistics, is used to statistically verify the validity of a statement and to determine whether it should be accepted or rejected. Through this process, researchers assess the accuracy of their assumptions or beliefs (Anuraga et al., 2021). In this study, hypothesis testing aimed to identify whether the application of the project-based learning model significantly influenced the character development of Pancasila students. The Paired Sample t-Test was utilized for this purpose, comparing the calculated t-value with the critical t-value, using IBM SPSS Statistics Version 25. A normally distributed dataset is a fundamental prerequisite for applying the Paired Sample t-Test.

Table 4.7 Pretest and Posttest Hypothesis Test Results

Data	Tcount	Df	TTable	Information
Pretest Posttest	12,463	29	1,69913	12,463 > 1,69913 = H0 is rejected and H1 is accepted.

Source: IBM SPSS Statistic Version 25

The table above indicates a significant difference in student creativity before and after the implementation of the project-based learning model in fifth-grade students at SDN 127 Inpres Moncongloe, Maros Regency. If the tcount value is 1.69913 compared to the ttable value with = 5% and df = 29, we get a ttable of 12.463. So tcount has a greater value than ttable (1.69913 > 12.463). If tcount > ttable it can be said that there is a striking difference. Before and after using this tool, students' speaking abilities differed significantly from the project-based learning model, indicating that there was an influence of using the project-based learning model on the creativity of class V students at SDN 127 Inpres Moncongloe, Maros Regency.

4. CONCLUSIONS AND SUGGESTIONS

The research conducted at SDN 127 Inpres Moncongloe, Maros Regency, concludes that applying the Project Based Learning (PjBL) model with comic media significantly improves the character development of Pancasila students in fifth-grade PPKn subjects

The results of statistical tests show an increase in the average student score from 53.95 (pretest) to 80.20 (posttest) after implementing this learning model. The t test analysis produces a value of tcount (12.463) > ttable (1.69913), which means there is a significant difference between before and after treatment.

Through implementing the comic-based PjBL model, students become more active, creative, independent, and able to work together in completing learning projects. Comic media helps students understand the concepts and values of Pancasila in a more interesting and contextual way. Apart from that, it is also easier for teachers to instill character values such as mutual cooperation, independence and creativity through project activities visualized in comic form.

Thus, it can be concluded that the comic-based Project Based Learning model is an innovative and effective learning alternative in cultivating the character of Pancasila students in elementary schools, especially in Civics learning. Teachers are advised to continue to develop and integrate

visual media such as comics in the learning process so that character values are more easily understood and internalized by students.

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