



The Implementation of Problem-Based Learning (PBL) Assisted by Baamboozle Interactive Learning Media on the Learning Outcomes of Fifth-Grade Students in Pancasila Education at SD Negeri 39 Lubuklinggau

Desiana Awaliya Putri Ariska^{1*}, Andriana Sofiarini¹, Tidi Maharani¹

¹Pendidikan Guru Sekolah Dasar, Universitas PGRI Silampari, Lubuk Linggau, Indonesia.

DOI: <https://doi.org/10.29303/goescienceed.v7i4.3182>

Article Info

Received: August, 12th 2026

Revised: August, 31st 2026

Accepted: September, 11th 2026

Abstract: This study aims to determine the mastery of Pancasila Education learning outcomes among Grade V students at SD Negeri 39 Lubuk Linggau following the implementation of the Problem-Based Learning (PBL) model assisted by Baamboozle interactive learning media. A quantitative research method was employed, utilizing a pre-experimental design—specifically, the one-group pretest-posttest design. The population consisted of all Grade V students at SD Negeri 39 Lubuk Linggau, while the sample comprised 25 students selected using the saturated sampling technique. Data collection involved a learning outcome test consisting of 16 multiple-choice questions, which were validated and demonstrated a reliability coefficient of 0.95 (categorized as very high). Data analysis was conducted through normality testing and hypothesis testing using the t-test. The results indicate that the data were normally distributed and the hypothesis test showed the calculated t-value exceeded the t-table value; thus, the research hypothesis was accepted. Consequently, it can be concluded that the Pancasila Education learning outcomes of Grade V students at SD Negeri 39 Lubuk Linggau, following the implementation of the PBL model assisted by Baamboozle interactive learning media, achieved significant mastery.

Keywords: Baamboozle, Learning Outcomes, Pancasila Education, Problem-Based Learning (PBL), Mastery of Learning Outcomes.

Citation: Ariska, D. A. P., Sofiarini, A., & Maharani, T. (2026). The Implementation of Problem-Based Learning (PBL) Assisted by Baamboozle Interactive Learning Media on the Learning Outcomes of Fifth-Grade Students in Pancasila Education at SD Negeri 39 Lubuklinggau. *Jurnal Pendidikan, Sains, Geologi, Dan Geofisika (GeoScienceEd Journal)*, 7(4), 5446–5451. <https://doi.org/10.29303/goescienceed.v7i4.3182>

Introduction

Education plays an important role in developing quality human resources through the development of students' knowledge, attitudes, and skills. The success of education cannot be separated from the implementation of learning that actively involves students and provides meaningful learning experiences. Sanjaya (2021:21) explains that learning which is still conducted in a one-way manner can cause

students to become less involved in the learning process, which may affect their learning outcomes. Therefore, the learning process needs to be designed by considering students' characteristics and providing opportunities for them to actively participate in learning activities.

One of the subjects that plays an important role in students' character development is Pancasila Education. Learning Pancasila Education is not only

Email: dwlytsk@gmail.com

aimed at providing an understanding of Pancasila values but also at developing attitudes and behaviors that are in accordance with these values in everyday life. Ahmad (2021:183) states that Pancasila Education plays an important role in instilling character, national values, and morality in students from the elementary school level. Therefore, Pancasila Education needs to be implemented contextually and involve students actively so that the material is not only understood theoretically but can also be applied in everyday life.

However, the implementation of Pancasila Education in elementary schools still faces several problems, particularly those related to student involvement in the learning process. Rusman (2017:63) explains that learning that does not sufficiently involve students can create a monotonous learning environment and cause students to experience difficulties in understanding the material. In line with this, Uno (2020:76) states that learning dominated by teachers can cause students to be less active and easily become bored. Such conditions can affect students' understanding and the achievement of learning mastery.

These problems were also identified through observations conducted during Pancasila Education learning in Grade V at SD Negeri 39 Lubuklinggau. The observation results showed that some students had low interest in learning and tended to be passive during the learning process. The less interactive classroom situation caused some students to pay less attention to the teacher's explanations and experience difficulties in understanding the material. Based on interviews with the classroom teacher, the school has implemented the Merdeka Curriculum; however, some students had not yet achieved the established learning mastery criteria in Pancasila Education. This condition indicates the need for learning that can involve students more actively and create a more engaging learning environment.

One learning model that can be used to address these problems is *Problem Based Learning* (PBL). This model places problems as the starting point of the learning process, directing students to identify problems, gather information, discuss, and formulate solutions. Rusman (2017:230) explains that *Problem Based Learning* provides opportunities for students to become involved in problem-solving activities and construct knowledge through learning experiences. The implementation of this model provides space for students to participate in learning while developing critical thinking and collaborative skills.

In addition to the learning model, the use of appropriate learning media is also needed to support student involvement. Arsyad (2019:20) states that learning media can help clarify the presentation of material, stimulate students' motivation, and create a

more engaging learning process. One interactive medium that can be used is *Baamboozle*. This medium is based on educational games that can be presented in the form of quizzes and group activities, allowing students to participate directly in learning activities. The use of *Baamboozle* as supporting media for PBL provides opportunities for students to interact, discuss, and respond to questions more actively.

Several previous studies have shown that the use of *Baamboozle* and the implementation of PBL are related to students' learning outcomes. Cahaya dkk. (2025) developed *Baamboozle*-based learning media for Pancasila and Civics subjects and showed that the media could be used in the learning process. Sari and Ramadan (2023) examined the implementation of PBL assisted by *Baamboozle* in relation to elementary students' learning outcomes. Maulida dkk. (2025) also reported that the use of *Baamboozle* could support student involvement and create a more interactive learning environment. Ayu (2025) found an effect of PBL assisted by *Baamboozle* on elementary students' learning outcomes. These findings indicate that PBL and *Baamboozle* have potential to support the learning process; however, their specific implementation in Grade V Pancasila Education with a focus on learning mastery still requires further investigation.

Based on these problems, the implementation of the *Problem Based Learning* model assisted by *Baamboozle* interactive learning media is considered relevant to Pancasila Education learning. The combination of the model and media provides opportunities for students to engage in problem-solving activities while participating in interactive learning activities. Therefore, this study aims to determine the mastery of Pancasila Education learning outcomes among Grade V students at SD Negeri 39 Lubuklinggau after the implementation of the *Problem Based Learning* (PBL) model assisted by *Baamboozle* interactive learning media.

Method

Research Design

This study employed a quantitative approach with an experimental method. The experimental method used was a quasi-experimental method with a one-group pretest-posttest design. The design consisted of a pretest administered before the treatment, the implementation of the Problem-Based Learning (PBL) model assisted by *Baamboozle* interactive learning media, and a posttest administered after the treatment.

Table 1: One-Group Pretest-Posttest Design

Pretest	Treatment	Posttest
O ₁	X	O ₂

Note: O₁ = pretest; X = treatment using Baamboozle interactive media; O₂ = posttest.

Research Setting and Participants

The research was conducted at SD Negeri 39 Lubuk Linggau, located on Jl. Yosudarso, Taba Jemekeh, Lubuk Linggau Timur I, during the second semester of the 2025/2026 academic year.

The population consisted of 50 fifth-grade students from classes V.A and V.B. Class V.A consisted of 25 students, while class V.B consisted of 25 students. The sample consisted of 25 students from class V.A, comprising 16 male students and 9 female students. The thesis states that the sampling technique used was random sampling.

Table 2: Population of the Study

Class	Male	Female	Total
V.A	10	15	25
V.B	16	9	25
Total	26	24	50

Source: SD Negeri 39 Lubuk Linggau.

Data Collection

Data collection involved observation, interviews, documentation, and learning-outcome tests. Observation was conducted to observe teacher activities, student participation, the use of learning media, and classroom interaction during the learning process. Interviews were used to obtain information through verbal data collection, while documentation was used as supporting research evidence.

The main instrument used to measure students' Pancasila Education learning outcomes was a multiple-choice test. The research instrument consisted of 16 valid multiple-choice items, with a reliability coefficient of 0.95, categorized as very high reliability.

Research Procedure

The research began with the administration of a pretest to determine students' initial learning outcomes. The treatment was then implemented using the PBL model assisted by Baamboozle interactive learning media. The treatment was conducted in two learning sessions. The learning activities followed the PBL syntax and involved students in problem-solving activities, group discussions, and learning tasks using Baamboozle. After the treatment, students were given a posttest to determine their learning outcomes after the intervention.

Data Analysis

The data were analyzed through a normality test and hypothesis testing. The normality test was used to

determine whether the research data were normally distributed. After the normality requirement was met, hypothesis testing was conducted using the *t*-test.

The research hypothesis stated that the learning outcomes of fifth-grade students in Pancasila Education after the implementation of the PBL model assisted by Baamboozle would achieve significant mastery. The decision criterion used in the study was based on the comparison between the calculated *t* value and the *t* table value.

For the international journal, I recommend retaining two main tables in the Methods section:

1. Table 1 – One-Group Pretest-Posttest Design, because it explains the experimental research design.
2. Table 2 – Population of the Study, because it clearly presents the population and sample composition.

The detailed instrument-testing tables from the thesis do not need to be reproduced individually in the journal. The essential information can be presented concisely in the text: 16 valid items with a reliability coefficient of 0.95 (very high).

Result and Discussion

Pretest Results

The pretest was administered to 25 fifth-grade students before the implementation of the Problem-Based Learning (PBL) model assisted by Baamboozle interactive learning media. The pretest was conducted to determine the students' initial learning outcomes in Pancasila Education. The results showed that the mean score was 51.84, with a standard deviation of 14.62. The lowest score was 25, while the highest score was 81. Only 3 students (12%) achieved the learning mastery criterion, while 22 students (88%) did not achieve mastery.

Table 3: Pretest Results

Indicator	Result
Number of students	25
Mean	51.84
Standard deviation	14.62
Minimum score	25
Maximum score	81
Students achieving mastery	3 (12%)
Students not achieving mastery	22 (88%)

Source: Research data.

These results indicate that the students' initial learning outcomes were still low, as most students had not achieved the established learning mastery criterion. The thesis therefore describes the implementation of PBL assisted by Baamboozle as an effort to improve students' learning outcomes.

Posttest Results

After the pretest, the students participated in learning activities using the PBL model assisted by Baamboozle interactive learning media for two meetings. The learning activities followed the PBL stages and involved students in problem-solving, group discussions, and learning tasks using Baamboozle. After the treatment was completed, the students were given a posttest to determine their learning outcomes.

The posttest results showed a mean score of **80.68**, with a standard deviation of **9.61**. The lowest score was **63**, while the highest score was **100**.

Table 4: Posttest Results

Indicator	Result
Number of students	25
Mean	80.68
Standard deviation	9.61
Minimum score	63
Maximum score	100

Source: Research data.

Compared with the pretest mean of 51.84, the posttest mean increased to 80.68. This shows an increase of **28.84 points** in the average learning outcome after the implementation of PBL assisted by Baamboozle.

Normality Test

The normality test was conducted on the *pretest* and *posttest* data before hypothesis testing. The results showed that the calculated chi-square value for the *pretest* data was 10.2270, which was lower than the chi-square table value of 11.070. Similarly, the calculated chi-square value for the *posttest* data was 6.9912, which was also lower than the chi-square table value of 11.070. Since the calculated chi-square values were lower than the chi-square table value, both the *pretest* and *posttest* data were normally distributed at a significance level of $\alpha = 0.05$. Therefore, the data met the normality requirement for subsequent hypothesis testing.

Hypothesis Testing

Hypothesis testing was conducted using a one-sample *t*-test on the posttest data. The test was used to determine whether the learning outcomes of fifth-grade students after the implementation of PBL assisted by Baamboozle had achieved significant mastery compared with the established KKTP of 70.

The calculation produced a *t*count of 5.56, with 24 degrees of freedom, while the *t*table was 1.71. Since *t*count (5.56) was greater than *t*table (1.71), H_0 was rejected and H_a was accepted.

Table 5: Hypothesis Test Results

Test	<i>t</i> count	df	<i>t</i> table	Decision
One-sample <i>t</i> -test	5.56	24	1.71	H_0 rejected; H_a accepted

Source: Research data.

The hypothesis-testing result indicates that the Pancasila Education learning outcomes of fifth-grade students after the implementation of the PBL model assisted by Baamboozle were **significantly mastered**. This is consistent with the conclusion stated in the thesis that the implementation of PBL assisted by Baamboozle resulted in significant learning mastery.

Priority Tables for the Journal

For the Results section of the international journal, the most important tables are:

1. Pretest Results – to show students' initial learning outcomes.
2. Posttest Results – to show learning outcomes after the treatment.
3. Hypothesis Test Results – the most important statistical table because it directly establishes the research conclusion.

The detailed frequency-distribution and calculation tables from the thesis do not need to be reproduced in the article unless the journal template specifically requires them.

Discussion

The findings of this study indicate that the implementation of the *Problem-Based Learning* (PBL) model assisted by Baamboozle interactive learning media resulted in significant mastery of Pancasila Education learning outcomes among fifth-grade students at SD Negeri 39 Lubuk Linggau. The research was conducted through a pretest, two learning sessions using PBL assisted by Baamboozle, and a posttest.

The students' initial learning outcomes were still relatively low. The pretest mean was 51.84, with a standard deviation of 14.62, a minimum score of 25, and a maximum score of 81. Only three students (12%) achieved mastery, while 22 students (88%) did not achieve mastery. These results indicated that students' initial understanding of Pancasila Education material still needed to be improved.

After the treatment, the posttest mean increased to 80.68, with a standard deviation of 9.61, a minimum score of 63, and a maximum score of 100. The increase in the mean score from 51.84 to 80.68 indicates a difference of 28.84 points between the initial and final learning outcomes.

The improvement in learning outcomes was accompanied by changes in students' classroom participation. During the first meeting, some students were still adapting to the stages of PBL because they

were not accustomed to problem-solving activities in groups. Some students were also less confident in expressing their opinions and were still adapting to the use of Baamboozle. Nevertheless, students began to show greater enthusiasm, improved communication, and increased willingness to participate in discussions.

The second meeting showed better learning activities than the first meeting. Students had become more familiar with the learning stages and were able to identify problems, search for relevant information, discuss with group members, and present their problem-solving results more confidently. The teacher functioned more as a facilitator, while students became the center of the learning activities in accordance with the characteristics of PBL.

The use of Baamboozle also became more optimal during the second meeting. Students showed greater enthusiasm because they had become familiar with the media. Interaction among students became more active, group cooperation improved, and the learning atmosphere became more conducive. Students were not only focused on obtaining correct answers but also began to provide reasons for their answers based on group discussions.

The results of the hypothesis test further support the research findings. The one-sample *t*-test produced a *t*count of 5.56, with *df* = 24 and a *t*table of 1.71 at $\alpha = 0.05$. Because *t*count (5.56) was greater than *t*table (1.71), H_0 was rejected and H_a was accepted. Thus, the thesis concludes that the implementation of PBL assisted by Baamboozle significantly achieved mastery of Pancasila Education learning outcomes among the fifth-grade students.

The findings are also discussed in relation to previous studies included in the thesis. The thesis refers to research by Maulida dkk. (2025), which reported that the use of Baamboozle increased student participation, supported understanding of learning material, and created a more interactive learning atmosphere. The thesis also cites Ayu (2025), whose research found a significant effect of PBL assisted by Baamboozle on elementary students' learning outcomes.

Overall, the findings demonstrate that the implementation of PBL assisted by Baamboozle created a learning process that was more active, meaningful, and student-centered. Students became more active in discussions, more confident in expressing their opinions, and more capable of relating the learning material to the problems presented. The thesis therefore concludes that the implementation of PBL assisted by Baamboozle not only supported students' learning activity but also helped them develop a more meaningful understanding of Pancasila Education

Conclusion

Based on the results of the study, the implementation of the *Problem-Based Learning* (PBL) model assisted by Baamboozle interactive learning media had a positive effect on the learning outcomes of fifth-grade students in Pancasila Education at SD Negeri 39 Lubuk Linggau. The students' mean score increased from 51.84 in the pretest to 80.68 in the posttest, indicating an improvement of 28.84 points after the implementation of the treatment.

The hypothesis testing using a one-sample *t*-test resulted in a *t*count of 5.56, with *df* = 24, while the *t*table was 1.71 at $\alpha = 0.05$. Since *t*count (5.56) > *t*table (1.71), H_0 was rejected and H_a was accepted. Therefore, based on the hypothesis-testing results reported in the thesis, the learning outcomes of fifth-grade students in Pancasila Education after the implementation of the PBL model assisted by Baamboozle achieved significant mastery.

The implementation of PBL assisted by Baamboozle also supported a more active and student-centered learning process. Students became more involved in identifying problems, discussing solutions, expressing their opinions, working collaboratively, and participating in interactive learning activities. Thus, the combination of the PBL model and Baamboozle interactive media supported the improvement of students' Pancasila Education learning outcomes.

Acknowledgements

The authors would like to express their sincere gratitude to all parties who supported and contributed to the completion of this research. Special appreciation is extended to the principal and teachers of SD Negeri 39 Lubuk Linggau for providing permission, support, and assistance throughout the research process. The authors also gratefully acknowledge the fifth-grade students who participated in the study and contributed to the data collection process. The authors further express their appreciation to all parties who provided guidance, assistance, and support during the implementation of the research and the preparation of this article. Their contributions were valuable to the successful completion of this study.

References

- Arsyad, A. (2019). *Media pembelajaran*. Rajawali Pers.
- Arsyad, A. (2021). *Media pembelajaran*. Raja Grafindo Persada.
- Asroni, A., & Hakim, A. L. (2021). *Pendidikan Pancasila*. UII Press.
- Ayu. (2025). Pengaruh model *Problem Based Learning* (PBL) berbantuan media *Baamboozle* terhadap

- hasil belajar peserta didik di kelas IV sekolah dasar. *Jurnal Pendidikan Dasar*, 10(2), 45–55.
- Cahaya, dkk. (2025). Development of *Baamboozle*-based learning media on Pancasila and civics subjects in class V. *Journal of Elementary Education*, 9(1), 12–22.
- Jakni. (2016). *Metodologi penelitian eksperimen*. Alfabeta.
- Maulida, dkk. (2025). Meningkatkan hasil belajar siswa melalui media *Baamboozle* pada pembelajaran Pendidikan Pancasila. *Jurnal Pendidikan dan Pembelajaran*, 8(3), 101–110.
- Rusman. (2017). *Belajar dan pembelajaran berorientasi standar proses pendidikan*. Kencana.
- Sanjaya. (2021). *Strategi pembelajaran berorientasi standar proses pendidikan*. Kencana.
- Sari, N., & Pratama, R. (2023). *Peran Pendidikan Pancasila dalam menghadapi globalisasi*. Deepublish.
- Sari, N., & Ramadan, Z. H. (2023). Pengaruh model *Problem Based Learning* (PBL) berbantuan media *Baamboozle* terhadap hasil belajar PKn peserta didik sekolah dasar. *Jurnal Basicedu*.
- Sugiyono. (2024). *Metode penelitian pendidikan*. Alfabeta.
- Uno. (2020). *Model pembelajaran: Menciptakan proses belajar mengajar yang kreatif dan efektif*. Bumi Aksara