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The Effect of the Problem-Based Learning Model Assisted by Flipbook Media on Learning Outcomes and Critical Thinking Skills of Grade VI Students in Pancasila Education at Public Elementary Schools

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ABSTRACT: The learning of Pancasila Education at Kunir Lor 01 Public Elementary School still faces several challenges. Student learning outcomes have not yet reached optimal levels, and their critical thinking skills remain relatively low. The learning process is still dominated by teacher-centered approaches, with heavy reliance on textbooks as the sole teaching resource, while the use of innovative learning models and media remains limited. Addressing these issues requires the implementation of learning strategies that can actively engage students and foster higher-order thinking. This research aims to examine the influence of the Problem-Based Learning (PBL) model supported by Flipbook media in improving student learning outcomes and critical thinking skills. The study employed a true experimental design with a Pretest-Posttest Control Group Design involving grade VI students at Kunir Lor 01 Public Elementary School. The research instrument consisted of tests administered both before and after the intervention. Data analysis was conducted using the independent samples t-test with the assistance of SPSS 27 for Windows. The results demonstrated that students in the experimental group, who were taught using the PBL model integrated with Flipbook media, achieved higher average scores in both learning outcomes and critical thinking compared to the control group. Hypothesis testing further confirmed these findings, showing significance values of 0.000 for learning outcomes and 0.006 for critical thinking skills, both below the threshold of 0.05. These results indicate significant differences between the experimental and control groups. In conclusion, the integration of the PBL model with Flipbook media has a positive and significant effect on enhancing both the learning outcomes and critical thinking skills of elementary school students. This suggests that innovative and student-centered learning approaches are essential to improve the quality of Pancasila Education.

KEYWORDS: Critical Thinking Skills, Flipbook Media, Learning Outcomes, PBL Model.

INTRODUCTION

Learning is a pedagogical process that should be designed to provide meaningful, enjoyable experiences tailored to the needs and characteristics of students. In this way, learners can fully engage with the lessons delivered by the teacher and develop their learning outcomes, thereby achieving higher learning standards. As Supriatna (2020) explained, the application of the Problem-Based Learning (PBL) model can enhance learning outcomes, increase teacher and student activity, improve teachers' ability to manage instruction, and foster positive student responses during teaching and learning activities. Problem-Based Learning assisted by Flipbook media is a student-centered instructional model in which the learning process begins by presenting a problem to be analyzed and solved collaboratively in groups.

Learning outcomes are influenced by several factors, including: (a) Knowledge, understanding of the subject, familiarity, awareness, or comprehension of content involving facts, information, descriptions, or skills gained through experience or education; (b) Cognitive skills, intellectual abilities that involve applying knowledge into practice and solving problems; (c) Practical skills, the ability to design and conduct experiments; and (d) General skills**,** problem-solving and essential learning competencies (Mahajan, 2017). At Kunir Lor 01 Public Elementary School, students' learning outcomes in Pancasila Education remain below the expected level. Based on observations from the summative end-of-semester assessment in Grade VI, 69.2% of students (equivalent to 18 students) scored below the minimum mastery criterion (KKM), which was set at 75. This indicates that student achievement in Pancasila Education at Kunir Lor 01 Public Elementary School requires further investigation.

According to Dermawan et al. (2023), critical thinking skills in Pancasila Education are essential for addressing the rapid development of science and technology. Such skills can be fostered through the use of Problem-Based Learning during instructional

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activities, making students more active learners. Based on this description, it can be inferred that students' critical thinking ability as a whole still requires deeper exploration. The values of Pancasila, when applied to critical thinking, involve processing information both qualitatively and quantitatively, as building knowledge requires evaluation and conclusion-making. Therefore, in responding to opinions, students must think rationally and validly (Muna'iah et al., 2023). Research conducted by Anjela (2024) showed that the use of Flipbook media had a significant effect on elementary students' critical thinking skills. Similarly, Sari (2024) reported that Flipbooks had a positive and significant impact on student learning outcomes. Chaerunnisa (2024) also found that learning with Flipbook media significantly improved elementary students' performance. In addition, Anjarsari (2022) confirmed that the PBL model assisted by Flipbook media positively influenced elementary students' critical thinking skills.

Based on these findings, further study is needed to improve the quality of Pancasila Education. Therefore, this research is entitled "The Effect of the Problem-Based Learning Model Assisted by Flipbook Media on the Learning Outcomes and Critical Thinking Skills of Grade VI Students in Pancasila Education at Public Elementary Schools." The research problems are formulated as follows: Does the PBL model assisted by Flipbook media have a significant effect on the learning outcomes of Grade VI students in Pancasila Education? Does the PBL model assisted by Flipbook media have a significant effect on the critical thinking skills of Grade VI students in Pancasila Education? The objectives of this study are: To examine the effect of the PBL model assisted by Flipbook media on the learning outcomes of Grade VI students in Pancasila Education. To examine the effect of the PBL model assisted by Flipbook media on the critical thinking skills of Grade VI students in Pancasila Education.

METHOD RESEARCH

This study employed a quasi-experimental design with a pretest-posttest control group format. The instruments used to measure students' learning outcomes and critical thinking skills were tests, expressed in the form of pretest and posttest scores. Both the experimental and control groups were first given a pretest to assess their initial condition. The experimental group then received treatment through the application of the Problem-Based Learning (PBL) model assisted by Flipbook media, while the control group was taught using conventional methods. After the intervention, both groups were administered a posttest using the same instrument as in the pretest. The research sample consisted of Grade VI-A and VI-B students at Kunir Lor 01 Public Elementary School, with 26 students in each class. The assignment of experimental and control groups was conducted randomly through a lottery technique, resulting in Class VI-A as the experimental group and Class VI-B as the control group. During implementation, the researcher applied different instructional strategies: the experimental group was taught using the PBL model integrated with Flipbook media, while the control group received conventional instruction. The collected data were then processed using SPSS 27 for Windows to conduct statistical analyses, and finally, the results were interpreted and discussed.

RESULTS

The Effect of the Problem-Based Learning Model Assisted by Flipbook Media on Student Learning Outcomes

Based on the collected data and statistical analysis, the learning outcomes of the control and experimental groups were obtained. The data were then analyzed using a *t*-test. A comparison of the pretest and posttest results of students in the experimental and control groups is presented below.

Table 1. Student Learning Outcomes in the Pretest and Posttest of the Experimental and Control Group

Data	*Pretest*		*Posttest*	
	Eksperimen	Kontrol	Eksperimen	Kontrol
Skor Tertinggi	85	90	95	90
Skor Terendah	50	50	75	70
Rata-rata	68,27	65,58	85,19	77,69

(**Source:** Processed by the researcher, 2025)

Based on the comparison data in Table 1, the average pretest score of the experimental class was 68.27, which increased to 85.19 in the posttest. Meanwhile, the control class also showed an improvement, with the average pretest score rising from 65.58 to 77.69 in the posttest. In the experimental class, the pretest average was 68.27, with the highest score being 85 and the lowest 50. In

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the control class, the pretest average was 65.58, with the highest score of 90 and the lowest 50. These results indicate that before the treatment, both groups had relatively similar abilities.The posttest average score of the experimental class (85.19) was higher than that of the control class (77.69). Furthermore, the experimental group achieved a highest score of 95 and a lowest score of 75, which were both higher than the control group's highest score of 90 and lowest score of 70. These findings show that the experimental group experienced a significant improvement after being taught using the Problem-Based Learning model assisted by Flipbook media, compared to the control group that followed conventional teaching. This supports the findings of Utami and Ansori (2025), who stated that the PBL model assisted by Flipbook media is highly effective in improving student learning outcomes.

Normality testing was conducted to determine whether the score distribution for each variable was normal. The data tested included pretest and posttest scores of the experimental and control classes. The normality test was calculated using the Kolmogorov–Smirnov method with the help of SPSS 27 for Windows. The results of the normality test for students' learning outcomes in the experimental and control classes are presented in Table 2.

Table 2. Normality Test of Student Learning Outcomes in the Experimental and Control Classes (Kolmogorov–Smirnov)

Kelas	df	Sig.	Keterangan
Pretest Kelas Kontrol	26	0,086	Data berdistribusi normal
Posttest Kelas Kontrol	26	0,200	Data berdistribusi normal
Pretest Kelas Eksperimen	26	0,164	Data berdistribusi normal
Posttest Kelas Eksperimen	26	0,108	Data berdistribusi normal

(**Source:** Processed by the researcher, 2025)

Referring to Table 2, the results of the normality test show that the pretest scores of the control class had a significance value of 0.086, while the pretest scores of the experimental class had a significance value of 0.164. Since both significance values were greater than 0.05, the data were proven to be normally distributed. Similarly, the posttest scores of the control class had a significance value of 0.200, and the posttest scores of the experimental class had a significance value of 0.108. These results also indicate that the data were normally distributed, as the significance values exceeded 0.05.

Following the normality test, a homogeneity test was conducted. This test was used to determine whether the samples had equal variances. The data tested included the pretest and posttest scores of both the experimental and control classes. Homogeneity was analyzed using Levene's Test of Homogeneity of Variances with the help of **SPSS 27 for Windows**. The results of the homogeneity test for student learning outcomes in the experimental and control groups are presented in Table 3.

Table 3. Homogeneity Test of Student Learning Outcomes in the Experimental and Control Classes

Nilai	Levene Statistic	df1	df2	Sig.	Keterangan
Pretest	0,156	1	50	0,695	Homogen
Posttest	1,138	1	50	0,291	Homogen

(**Source:** Data diolah peneliti, 2025)

Based on Table 3, the results of the homogeneity test show that the pretest scores of the experimental and control classes obtained a significance value of 0.695 (> 0.05). This indicates that the pretest learning outcomes of both groups were homogeneous. Similarly, the posttest scores of the experimental and control classes yielded a significance value of 0.291 (> 0.05), which also indicates that the posttest learning outcomes of both groups were homogeneous.

To determine whether the Problem-Based Learning (PBL) model assisted by Flipbook media had a significant effect on the learning outcomes of Grade VI students in the topic *"Norms, Rights, and Obligations in Nationhood"* in Pancasila Education, a hypothesis test was conducted. The hypothesis testing used an Independent Samples *t*-Test with the assistance of SPSS 27 for Windows**.** The results of the hypothesis test for the posttest learning outcomes of the experimental and control groups are presented in Table 4.

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Table 4. Hypothesis Test of Student Learning Outcomes

	Kelas	N	Mean	Std. Deviation	Std. Error Mean
Hasil Belajar	Kontrol	26	77,69	6.361	1.247
	Eksperimen	26	85,19	6.705	1.315

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Hasil Belajar	Equal variances assumed	.156	.695	-4.138	50	.000	-7.500	1.813	-11.141	-3.859
	Equal variances not assumed			-4.138	49.862	.000	-7.500	1.813	-11.141	-3.859

Group Statistics

(**Source:** Researcher's Processed Data, 2025)

Based on Table 4, the results of the hypothesis test show a significance value (2-tailed) of 0.000, which is less than 0.05. This indicates that $H0_1$ is rejected and H_{a1} is accepted, meaning that there is a significant difference between the average learning outcomes of students in the control and experimental groups. Therefore, it can be concluded that the Problem-Based Learning (PBL) model assisted by Flipbook media has a significant effect on the learning outcomes of Grade VI students in Pancasila Education at the elementary school level.

The Effect of the Problem-Based Learning Model Assisted by Flipbook Media on Students' Critical Thinking Skills

Based on the data collected on students' critical thinking skills, a hypothesis test was conducted to determine the effect of the PBL model on students' critical thinking abilities. The results of this test are presented in the following table.

Table 5. Hypothesis Test of Students' Critical Thinking Skills

	Kelas	N	Mean	Std. Deviation	Std. Error Mean
Kemampuan Berpikir Kritis	Kontrol	26	76,69	9,578	1,878
	Eksperimen	26	84,04	8,729	1,712

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Hasil Belajar	Equal variances assumed	.028	.867	-2.890	50	.006	-7.346	2.542	-12.451	-2.241
	Equal variances not assumed			-2.890	49.575	.006	-7.346	2.542	-11.452	-2.240

(**Source:** Researcher's Processed Data, 2025)

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Referring to Table 5, the results of the hypothesis test show a significance value (2-tailed) of 0.006, which is less than 0.05. This indicates that $H0_2$ is rejected and H_{a2} is accepted, meaning that there is a significant difference between the average critical thinking skills of students in the control and experimental groups. Thus, it can be concluded that the Problem-Based Learning (PBL) model assisted by Flipbook media has a significant effect on the critical thinking skills of Grade VI students in Pancasila Education at the elementary school level.

DISCUSSION

The Effect of the Problem-Based Learning Model Assisted by Flipbook Media on Student Learning Outcomes

The improvement in student learning outcomes occurred as a result of implementing the Problem-Based Learning (PBL) model combined with Flipbook media, which encouraged students' active participation in solving problems during classroom activities. This was evident in the experimental class that received the treatment, where students showed high levels of enthusiasm in learning. As a result, the learning process became more engaging, and students actively worked to solve problems and complete the group tasks provided. This finding is consistent with Ayuningsih and Ansori (2025), who stated that effective learning supported by Flipbook media can significantly enhance student achievement. The use of Flipbook media also helps students strengthen their cognitive skills. Through learning activities with Flipbook media, students are exposed to the use of technology as a learning tool. Similarly, Ulfani et al. (2024) argued that Flipbook media effectively improves students' understanding and learning outcomes because of its visual appeal, clarity of content, and engaging nature.

Edray et al. (2024) also reported an increase in students' cognitive learning outcomes after the use of Flipbook media was introduced. In addition, research by Rahmadhini et al. (2025) confirmed a significant increase in students' average learning scores, as Flipbook media was able to enhance students' comprehension. Overall, the findings indicate that the PBL model assisted by Flipbook media has a significant positive effect on the learning outcomes of Grade VI students in Pancasila Education at the elementary school level.

The Effect of the Problem-Based Learning Model Assisted by Flipbook Media on Students' Critical Thinking Skills

In the implementation of learning in the experimental class, the instructional activities began with the presentation of real-life problems. Students worked collaboratively in groups to solve these problems and identify appropriate solutions. The application of the Problem-Based Learning (PBL) model enabled students to construct knowledge, enhance their skills, and gain valuable experiences in solving problems independently. As stated by Herzon et al. (2018), the use of PBL in accordance with its instructional syntax can train students to engage in higher-order thinking processes, particularly critical thinking. Similarly, Lismaya (2019) defined critical thinking as the activity of identifying problems by drawing on prior experiences and establishing connections to solve them in different contexts.

According to Wijaya et *al.* (2016), 21st-century education emphasizes learning competencies that demonstrate mastery of information and technology-based media. Thus, the implementation of Flipbook-assisted learning in the experimental class helped students develop critical thinking skills by integrating visually engaging and content-rich media. Overall, the results of this study confirm that the PBL model assisted by Flipbook media has a significant positive effect on the critical thinking skills of Grade VI students in Pancasila Education at the elementary school level.

CONCLUSION

Based on the results of data processing and analysis, the following conclusions can be drawn:

1. The Problem-Based Learning (PBL) model assisted by Flipbook media has a significant effect on students' learning outcomes in Pancasila Education. This is evidenced by the significant differences in learning outcomes between the control and experimental groups.
2. The Problem-Based Learning (PBL) model assisted by Flipbook media has a significant effect on students' critical thinking skills in Pancasila Education. This is evidenced by the significant differences in critical thinking skills between the control and experimental groups.

SUGGESTIONS

Based on the conclusions of this study, the following suggestions are proposed:

For teachers, the use of the Problem-Based Learning (PBL) model assisted by Flipbook media in Pancasila Education or other

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subjects is recommended as a strategy to address classroom challenges, particularly the low levels of student achievement and critical thinking skills. This approach is expected to enhance the overall quality of learning. The use of Flipbook media should also be adapted to the specific subject matter being taught to ensure its optimal effectiveness. For future researchers, this study may serve as a reference for further related investigations. It is recommended that future studies introduce innovations in the development of instructional models and interactive media to further improve student learning outcomes and critical thinking skills in elementary education.

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