Journal of General Education and Humanities
Vol. 5, No. 6, December 2026, pp. 7809 – 7822, https://doi.org/10.58421/gehu.v5i6.2386
ISSN 2963-7147

Effects of Problem-Based Learning Assisted by Cultural Diversity Encyclopedia Media on Third-Grade Students' Learning Achievement: A Quasi-Experimental Study

Nur Hidayatus Sholihah[1], Dzakiyah Ali Kusuma Pradani[2], Mohamad Zubad Nurul Yaqin[3], Luthfiya Fathi Pusposari[4]
[1,2,3,4]Faculty of Tarbiyah and Teacher Training, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia

Article Info

Article history:

Received 2026-11-11
Revised 2026-11-22
Accepted 2026-11-22

Keywords:

Problem Based Learning
Encyclopedia
Learning outcomes
Cultural diversity
Pancasila Education

ABSTRACT

Teaching cultural diversity in elementary schools often relies on teacher-centered instruction, with textbooks and student worksheets as the primary learning resources. This approach provides limited opportunities for students to actively explore and understand Indonesia's cultural diversity. Although previous studies have investigated Problem-Based Learning (PBL), cultural diversity learning media such as educational games, and encyclopedia media, research integrating PBL with an encyclopedia as an information resource for problem-solving activities remains limited. Therefore, this study aims to analyze the effectiveness of the PBL model assisted by the "Berbeda Itu Indah" encyclopedia on the learning outcomes of third-grade students at MI Diponegoro, Malang City. This study employed a quantitative approach with a quasi-experimental method using a nonequivalent control group design involving two existing classes without random assignment. The participants consisted of 55 students, comprising 29 students in the experimental group and 26 students in the control group. Data were collected through written cognitive tests administered as pretests and posttests. The "Berbeda Itu Indah" encyclopedia presents illustrated information and descriptions of traditional houses, traditional clothing, local foods, dances, regional languages, and traditional musical instruments from various regions of Indonesia. It served as an information resource during students' investigation and problem-solving activities within the PBL stages. Data analysis included descriptive statistics, N-Gain analysis, the Shapiro-Wilk normality test, Levene's test for homogeneity, and an Independent Samples t-Test. The results showed that the experimental group's mean posttest score was 80.34, compared with 61.73 in the control group. The average N-Gain scores were 0.6862 and 0.3832, respectively, both classified as moderate. Hypothesis testing revealed a statistically significant difference in learning outcomes ($t = -5.855$; $p < 0.001$). These findings indicate that PBL assisted by the "Berbeda Itu Indah" encyclopedia was associated with better learning outcomes in cultural diversity lessons than conventional instruction.

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

Corresponding Author:

Nur Hidayatus Sholihah1
Faculty of Tarbiyah and Teacher Training, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia
Email: dyayatus@gmail.com

https://doi.org/10.58421/gehu.v5i6.2386

1. INTRODUCTION

Learning achievement is an important indicator of educational success because it reflects the extent to which students have achieved predetermined learning objectives. Learning outcomes encompass the development of knowledge, attitudes, and skills acquired through the learning process [1]. However, these dimensions need to be distinguished in educational research because each requires different assessment approaches. In particular, cognitive learning outcomes refer to students' ability to understand, remember, and apply the knowledge gained during instruction. In this study, learning outcomes are specifically examined through the cognitive domain, as measured by written tests administered before and after the learning process. Therefore, improving students' cognitive achievement requires learning activities and instructional resources that are appropriate to their developmental characteristics and learning needs. Yonanda et al. demonstrated that multimedia-based interactive media can support elementary school students' motivation and learning outcomes [2]. These findings highlight the importance of selecting appropriate learning models and instructional media to create meaningful learning experiences.

However, the implementation of learning in elementary schools still faces challenges, particularly in teaching materials that require concrete understanding. Based on preliminary observations and interviews conducted at MI Diponegoro, Malang City, the teaching of Pancasila Education, particularly the topic of cultural diversity, remained predominantly teacher-centered. Learning resources were mainly limited to textbooks and student worksheets, resulting in students spending more time listening to teachers' explanations, taking notes, and answering questions than actively exploring the learning materials. This condition provided limited opportunities for students to investigate cultural information, discuss differences, and construct their own understanding. The initial learning assessment also indicated relatively low average pretest scores, namely 38.97 in the experimental class and 38.27 in the control class. These scores reflected the students' initial cognitive performance before the instructional treatment. Such conditions indicate the need for learning approaches that provide more concrete information and encourage students to participate actively in understanding cultural diversity. Nakhmah and Fihayati found that the use of lapbook media in teaching cultural diversity could increase student engagement [3]. Meanwhile, Siregar et al. identified learning difficulties among students in understanding Indonesian cultural diversity [4]. Although these studies highlight the importance of instructional support in cultural diversity learning, further attention is needed to integrate instructional media with learning activities that actively engage students in exploring and understanding cultural information.

Cultural diversity education has an important role in helping elementary school students recognize the various cultural characteristics that form part of Indonesia's national identity. Through learning about traditional houses, clothing, regional languages, dances, local foods, and traditional musical instruments, students can develop an understanding of the cultural richness of different regions and recognize that these differences are part of a shared national identity. This understanding is relevant to the principle of Bhinneka Tunggal Ika, which emphasizes national unity amid cultural differences. Education about

cultural diversity is therefore not limited to introducing cultural facts but also provides a foundation for developing awareness, appreciation, and respect for different cultural backgrounds. Anwar and Sukirman found that local content curriculum could contribute to the development of cultural awareness and identity among Indonesian elementary school students [19]. Similarly, UNESCO emphasizes that intercultural education should recognize learners' cultural identities, introduce them to their cultural heritage, and develop respect for cultural differences [20]. Nevertheless, the development of cultural awareness, tolerance, and respect represents broader educational objectives that cannot be directly inferred from cognitive test scores alone. Accordingly, the present study focuses on measuring students' cognitive learning outcomes in understanding cultural diversity, rather than assessing changes in attitudes, values, or social competencies.

One instructional approach that can address the challenges of teacher-centered learning is Problem-Based Learning (PBL). PBL positions contextual problems as the starting point of the learning process, allowing students to construct knowledge through active investigation rather than relying solely on information delivered by teachers. Through this approach, students are encouraged to identify problems, organize learning activities, gather relevant information, discuss possible solutions, and present the results of their investigations. Collaboration during group discussions also provides opportunities for students to exchange ideas and develop their understanding through interaction with others. Hmelo-Silver explained that PBL facilitates knowledge construction through problem-solving, self-directed learning, and collaborative activities [16]. Schmidt et al. further emphasized that the learning process in PBL involves the activation of prior knowledge, elaboration of new information, and interaction among learners [17]. These characteristics make PBL relevant to cultural diversity learning because students can explore contextual problems related to cultural differences and use information obtained during investigations to formulate appropriate solutions. Research by Nurhalisa et al. demonstrated that PBL can improve students' learning outcomes in Pancasila Education at the elementary school level [7]. However, the effectiveness of problem-based activities also depends on the availability of relevant information resources that support students throughout the investigation process.

The implementation of PBL therefore needs to be supported by instructional media that are relevant to the learning materials and students' developmental characteristics. In Grade III Pancasila Education, cultural diversity encompasses various cultural elements, including traditional houses, traditional clothing, local foods, dances, regional languages, and musical instruments from different regions of Indonesia. Introducing these elements through systematically arranged visual and textual information can help students recognize cultural characteristics more concretely. Sari and Kumalasani emphasized the importance of integrating local culture into elementary school learning to make instructional materials more relevant to students' backgrounds and experiences [8]. Meanwhile, Novita and Prasetyaningtyas investigated PBL assisted by an educational Monopoly game incorporating cultural diversity and reported a significant effect on students' learning outcomes [9]. Although this study demonstrates the potential of combining PBL with culturally relevant media, the Monopoly game primarily functions as a game-based

instructional medium. In contrast, the present study utilizes an encyclopedia that provides systematically organized cultural information as a reference for students' investigation and problem-solving activities.

An encyclopedia is an instructional medium that presents information systematically through written descriptions and visual representations, enabling students to access relevant information about a particular subject. In this study, the instructional medium entitled "Berbeda Itu Indah" presents information about traditional houses, traditional clothing, local foods, dances, regional languages, and musical instruments from various regions across Indonesia. The combination of illustrations and descriptions is intended to help Grade III students identify and compare different cultural characteristics through more concrete and accessible representations. Erawati et al. demonstrated that encyclopedia media can be developed according to the instructional needs of elementary school students [10]. However, their research focused on developing encyclopedia media about the structure and function of plants to support critical thinking skills, rather than investigating its integration with PBL in cultural diversity learning. In the present study, the "Berbeda Itu Indah" encyclopedia does not merely function as supplementary reading material but serves as an information resource throughout the PBL process. Students use the encyclopedia to identify cultural information, investigate problems presented by the teacher, support group discussions, and formulate solutions based on the information obtained. Thus, the encyclopedia provides relevant content to support the investigative and problem-solving activities required by the PBL model.

Although previous studies have examined PBL implementation to improve learning outcomes [7], the use of instructional media in cultural diversity learning [3], [9], and the development of encyclopedia media for elementary school students [10], research specifically investigating the integration of PBL with encyclopedia media as an information resource for problem-solving activities in Grade III cultural diversity learning remains limited. Previous research by Nurhalisa et al. focused on the implementation of PBL in Pancasila Education learning without specifically examining its integration with encyclopedia media [7]. Novita and Prasetyaningtyas combined PBL with an educational Monopoly game on cultural diversity, which differs from the information-oriented function of the encyclopedia used in this study [9]. Meanwhile, Erawati et al. developed encyclopedia media for science learning materials, particularly plant structures and functions, without integrating the medium into a PBL-based instructional process [10]. These differences indicate an opportunity to investigate the combined implementation of a problem-based learning model and encyclopedia media in a specific cultural diversity learning context. Therefore, the distinctive contribution of this study lies in integrating the PBL model with the "Berbeda Itu Indah" encyclopedia, which functions as a structured visual and textual information resource to support students' investigation and problem-solving activities.

Based on the aforementioned discussion, this study aims to analyze the effect of the Problem-Based Learning model assisted by the "Berbeda Itu Indah" encyclopedia on the cognitive learning outcomes of Grade III students at MI Diponegoro, Malang City. By integrating contextual problem-solving activities with systematically presented cultural

information, this study is expected to provide an alternative approach to supporting cognitive learning achievement in Pancasila Education, particularly on the topic of Indonesian cultural diversity at the elementary school level.

2. METHOD

This study employed a quantitative approach using a quasi-experimental method with a nonequivalent control group design [11]. This design was selected because the participants were organized into previously established classroom groups, and individual students were not randomly assigned to the experimental and control conditions. Both groups received pretests before the instructional treatment and posttests after the learning process. Class III-A, consisting of 29 students, served as the experimental group and received instruction using the Problem-Based Learning (PBL) model assisted by the "Berbeda Itu Indah" encyclopedia. Class III-B, consisting of 26 students, served as the control group and participated in the regular instructional process.

The study was conducted at MI Diponegoro, Malang City, involving a total of 55 Grade III students. The initial cognitive characteristics of the two groups were examined using pretest scores. The experimental group obtained an average pretest score of 38.97, while the control group obtained an average of 38.27. These relatively similar mean scores provided a descriptive overview of the students' initial cognitive performance before the intervention. However, because the study employed intact classroom groups without random assignment, differences in students' characteristics and other contextual factors could not be entirely excluded.

The independent variable in this study was the implementation of the PBL model assisted by the "Berbeda Itu Indah" encyclopedia, while the dependent variable was students' cognitive learning outcomes in the cultural diversity topic of Pancasila Education. The instructional intervention in the experimental group was conducted over five learning meetings and followed the five stages of PBL proposed by Arends [12]: (1) orienting students to the problem, (2) organizing students to learn, (3) guiding individual and group investigations, (4) developing and presenting the results, and (5) analyzing and evaluating the problem-solving process.

During the problem-orientation stage, students were introduced to problems related to Indonesian cultural diversity to stimulate curiosity and identify the information needed to understand the problems. At the organizing stage, students were guided to understand the learning tasks and participate in group discussions. During the investigation stage, students used the "Berbeda Itu Indah" encyclopedia as an information resource to explore cultural information relevant to the problems presented. Subsequently, students discussed their findings, formulated solutions, and presented the results of their group investigations. In the final stage, students and teachers analyzed and evaluated the proposed solutions and the learning process.

The control group participated in the regular instructional process using textbooks and student worksheets as the primary learning resources. Both groups studied the same Grade III Pancasila Education topic concerning cultural diversity and completed pretests and posttests to measure their cognitive learning outcomes.

The instructional medium used in the experimental group was an encyclopedia entitled "Berbeda Itu Indah" (Unity in Diversity). It presented systematically arranged visual and textual information about Indonesian cultural diversity, including traditional houses, traditional clothing, local foods, regional dances, regional languages, and traditional musical instruments from various regions across Indonesia. The encyclopedia combined illustrations and written descriptions to help students identify and understand different cultural characteristics through concrete and accessible representations.

In the instructional process, the encyclopedia functioned not merely as supplementary reading material but also as an information resource during students' problem-solving activities. Students referred to its illustrations and descriptions when identifying cultural characteristics, gathering relevant information, discussing findings, and formulating solutions to the problems presented during PBL activities. Thus, the encyclopedia supported the investigation stage by providing structured cultural information that students could use throughout the learning process.

Data were collected using written cognitive tests administered before and after the instructional process as pretests and posttests. The test instruments were developed based on the Learning Outcomes, Learning Objectives, and Grade III Pancasila Education learning materials concerning cultural diversity. The tests were designed to measure students' cognitive understanding of the subject matter. Therefore, the dependent variable in this study was limited to cognitive learning outcomes and did not include the direct measurement of students' attitudes, values, or social competencies.

Data analysis was assisted by the Statistical Package for the Social Sciences (SPSS) and included descriptive statistics, N-Gain analysis, prerequisite testing, and hypothesis testing. Improvements in students' learning outcomes were calculated using the N-Gain formula:

$$N\text{-}Gain = \frac{\text{Posttest score} - \text{Pretest score}}{\text{Maximum score} - \text{Pretest score}}$$

The N-Gain scores were classified into three categories: high ($0.70 \leq$ N-Gain ≤ 1.00), moderate ($0.30 \leq$ N-Gain < 0.70), and low ($0.00 \leq$ N-Gain < 0.30).

The prerequisite tests consisted of the Shapiro-Wilk normality test and Levene's test for variance homogeneity. Data were considered normally distributed and homogeneous when the significance values were greater than 0.05. When both assumptions were satisfied, differences in learning outcomes between the experimental and control groups were analyzed using an Independent Samples t-Test at a significance level of 0.05. The null hypothesis (H_0) stated that there was no significant difference in students' learning outcomes between the two groups, whereas the alternative hypothesis (H_a) stated that a significant difference existed.

3. RESULTS AND DISCUSSION

3.1. Result

3.2. Description of Learning Outcomes

The students' cognitive learning outcomes were measured through pretests and posttests administered to both the experimental and control groups. Before the instructional

treatment, the experimental group obtained a mean pretest score of 38.97, while the control group obtained a mean score of 38.27. After the instructional process, the experimental group's mean posttest score increased to 80.34, whereas the control group's mean posttest score reached 61.73. The descriptive statistics of students' learning outcomes are presented in Table 1.

Table 1. Description of Learning Outcome Scores

Group	Test	N	Minimum	Maximum	Mean	Std. Deviation
Experimental	Pretest	29	5	75	38.97	17.80
	Posttest	29	60	100	80.34	10.93
Control	Pretest	26	15	70	38.27	14.28
	Posttest	26	35	85	61.73	12.64

The mean scores increased by 41.38 points in the experimental group and 23.46 points in the control group. The difference between the groups' initial mean scores was only 0.70 points. However, this descriptive similarity does not independently establish statistical equivalence between the two groups. Therefore, an independent comparison of pretest scores was conducted to examine their initial cognitive performance.

The pretest comparison produced an estimated t-value of 0.160 with a significance value of 0.874 ($p > 0.05$). This result indicated that there was no statistically significant difference between the initial mean scores of the experimental and control groups. Nevertheless, because the study involved previously established classroom groups without random assignment, the result should be interpreted as evidence of comparable initial cognitive performance rather than proof that the groups were equivalent in all characteristics.

1) Analysis of Learning Outcome Improvement

The improvement in students' learning outcomes was further examined using the normalized gain (N-Gain) analysis. The N-Gain scores were calculated individually for each student based on the difference between posttest and pretest scores relative to the maximum possible score. The mean N-Gain values presented in Table 2 represent the average of the individual students' N-Gain scores.

Table 2. Results of the N-Gain Test of Learning Outcomes

Group	N	Lowest N-Gain	Highest N-Gain	Average N-Gain	Std. Deviation	Category
Experimental	29	0.33	1.00	0.6862	0.16572	Moderate
Control	26	0.13	0.62	0.3832	0.13381	Moderate

The average N-Gain score of the experimental group was 0.6862, while that of the control group was 0.3832. Both groups were classified in the moderate improvement category. However, the experimental group obtained a higher average N-Gain, with a difference of 0.3030. The experimental group's N-Gain was also relatively close to the threshold of the high category (0.70), although it remained within the moderate category based on the established classification criteria.

An additional independent comparison of the individual N-Gain scores produced an estimated t-value of 7.405 with a significance level of $p < 0.001$. The estimated 95% confidence interval for the mean N-Gain difference was 0.221–0.385. These results suggest that the improvement in cognitive learning outcomes was statistically greater in the experimental group than in the control group. Nevertheless, the categorical N-Gain results should be interpreted alongside the numerical differences rather than as the sole indicator of instructional effectiveness.

3.3. 3) Prerequisite Test Results

a. Normality Test

The Shapiro–Wilk normality test was selected because the number of students in each class was less than 50. All significance values were greater than 0.05 (Table 3); therefore, the pretest and posttest data of both classes were normally distributed.

Table 3. Normality Test Results

Data Group	Statistic	df	Sig.	Description
Control Posttest	0.975	26	0.745	Normal
Control Pretest	0.928	26	0.070	Normal
Experimental Posttest	0.958	29	0.287	Normal
Experimental Pretest	0.970	29	0.568	Normal

b. Homogeneity Test

Levene's test was conducted to examine the homogeneity of variance between the experimental and control groups' posttest scores. The test produced a significance value of 0.374, which was greater than 0.05. Therefore, the assumption of equal variances was satisfied, allowing the independent samples t-test to be interpreted using the equal variances assumed condition.

Table 4. Homogeneity Test Results

Data Tested	Levene Statistic	df1	df2	Sig.	Description
Experimental and control class posttest (Based on Mean)	0.804	1	53	0.374	Homogeneous

3.4. 4) Hypothesis Test Results

The hypothesis was tested using an Independent Samples t-Test to determine whether there was a statistically significant difference in cognitive learning outcomes between the experimental and control groups. The analysis results are presented in Table 5.

Table 5. Hypothesis Test Results (Independent Samples t-Test

Variable	t	df	Sig. (2-tailed)	Decision
Learning Outcomes (Equal variances assumed)	−5.855	53	< 0.001	H_0 rejected, H_1 accepted

The independent samples t-test yielded a t-value of −5.855 with 53 degrees of freedom and a significance value of $p < 0.001$. Therefore, the null hypothesis was rejected, indicating a statistically significant difference in posttest scores between the experimental and control groups. The mean posttest difference was 18.614 points in favor of the experimental group. Based on the pooled standard deviation, the estimated 95% confidence interval for the mean difference was approximately 12.237–24.991 points. The calculated effect size was large (Cohen's d ≈ 1.58). These findings indicate that students who received PBL instruction assisted by the "Berbeda Itu Indah" encyclopedia achieved higher cognitive learning outcomes than those who participated in the regular instructional process.

3.5. Discussion

3.6. Implementation of the Problem-Based Learning Model Assisted by Encyclopedia Media

The implementation of the Problem-Based Learning model assisted by the "Berbeda Itu Indah" encyclopedia was conducted with Grade III-A students as the experimental group over five learning meetings. The instructional activities focused on cultural diversity in the Pancasila Education subject and followed the five stages of PBL proposed by Arends [12]. These stages consisted of orienting students to the problem, organizing students to learn, guiding individual and group investigations, developing and presenting the results, and analyzing and evaluating the problem-solving process.

At the problem-orientation stage, students were introduced to contextual problems related to Indonesian cultural diversity. These problems provided an initial stimulus for students to recognize differences among cultural elements and identify information needed to understand the issues presented. Contextual problems helped connect the learning materials with situations that students could recognize in their daily lives. This initial stage was important because it encouraged students to become actively involved in identifying what they needed to learn rather than relying exclusively on the teacher's explanations.

At the organizing stage, students were guided to understand the learning tasks and participate in group activities. The organization of collaborative learning provided opportunities for students to exchange initial ideas, discuss the problems, and determine the information they needed to investigate. Through these interactions, students could develop their understanding by considering information and perspectives shared by their peers.

During the investigation stage, students used the "Berbeda Itu Indah" encyclopedia as an information resource. The encyclopedia presented illustrations and written descriptions of traditional houses, traditional clothing, local foods, regional dances, regional languages, and traditional musical instruments from various regions of Indonesia. The combination of visual representations and structured information helped students identify cultural characteristics through more concrete examples. Instead of depending entirely on abstract verbal explanations, students could refer directly to the encyclopedia when searching for information relevant to the problems being investigated.

The next stage involved developing and presenting the results of the investigation. Students discussed the information they had obtained, formulated solutions based on their findings, and presented their group discussions. This activity allowed students to organize relevant information and communicate their understanding of cultural diversity. At the final stage, students and teachers analyzed and evaluated the proposed solutions and the learning process. Reflection at this stage helped students review the information they had obtained and relate their findings to the learning objectives.

The implementation of these five stages illustrates the complementary instructional functions of PBL and encyclopedia media. PBL provided the learning structure through contextual problems, investigation, collaboration, and reflection, while the encyclopedia supplied relevant cultural information that students could access during the investigation process. This relationship is consistent with Hmelo-Silver [16] and Schmidt et al. [17], who emphasize the role of problem-solving, prior knowledge activation, and collaborative knowledge construction in PBL. Furthermore, the availability of relevant information resources supports students in conducting investigations and developing solutions, as discussed by Sumantri [18].

1) The Effect of the Problem-Based Learning Model Assisted by Encyclopedia Media on Students' Learning Outcomes

The results indicated that the experimental group achieved higher cognitive learning outcomes than the control group. Although the initial mean pretest scores were relatively close, the experimental group obtained a posttest mean of 80.34, compared with 61.73 in the control group. The difference between the posttest means was 18.614 points, and the independent samples t-test indicated that this difference was statistically significant ($t = -5.855$; $p < 0.001$). The estimated effect size was large (Cohen's $d \approx 1.58$), suggesting a substantial difference in posttest performance between the two groups within the context of this study.

The N-Gain analysis also showed a higher average improvement in the experimental group (0.6862) than in the control group (0.3832). Although both groups were classified in the moderate category, the experimental group's mean N-Gain was close to the threshold of the high category. This result suggests that the combined implementation of PBL and encyclopedia media was associated with greater improvement in students' cognitive understanding of cultural diversity. However, the classification should remain moderate because the observed value did not reach the predetermined threshold of 0.70.

These findings are consistent with Latifa et al. [13], who reported higher N-Gain scores in students receiving differentiated PBL than in the comparison group. Similarly, Nurhalisa et al. [7] and Marlina et al. [14] reported improvements in Pancasila Education learning outcomes through PBL implementation. The findings are also supported by the second-order meta-analysis conducted by Koçoğlu and Kanadlı [15], which identified an overall effect of PBL on learning outcomes. Nevertheless, the present study extends these findings by examining PBL in combination with an encyclopedia specifically designed to provide cultural information during students' investigation and problem-solving activities.

The greater improvement observed in the experimental group can be understood through the learning activities implemented during the intervention. First, contextual problems introduced at the orientation stage provided a meaningful starting point for students to explore cultural diversity. Second, investigation activities encouraged students to search for relevant information rather than depend exclusively on teacher explanations. Third, group discussions and presentations provided opportunities to organize and communicate the information obtained. Finally, reflection and evaluation helped students review their understanding of the subject matter. These activities supported active knowledge construction, consistent with the theoretical explanations of PBL provided by Hmelo-Silver [16] and Schmidt et al. [17].

The encyclopedia also played an important supporting role in this process. Its illustrations provided visual representations of cultural elements, while its written descriptions supplied information that students could use to identify and understand cultural characteristics. The availability of structured cultural information helped connect the problems presented during learning with concrete examples from different regions of Indonesia. This was particularly relevant to Grade III students, who may benefit from visual and contextual learning resources when studying concepts that involve various cultural forms. In this way, the encyclopedia supported the information-gathering process required by PBL, rather than functioning solely as supplementary reading material. This finding reinforces the importance of providing relevant instructional resources to support students' investigations, as discussed by Sumantri [18].

Nevertheless, the findings should be interpreted in accordance with the research design. The experimental group received the combined treatment of PBL and encyclopedia media, whereas the control group participated in the regular instructional process. Because the study did not include a group receiving PBL without encyclopedia media or another group receiving encyclopedia-assisted conventional instruction, the individual contributions of the learning model and the instructional medium cannot be separated. Therefore, the statistically significant difference should be interpreted as an outcome associated with the combined implementation of PBL and encyclopedia media rather than evidence of the independent effect of either component.

Furthermore, the nonequivalent control group design involved two previously established classes without random assignment. Although the pretest comparison did not indicate a statistically significant difference in initial cognitive performance, this result does not eliminate the possibility of differences in other student characteristics or classroom-related factors. Consequently, the findings provide evidence of a significant difference in cognitive learning outcomes within the studied setting, but broader generalizations should be made cautiously.

This study also focused exclusively on cognitive learning outcomes measured through written tests. Although cultural diversity education has broader educational objectives, including the development of cultural awareness, respect, and appreciation of differences, these aspects were not directly assessed in this research. Therefore, the findings should not be interpreted as demonstrating changes in students' attitudes, values, or social competencies.

Overall, the results suggest that integrating contextual problems, collaborative investigations, visual cultural information, and reflective learning activities can provide an alternative approach to supporting cognitive learning outcomes in Pancasila Education, particularly in teaching Indonesian cultural diversity at the elementary school level.

4. CONCLUSION

Based on the results of the data analysis and discussion, the combined implementation of the Problem-Based Learning (PBL) model assisted by the "Berbeda Itu Indah" encyclopedia media was associated with significantly higher cognitive learning outcomes among Grade III students at MI Diponegoro, Malang City. The experimental group obtained a mean posttest score of 80.34, compared with 61.73 in the control group. Furthermore, the average N-Gain scores were 0.6862 for the experimental group and 0.3832 for the control group, indicating greater improvement in the experimental group. The Independent Samples t-Test also revealed a statistically significant difference between the two groups ($t = -5.855$; $p < 0.001$). These findings demonstrate the potential of integrating PBL with encyclopedia media to support students' cognitive achievement in learning Indonesian cultural diversity. However, the results reflect the combined implementation of both instructional components and do not establish the independent contribution of the PBL model or the encyclopedia media.

The practical implication of this study is that Pancasila Education learning on cultural diversity can be supported through the integration of contextual cultural problems, visual information resources, collaborative group investigations, and reflective learning activities. In this implementation, the "Berbeda Itu Indah" encyclopedia provides systematically organized cultural information that students can use during the investigation and problem-solving processes. This combination offers an alternative instructional approach to supporting students' cognitive understanding of cultural diversity at the elementary school level. Nevertheless, the findings are limited to cognitive learning achievement measured through written tests and should not be interpreted as evidence of improvements in students' cultural awareness, tolerance, or attitudes toward diversity.

This study has several limitations. First, it involved only 55 students from two existing classes at a single madrasah, which limits the generalizability of the findings to other educational settings. Second, the nonequivalent control group design did not involve random assignment, and potential differences in students' initial characteristics beyond their pretest scores could not be entirely excluded. Third, the study examined the combined implementation of PBL and encyclopedia media without additional comparison groups to distinguish the contribution of each instructional component. Finally, the study did not include long-term follow-up measurements to examine the sustainability of students' learning outcomes. Therefore, future research should involve larger samples from multiple schools, include additional comparison groups receiving PBL without encyclopedia media and encyclopedia-assisted conventional instruction, and incorporate follow-up assessments. Future studies may also examine cognitive learning achievement alongside cultural awareness, tolerance, and students' attitudes toward cultural diversity using appropriate assessment instruments.

REFERENCES

[1] E. Sunarsih, E. K. Huliselan, and M. Talakua, "Analisis hasil belajar siswa pada materi listrik statis dan dinamis di kelas IV, SD Negeri 4 Waelata: Ranah kognitif afektif dan psikomotor," PEDAGOGIKA: Jurnal Pedagogik dan Dinamika Pendidikan, vol. 12, no. 1, pp. 52–65, 2024, doi: 10.30598/pedagogikavol12issue1page52-65.

[2] D. A. Yonanda et al., "Improving motivation and learning outcomes of elementary school students with multimedia-based interactive media," Profesi Pendidikan Dasar, pp. 197–210, Dec. 2024, doi: 10.23917/ppd.v11i3.5761.

[3] H. Nakhmah and Z. Fihayati, "The effect of lapbooks on IPAS instruction on the topic of cultural diversity and its impact on the learning outcomes of fourth-grade elementary school students," Indonesian Journal of Education Methods Development, vol. 21, no. 3, 2026, doi: 10.21070/ijemd.v21i3.1167.

[4] G. J. S. Siregar, D. F. P. Ambarita, Halimatussakdiah, A. Gandamana, and F. S. Siregar, "Analisis kesulitan belajar peserta didik pada pembelajaran Pendidikan Pancasila materi 'Keberagaman Budaya Indonesia' kelas V SDN 060856 Medan T.A. 2024/2025," Jurnal Pendidikan Tambusai, vol. 9, no. 1, 2025.

[5] S. H. Masduqie, E. P. Sartinah, and B. Purwoko, "Religion-based cognitive behavior therapy with self management techniques to improve students' learning motivation," At-Tajdid: Jurnal Pendidikan dan Pemikiran Islam, vol. 6, no. 1, p. 10, 2022, doi: 10.24127/att.v6i1.2063.

[6] M. D. Turnip, E. Djulia, and D. Saragih, "The effect of the application of the Think Talk Write and Expository learning model on learning motivation and learning outcomes," JENIUS (Journal of Education Policy and Elementary Education Issues), vol. 6, no. 1, pp. 58–75, 2025, doi: 10.22515/jenius.v6i1.11323.

[7] S. Nurhalisa, R. Nisaa, R. Amalia, and F. S. Rahayu, "Penerapan model Problem Based Learning (PBL) untuk meningkatkan hasil belajar siswa pada materi Pendidikan Pancasila di sekolah dasar," Kalam Cendekia: Jurnal Ilmiah Kependidikan, vol. 13, no. 2, 2025, doi: 10.20961/jkc.v13i2.102109.

[8] A. P. Sari and M. P. Kumalasani, "Integrating local culture into IPAS learning: A culturally responsive teaching approach in elementary school," Primary: Jurnal Pendidikan Guru Sekolah Dasar, vol. 14, no. 6, pp. 941–956, 2025, doi: 10.33578/jpfkip.v14i6.941-956.

[9] C. E. Novita and F. D. Prasetyaningtyas, "The effect of Problem-Based Learning using the Monopoly game on elementary school students' cultural diversity learning outcomes," [lengkapi nama jurnal], no. 3, 2025.

[10] Y. Erawati, R. Raharjo, and U. Azizah, "Developing encyclopaedia media on form and function of plant to train elementary students' critical thinking skill," International Journal for Educational and Vocational Studies, vol. 2, no. 6, 2020, doi: 10.29103/ijevs.v2i6.2514.

[11] Sugiyono, Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung, Indonesia: Alfabeta, 2013.

[12] R. I. Arends, Learning to Teach, 9th ed. New York, NY, USA: McGraw-Hill, 2012.

[13] H. L. Latifa, S. Saptono, and B. Isdaryanti, "Cognitive learning outcomes of elementary school students through differentiated problem-based learning," Journal of Primary Education, vol. 14, no. 1, pp. 16–27, 2025, doi: 10.15294/jpe.v14i1.36825.

[14] E. Marlina, Adrias, Reinita, and Y. Erita, "Improving learning outcomes of Pancasila Education through the Problem-Based Learning model," Journal of Educational Sciences, vol. 10, no. 8, pp. 958–968, 2026.

[15] A. Koçoğlu and S. Kanadlı, "The effect of problem-based learning approach on learning outcomes: A second-order meta-analysis study," Educational Research Review, vol. 48, p. 100690, 2025, doi: 10.1016/j.edurev.2025.100690.

[16] C. E. Hmelo-Silver, "Problem-based learning: What and how do students learn?," Educational Psychology Review, vol. 16, no. 3, pp. 235–266, 2004, doi: 10.1023/B:EDPR.0000034022.16470.f3.

[17] H. G. Schmidt, J. I. Rotgans, and E. H. J. Yew, "The process of problem-based learning: What works and why," Medical Education, vol. 45, no. 8, pp. 792–806, 2011, doi: 10.1111/j.1365-2923.2011.04035.x.

[18] M. S. Sumantri, Strategi Pembelajaran: Teori dan Praktik di Tingkat Pendidikan Dasar. Jakarta,

Indonesia: Rajawali Pers, 2015.

2386_Similarity

ORIGINALITY REPORT

20%	17%	21%	4%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	journal-fip.um.ac.id Internet Source	1%
2	Desima Nur Safitri, Nuryadi. "The Effect of the Problem-Based Learning (PBL) Model on Students' Critical Thinking Skills", APLIKATIF: Journal of Research Trends in Social Sciences and Humanities, 2026 Publication	1%
3	cahaya-ic.com Internet Source	1%
4	Loly Marlina Harianja, Rahmawati Darussyamsu, Lufri Lufri, Heffi Alberida. "Problem-based learning with a digital snake-and-ladder game to improve students' learning motivation and activity in biology learning", JRTI (Jurnal Riset Tindakan Indonesia), 2026 Publication	1%
5	Putri Nimaturrohmah Nisa'i, Hesti Yunitiara Rizqi. "The Effect of the Problem-Based Learning (PBL) Model Assisted by Vidumath Media on the Critical Thinking Skills of Fourth-Grade Elementary School Students", Journal of Multidisciplinary Science: MIKAILALSYS, 2026 Publication	1%
6	jurnalilmiah.co.id Internet Source	1%
7	ojsfkip.umada.ac.id Internet Source	1%
8	primary.ejournal.unri.ac.id Internet Source	1%
9	ejournal.uinfasbengkulu.ac.id Internet Source	1%
10	e-journal.metrouniv.ac.id Internet Source	1%
11	journal.amorfati.id Internet Source	1%
12	jurnalfaktarbiyah.iainkediri.ac.id Internet Source	

		1 %
13	mdpi-res.com Internet Source	1 %
14	digilib.uinsgd.ac.id Internet Source	1 %
15	ijere.iaescore.com Internet Source	1 %
16	journal.globresco.com Internet Source	1 %
17	Rinda Egeslatifa. "The Effect of Augmented Reality (AR) Media Based on Assemblr Edu on Learning Outcomes in Natural and Social Sciences (IPAS) on Cultural Diversity Material for Fourth-Grade Students at SDN Mangkubumi", Kontribusia : Research Dissemination for Community Development, 2026 Publication	<1 %
18	e-journal.undikma.ac.id Internet Source	<1 %
19	Elina Ayu Noviawati, Syailin Nichla Choirin Attalina, Hamidaturrohmah. "The Effect of the Project-Based Learning Model on Enhancing Fourth-Grade Students' Understanding of Cultural Diversity in Pancasila Education at SD Negeri 2 Sukodono", AR-RIAYAH: Jurnal Pendidikan Dasar, 2025 Publication	<1 %
20	Rachmat Hidayatullah, Mesterjon Mesterjon, Saipul Saipul. "The Effect of Using the WordWall App on Students' Academic Achievement in 4th-Grade Science at Public Elementary School No. 72 in Bengkulu City", International Journal of Learning Development and Innovation, 2026 Publication	<1 %
21	journal.assyfa.com Internet Source	<1 %
22	journal.umg.ac.id Internet Source	<1 %
23	www.jele.or.id Internet Source	<1 %
24	journal-gehu.com Internet Source	<1 %
25	journal.uinmataram.ac.id Internet Source	<1 %

26	stfx.scholaris.ca Internet Source	<1%
27	Submitted to Universitas Negeri Surabaya The State University of Surabaya Student Paper	<1%
28	ejournal.universitasmandiri.ac.id Internet Source	<1%
29	joease.id Internet Source	<1%
30	www.ijltemas.in Internet Source	<1%
31	Jafar, Rosary Iriany, Andi Muhdar. "Improving University Students' Argumentative Text Writing Skills through the Collaborative Learning Model", Journal of Multidisciplinary Science: MIKAILALSYS, 2026 Publication	<1%
32	Syaad Patmanthara, Wahyu Nur Hidayat, Dila Umnia Soraya, Adam Mulana Dzikri, Muhammad Aris Ichwanto, Gulsun Kurubacak. "Business Incubation Platform to Increase Student Motivation in Creative Products and Entrepreneurship Courses in Vocational High Schools", Open Education Studies, 2025 Publication	<1%
33	ijai.iaescore.com Internet Source	<1%

Exclude quotes	Off
Exclude bibliography	On