The Effect of Problem-Based Learning Based Ethnoscience on Science Literacy Ability of Elementary School

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Abstract: This research aims to determine the effect of problem-based learning based on ethnoscience on science literacy skills at SDN Bringinbendo 2. The Ethnoscience-based PBL model is a learning model that can develop students' scientific literacy abilities. This study used a quantitative approach with experimental methods with the type of research one group pre-test-post-test. The sample in this study was V-grade students at SDN Bringinbendo 2, which consisted of 21 students. Data collection in this study used a pre-test and post-test. Data were analyzed using a hypothesis t-test and the Eta Squared test. The results of the research hypothesis test were t-sample t-test, Sig. (2-tailed) ie 0.00 <0.05 so there is a significant effect (H_1 is accepted and H_0 is rejected). So it can be seen that the ethnoscience-based PBL model influences the scientific literacy skills of class V at SDN Bringinbendo 2. In the results of the eta-squared test, there is an increase with a vulnerable score of t > 0.14, indicating an influence of the big one. Using the Ethnoscience-based PBL model can improve the scientific literacy skills of V-grade students.

Abstrak: Pengumpulan data dalam penelitian ini bertujuan untuk mengetahui dan seberapa besar pengaruh model PBL berbasis etnosains terhadap kemampuan literasi sains di SDN Bringinbendo 2. Faktor yang menyebabkan rendahnya kemampuan literasi sains yaitu dalam menafsirkan keterhubungan informasi untuk menjawab pertanyaan serta kurangnya memanfaatkan lingkungan alam sekitar. Model PBL berbasis Etnosains merupakan salah satu model yang dapat mengembangkan kemampuan literasi sains siswa. Memberi kesempatan untuk terlibat langsung dan memberikan pengalaman dalam konteks kearifan lokal. Penelitian ini menggunakan pendekatan kuantitatif dengan metode eksperimen, jenis penelitian one group pre-test post-test. Sampel dalam penelitian ini adalah siswa kelas V SDN Bringinbendo 2 berjumlah 21 siswa. Pengumpulan data dalam penelitian ini dengan menggunakan soal pre-test dan post-test berbentuk essay. Data dianalisis menggunakan uji hipotesis uji t sample t-test dan uji Eta Squared. Hasil uji hipotesis penelitian uji t sampel t-test, Sig. (2-tailed) yaitu 0.00 < 0.05 maka ada pengaruh yang signifikan (H_1 diterima dan H_0 ditolak). Sehingga diketahui adanya pengaruh model PBL berbasis etnosains terhadap kemampuan literasi sains siswa. Selain itu dapat diketahui seberapa besar peningkatan hasil uji eta squared, terdapat peningkatan dengan rentan skor t > 0,14 menunjukkan bahwa terdapat pengaruh yang besar. Dengan menggunakan model PBL berbasis etnosains dapat meningkatkan kemampuan literasi sains siswa.

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A. Introduction

The role of education in a country is crucial and primary. Therefore, it is also essential to know skills in 21st-century learning. 21st-century education is education that integrates knowledge, skills, and attitudes as well as mastery of information and communication technology. Education in the 21st century is experiencing changes marked by the development of new literacy. The rapid growth of science requires humans to adapt to various aspects of life. In realizing an increasingly advanced education, it must be supported by human resources (HR). One of the ways to react is to have scientific literacy. In the 21st century, scientific literacy is central to education because science and technology skills are the basis for citizen success.

Scientific literacy is one of the most essential keys to answering challenges in the era of globalization. Scientific literacy is critical because scientific literacy can help students deal with increasingly complex problems related to information and technology in the future (Aiman & Ahmad, 2020; Fatmala et al., 2017). By applying scientific literacy learning science in elementary schools, students must also recognize and overcome all the problems they face in everyday life in the learning process. Through scientific literacy, students are expected to be able to meet the demands of different times, namely to have competitive, innovative, creative, cooperative, and character traits that are in line with 21st-century developments (Aiman & Ahmad, 2020; Nuro et al., 2020).

Study Program for International Student Assessment (PISA) defines scientific literacy as scientific knowledge, using knowledge to identify new knowledge, explain scientific phenomena, and conclude science related to the information so that involvement in science-related issues arises. Currently, scientific literacy is a requirement that must be mastered by every student in everyday life. Scientific literacy can help us shape mindsets and behaviors and build human character to care for and be responsible for ourselves, society, and the universe, as well as the problems faced by modern society, which is very dependent on technology (Siregar et al., 2020).

The ability of Indonesian students' scientific literacy still needs to improve, evidenced by the results of the PISA survey. The low power of scientific literacy in Indonesia shows gaps in implementing learning in science education. Many factors influence students' low scientific literacy, including curriculum, learning methods and model selection, facilities, infrastructure, etc. One factor significantly influencing low scientific literacy is the teacher's selection of learning methods and models. Low scientific literacy results from science learning so far only memorizing science material, but the implementation of learning is carried out comprehensively and integrated (Harahap et al., 2022; Utami et al., 2022).

Scientific literacy is a person's ability to understand science, communicate science, and apply scientific knowledge to solve problems to have a high attitude and sensitivity towards themselves and their environment in making decisions based on scientific considerations (Kristyowati & Purwanto, 2019; Permata & Khusniyah, 2022). Scientific literacy is the ability of students to understand information about the process of occurrence of science and facts and their application in everyday life. To categorize students' abilities in

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scientific literacy, indicators are used to determine scientific literacy abilities. The indicators used refer to indicators of scientific literacy ability from (Gormally et al, 2012).

Table 1. Scientific Literacy Indicator

No.	Science Literacy Indicator
1	Identify valid scientific opinions (e.g., opinions/theories to support hypotheses).
2	Performing an effective literature search (e.g., evaluating the validity of sources and differentiating among these types of sources).
3	Understand the elements of research design.
4	Create precise graphs from data.
5	Solve problems using quantitative skills, including basic statistics (e.g., calculating averages, probabilities, percentages, and frequencies).
6	Understanding and interpreting basic statistics (interpreting errors, understanding the need for statistical analysis).
7	Make inferences and predictions and draw conclusions based on quantitative data.

The ability of Indonesian students' scientific literacy still needs to improve, as evidenced by the results of the PISA survey. Learning in Indonesia cannot guide students to achieve scientific literacy. The low ability of scientific literacy in Indonesia shows gaps in implementing learning in science education. The low ability of students' scientific literacy in Indonesia is related to the education and teaching system that is carried out. The results for measuring education can only be seen from the ability to memorize facts, concepts, theories, and laws. Learning also ignores direct experience for fear of being unable to exhaust the subject matter (Nuro et al., 2020; Utami et al., 2022).

Based on the observations made at SDN Bringinbendo 2 Taman, several problems were found in science learning, especially those related to students' scientific literacy abilities. The factors that cause low scientific literacy skills in interpreting or reading are related to information in texts to answer questions. In the learning process, the presentation of the subject matter could be more interesting, and the activity in learning could be better; for practice questions, the teacher only orders students to do the assignments in the LKS. In addition, there needs to be more utilizing other learning resources in the learning process, for example, the natural environment around the school and its facilities. The implementation of science learning should be directed at problem-based inquiry activities (Amalia et al., 2020).

The Problem-Based Learning (PBL) model is a learning model that begins with authentic (real) problems that are appropriate to the material so that it can train students to think actively in solving problems and can develop students' skills in solving a problem. The Problem-Based Learning (PBL) model directs students to be able to construct the knowledge that has been learned so that students can understand the material, no longer memorizing but understanding the meaning in depth. It can be explained that problem-based learning is a learning model designed and developed to develop students' ability to solve problems (Amalia et al., 2020; Amini et al., 2021; Rosidah et al., 2020). The Problem-

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Based Learning (PBL) model is also intended to develop student independence in the learning process and students' social skills. Independence in learning and students' social skills can be formed from cooperation in identifying information, strategies or methods, and learning resources relevant to solving problems that students have found in real life.

The characteristics of Problem-Based Learning (PBL) can be identified as follows: First, the main idea in the PBL model is that the starting point for learning should come from a problem. Where in the Problem-Based Learning (PBL) model, knowledge is obtained by students through activities to solve the problems they face. Second, the nature of the Problem-Based Learning (PBL) model is student-centered and emphasizes independent learning. Third, the Problem-Based Learning (PBL) learning model usually has 5-10 students per group. This is to develop skills and abilities when working together in groups.

The problems presented by the teacher in the Problem-Based Learning (PBL) model are problems that are by the characteristics of students. These namely problems are not relatively easy and not too difficult and are classified as simple problems. This problem is used to teach students the material to be studied. The Problem-Based Learning (PBL) model makes problems in life a trigger for the implementation of student learning before students know the genuine concept (Haryanti, 2017; Yulianto et al., 2022). The use of problems must be accurate in everyday life so that this PBL model can improve and grow skills in solving a problem and gaining knowledge of concepts.

The Problem-Based Learning (PBL) model has weaknesses; If students are not confident that the problem being studied is challenging to solve, then students will feel reluctant to try. Therefore, using the ethnoscience-based Problem-Based Learning (PBL) model, students will connect their problems with the culture around them (Defiyanti & Sumarni, 2020; Devi & Bayu, 2020). So that students will feel confident that they can do and solve the problems they have faced. By using the ethnoscience-based Problem-Based Learning (PBL) model, students will connect their problems with the culture around them. So that students will feel confident that they can do and solve the problems they have faced. By using the ethnoscience-based Problem-Based Learning (PBL) model, students can get to know and become closer to the natural, social, and cultural environment, provide the provision of abilities and skills, as well as knowledge about their area, which is beneficial for themselves and the community (Nadiyah et al., 2022; Nuralita et al., 2020).

The Ethnoscience-based Problem-Based Learning (PBL) model is one of the learning models that is expected to develop students' scientific literacy abilities in the dimensions of scientific competence. This is due to the link between the Ethnoscience-based PBL model and scientific literacy skills (Rosidah et al., 2020). The Ethnoscience-based Problem-Based Learning (PBL) model can provide opportunities for students to directly and actively participate in learning activities and provide students with direct experience of learning science in the context of local wisdom so that the concept becomes clear and students will also easily understand the material they have learned (Ramandanti & Supardi, 2020).

Ethnoscience-based learning links genuine science from the community and scientific science or learning using aspects of local culture or the surrounding environment

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to implement learning. By using an ethnoscience approach, it can encourage teachers as well as education practitioners to teach science based on culture, local wisdom, and problems that exist in the surrounding community so that students can understand and be able to apply the natural knowledge they learn if this learning can be used to solve problems that they face in everyday life (Andini et al., 2022; Damayanti et al., 2017).

The ethnoscientific approach greatly emphasizes indigenous knowledge and characteristic of the community in maintaining its life and identifying various symptoms in the environment (Mukti et al., 2022). By applying local culture or wisdom in science learning, students can make direct observations and be trained to find their concepts comprehensively and meaningfully. They can encourage students to explore scientific knowledge contained in local wisdom values (Syazali & Umar, 2022). Ethnoscience is a strategy for creating a learning environment and designing learning experiences that integrate culture as part of the learning process in elementary schools.

A sound learning system is carried out by connecting the concepts of natural science or science with social sciences or those related to the surrounding community, especially in activities that will connect people's culture and customs in an environment that makes one of the Indonesian nation's identities. Because of this, it is necessary to maximize identity-related to cultural understanding in Indonesia as a forum for studying natural sciences or science education. Curriculum development in science education currently emphasizes local cultural wisdom (ethnoscience), identity, national character, and local cultural customs (Nihwan & Widodo, 2020).

The application of ethnoscience can provide freedom for students to be directly involved in the implementation of learning so that students have a good understanding (Satria & Egok, 2020). Students are expected to be more active in the learning process that takes place in the classroom. The importance of learning using a local cultural and environmental approach or an ethno-scientific approach as a learning resource so that the learning process is more meaningful for students. The references used in this study were taken from the results of previous studies, which can be used as supporting data in this study. The results of previous studies that have almost the same topic as the research conducted by researchers include:

In the research conducted by Sofia K. R and Kasmadi I. S in 2020 entitled "The effect of the ethnoscience integrated Problem-Based Learning model on understanding the concept of redox material", it can be concluded that there is an effect of ethnoscience-integrated Problem-Based Learning on understanding concepts in the material redox class X students of MA Negeri Blora and the magnitude of the influence of problem-based learning integrated into ethnoscience.

Other research carried out by Aiman & Ahmad (2020), entitled "Problem-Based Learning Model (PBL) for the Science Literacy of Class V Elementary School Students," concluded that there were significant differences in results between the scientific literacy groups of students who had been taught using the PBL learning method and student groups

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with the expository method in subjects at Muhammadiyah 2 elementary school, Kupang city.

By exploring science's concepts, applications, and processes, students can apply the knowledge learned at school and understand the facts of science in everyday life that develop in society so that students can be aware of and understand science. However, only a few people know the importance of literacy. Science in science learning, especially for elementary school students. Therefore, this article was created to build awareness about applying the ethnoscience-based Problem-Based Learning (PBL) model to scientific literacy skills in elementary science learning, especially in the 21st century.

B. Method

This research uses quantitative research methods. The type of research used in this research is the Pre-Experiment with the One Group Pre-test-Post-test research design. In the One Group Pre-test-Post-test design, there is a pre-test before being given treatment. Thus the treatment can be known more accurately because it can be compared with the situation before treatment (Sugiyono, 2017). The design used in this study uses the One Group Pre-test-Post-test research design. In this study, a pre-test was carried out before being given treatment or applying the PBL model. The implementation of the Ethnoscience-based PBL model and the post-test were carried out. The paradigm in the Pre Experiment research with the One Group Pre-test-Post-test design can be described as follows:

$O_1 \times O_2$

Figure 1. One Group Pre-test-Post-test Design

Information:
O_1 = pre-test value (before applying the Ethnoscience-based PBL model)
O_2 = post-test score (after applying the Ethnoscience-based PBL model)

The population in this study were fifth-grade students at SDN Bringinbendo 2. The data source studied was the fifth-grade students at SDN Bringinbendo 2, which consisted of 21 students. Samples were taken using a saturated sample technique. The saturated sample is a sampling technique in which all population members are used as samples.

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The flow of this research is as follows.

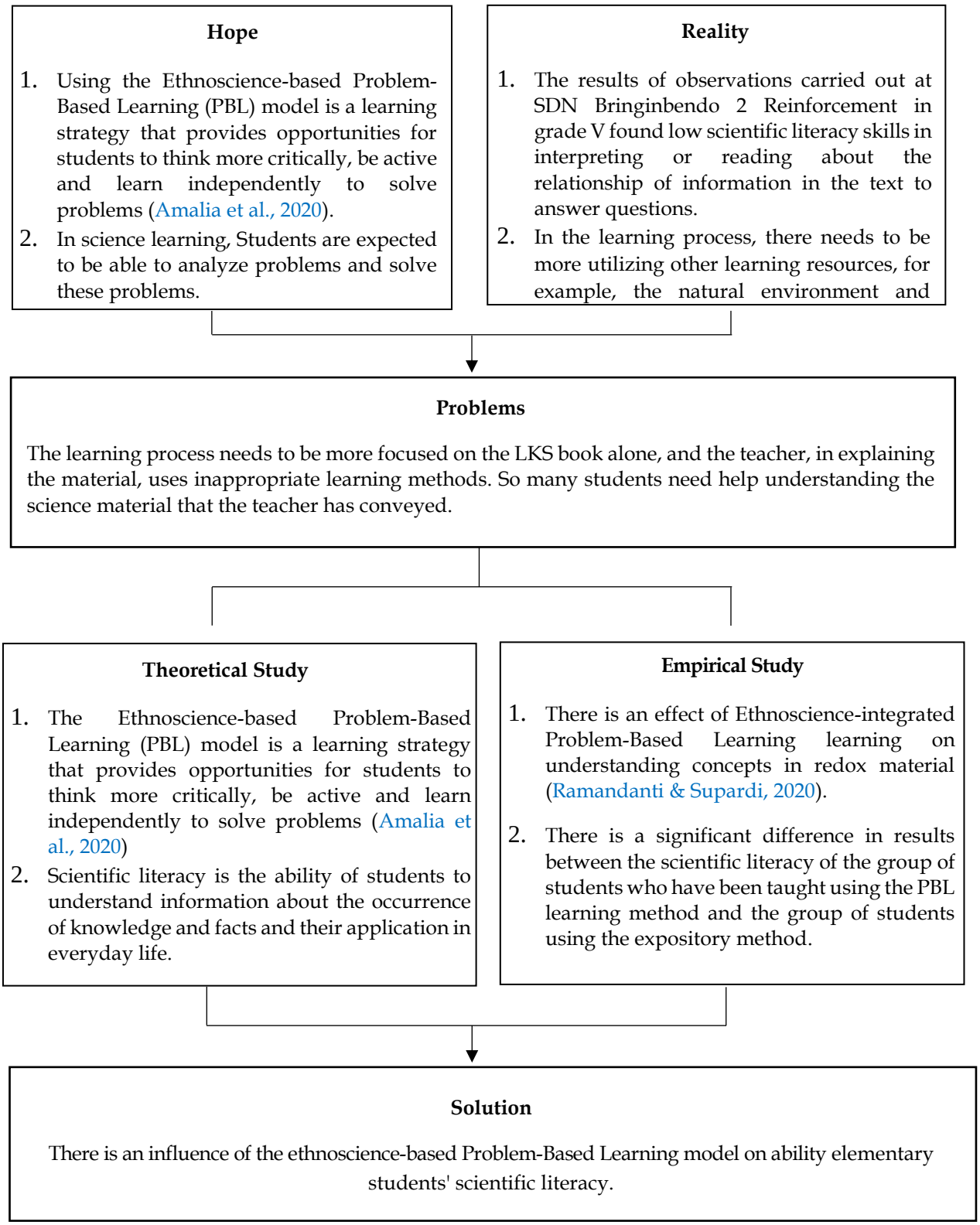

Figure 2. Research Flow

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The data collection technique in this study used pre-test-post-test questions in the form of essay questions totaling ten. The pre-test is given early, while the post-test is given after treatment or treatment. The researcher used written assignment questions for students, namely answering several questions about scientific literacy in the form of material about heat and its displacement. Before carrying out the research, the validity and reliability of the research instruments were tested first. Reliability is the accuracy of a measuring instrument, meaning that a measuring instrument is said to be reliable if the measuring instrument shows consistent or stable results at different times in measuring the same group of subjects. So there is consistency in the measuring instrument. Reliable instruments are not necessarily valid, while valid instruments are generally reliable, but instrument reliability testing needs to be done. To determine the reliability of the research instrument, do it through the Alpha Cronbach method. The following is the result of the calculation obtained by Cronbach's Alpha value as follows:

Table 2. SPSS Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
.744	10

Based on the reliability test table above, the calculation results show 0.744. Based on the reliability category, Cronbach's Alpha coefficient is in the value range of 0.60 < r11 < = 0.80. This means that the essay test instrument is declared reliable and has a high level of reliability. In data collection, the researcher analyzed the data using parametric inferential statistical analysis techniques, which were used to provide interpretations of the data and draw conclusions from the data obtained. The analysis used in testing the hypothesis is by using the Paired Sample T-test. Hypothesis testing paired sample t-test determines the partial difference between the independent and dependent variables.

C. Results and Discussion

Results

This research was conducted using the Problem-Based Learning (PBL) model)based on ethnoscience, which aims to determine the effect of the ethnoscience-based PBL model on the scientific literacy abilities of fifth-grade students at SDN Bringinbendo 2. material "heat and its transfer." Data collection in this study used an essay test instrument which totaled ten questions. This study used a quantitative experimental Pre Experimental Design (One Group Pre-test Post-test). The researcher took the entire population as a sample, namely class V, which totaled 21 students by giving a pre-test before and post-test after the treatment. The researcher made ten questions in an essay containing seven indicators of

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scientific literacy ability. The results of the pre-test and post-test values can be seen in figure 3.

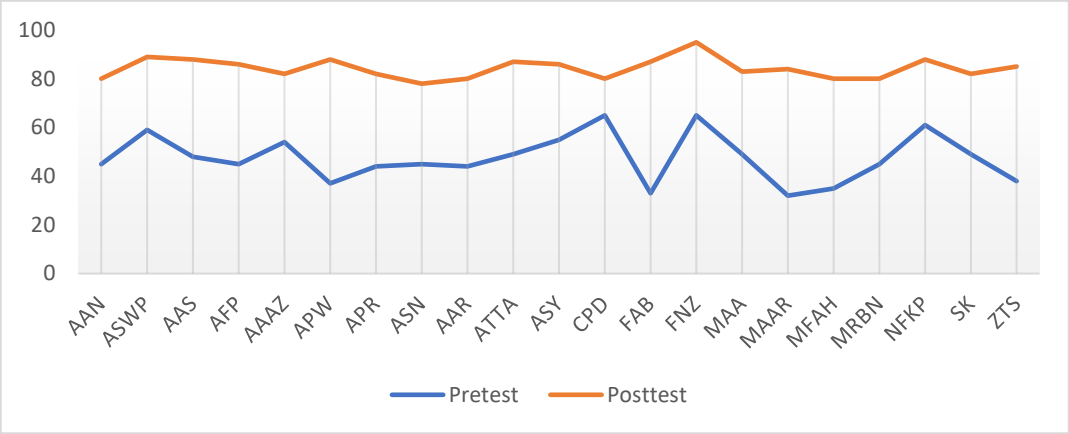

Figure 3. Pre-test Post-test Results

Figure 3 shows that the pre-test score shows the level of students' ability is different before and after treatment. The lowest pre-test score was 33, and the highest was 65. Meanwhile, the lowest post-test score was 78, and the highest was 95. So there was a difference between the pre-test and post-test scores before and after being given treatment.

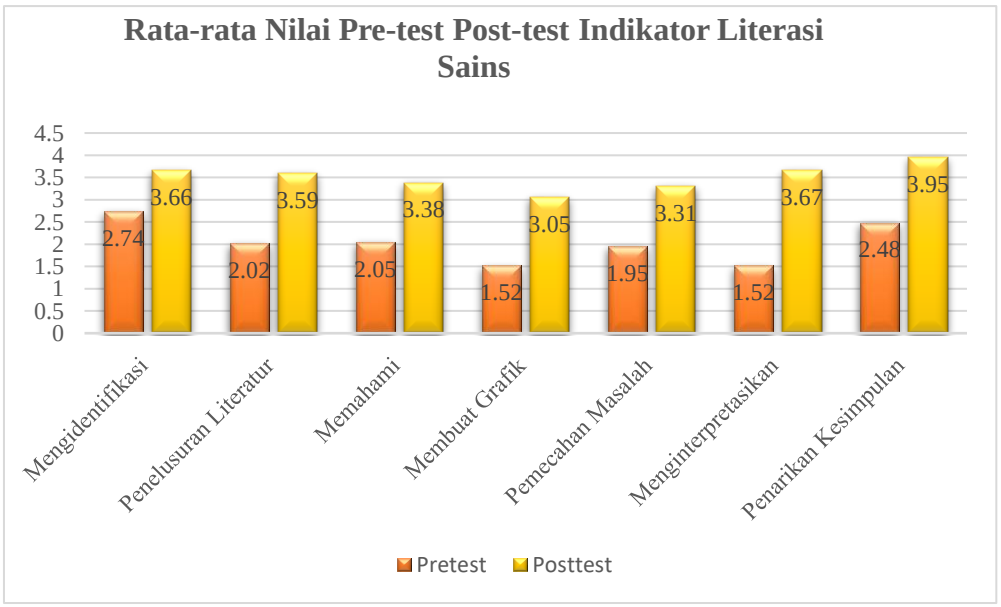

Figure 4. The Average Value of the Pre-Test-Post-test

Based on the results of Figure 4 above, there has been a further increase in the pre-test and post-test in each indicator of scientific literacy ability. The lowest average on the pre-test is 1.52 on the charting and interpreting indicator. Moreover, the highest average reached 2.78 on the identifying indicator. In the post-test value, the lowest average is 3,05 on the charting indicator, and the highest average reaches 3.95 on the drawing conclusions indicator. From these results, it can be seen that there are differences before being given treatment and after being given treatment in the results obtained by students. Data analysis

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was used to answer the first formulation of the problem: Does the ethnoscience-based Problem-Based Learning (PBL) model influence the scientific literacy abilities of fifth-grade students?.

Before conducting research, researchers will test the normality and hypothesis as a prerequisite test. The normality test is a statistical test used to test whether the observed data has a normal distribution. The normality test was carried out using the SPSS 25 application. Following are the results of the Shapiro-Wilk normality test. The basis for decision-making in the Shapiro-Wilk normality test is (1) if the value of Sig (2-tailed) > 0.05, then the data is usually distributed, (2) if the value of Sig (2-tailed) < 0.05, then the data is not average.

Table 3. SPSS Shapiro Wilk Normality Test

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	Df	Sig.
Pre-test	.152	21	.200*	.950	21	.343
Post-test	.137	21	.200*	.931	21	.147

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the table above results, the normality test for Shapiro Wilk in the post-test is 0.147, so the data is normally distributed in testing the hypothesis using the paired sample t-test with the help of SPSS 25. The paired sample t-test is used to determine the difference between the independent variable and the dependent variable. Following are the results of the pre-test-post-test hypothesis test using the paired sample t-test as follows:

Table 4. Paired Samples Statistics Test Results

Paired Samples Statistics

		Means	N	std. Deviation	std. Error Means
Pair 1	Pre-test	47.48	21	9,719	2,121
	Post-test	84.29	21	4.173	.911

Table 5. Paired Sample T-Test Results

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Means	std. Deviation	std. Error Means	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test - Post-test	-36,810	9,352	2041	-41,067	-32,552	-18,037	20	.000

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The table above shows the research results on hypothesis testing using the paired sample t-test. The results of the t-test show the Sig. (2-tailed by 0.000 <0.05), There is a difference in the average scientific literacy ability on the pre-test-post-test. The paired sample statistics test results in Table 4 show that the pre-test and post-test values have increased. This can be seen in the mean pre-test getting a score of 47.48, while in the post-test, getting a score of 84.29. Based on pair 1, it can be concluded that the ethnoscience-based problem-based learning model influences scientific literacy skills. This is evidenced in Table 3; it can be seen that the post-test average shows a value of 84.29, while the pre-test average is 47.48. The results of this calculation show that the post-test average is greater than the pre-test average. So it can be interpreted that the Ethnoscience-based Problem-Based Learning (PBL) model effectively significantly affects the scientific literacy skills of fifth-grade students at SDN Bringinbendo 2.

The researchers used the Eta Square test to answer the second formulation of the problem, namely how much influence the model has *Problem-Based Learning* based on ethnoscience on the scientific literacy abilities of fifth-grade students. The eta square test tests the relationship between two variables used if the data scale on the two variables is not the same. In the first table, the nominal data scale, while the second variable is the interval data scale. In testing Eta Square, researchers used SPSS 25.

Table 6. Eta Square Test

Directional Measures			
			Value
Nominal by interval	Eta	Pre-test Dependent	.685
		Post-test Dependent	.726

Based on the table above in this study, the Eta Squared test on the pre-test score was 0.685, while the post-test value was 0.726. This shows that the post-test value is greater than the pre-test value. The post-test score increases when t ≥ 0.14, indicating that there is a significant influence on the effect of the ethnoscience-based Problem-Based Learning model on elementary school scientific literacy skills.

Discussion

Based on the results of the research and analysis of the resulting data, there was an increase in the use of ethnoscience-based Problem-Based Learning (PBL) models after the treatment. The application of the ethnoscience-based PBL model in student-centered learning is that students can be directly involved in discovering new concepts and are expected to be active in finding answers to the problems being faced (Rosidah et al., 2020). The increase in scientific literacy skills is due to the existence of learning activities that connect local cultures in the community with learning materials that will be studied by students in school, resulting in learning that is more meaningful for students, engaging, and makes students more enthusiastic.

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The right step is to implement PBL in learning by linking it to the existing culture (ethnoscience). Ethnoscience is an approach to learning that relates learning material to the culture in the surrounding environment (Amini et al., 2021; Ramandanti & Supardi, 2020). Ethnoscience is indigenous knowledge of language, customs and culture, morals, and technology created by society or specific people with scientific knowledge. An ethnoscientific approach can create a learning environment incorporating the surrounding culture as part of learning natural knowledge and designing learning experiences (Amalia et al., 2020). Implementing the ethnoscience approach can give freedom to students to be directly involved during the learning process so that students have a better understanding of students who study conventionally.

On models Problem-Based Learning based on ethnoscience, there is a learning syntax. The first ethnoscience-based PBL syntax is to orient students toward problems. Organizing students to solve problems in the material about heat and its transfer by relating it to the culture around it. The Ethnoscience-based Problem-Based Learning (PBL) model is a step in learning that directly provides opportunities for students to be more critical, active, and able to solve problems independently based on the problems they face (Nadiyah et al., 2022; Nuralita et al., 2020). Model Ethnoscience-based Problem-Based Learning (PBL) is learning that directs students to be more active in the learning process (student-centered), learning that makes the environment and local culture a place for learning so that in the teaching process, teachers can provide direct experience and are oriented towards problem-solving, critical thinking skills, creative thinking skills, systematic thinking skills, and logical thinking skills.

Learning with an ethnoscience approach is believed to be able to change the learning process that focuses on teachers or Teacher Centered Learning (TCL) into student-focused learning or Student-Centered Learning (SCL), which has created contextual and meaningful learning so that efforts to increase scientific literacy will increase. The learning process will be more active and successful if students participate actively in the learning process (Student Centered), so learning requires local environment and culture as learning resources so that the implementation of learning can provide experience to students and is oriented towards problem-solving, critical thinking skills, creative, systematic and logical (Junita & Yuliani, 2022).

The Ethnoscience-based Problem-Based Learning model is proven to increase scientific literacy. It cannot be separated from the progress of the process that is passed in learning; the Problem-Based Learning model that is taught can improve the ability to think creatively and think critically (Betari et al., 2016; Syafitri et al., 2022). This will indirectly affect the knowledge obtained in the learning process.

Learning activities become student-centered or can be called student-centered, and it is hoped that students can find concepts and actively seek solutions to the problems they will face. Accordance with the theory used shows that the model Problem-Based Learning (PBL) is based on ethnoscience actively applied to learning.

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The specialty or novelty of this research lies in the learning model used. Namely, the model Problem-Based Learning (PBL) based on ethnoscienceThis gives a positive and effective influence so that it can be used in learning. These findings will provide implications as a reference and support for the theory in further research that will examine the effectiveness of the model Problem-Based Learning (PBL) based on ethnoscience.

It can be concluded that the ethnoscience-based Problem-Based Learning model is one of the models that provide opportunities for students to be directly and actively involved in learning and provides direct experience to students regarding science learning that is encountered in everyday life in the context of local wisdom so that the concepts received students will be easily remembered by students. Students will become more understanding of the material being studied.

D. Conclusion

In this study, it can be concluded that the use of Ethnoscience-based Problem-Based Learning model learning material on heat material and its transfer affect the scientific literacy abilities of fifth-grade students at SDN Bringinbendo 2. This was obtained based on the paired sample t-test and the Eta Squared test. The results of the paired sample t-test show the Sig. (2-tailed is 0.000 <0.05, so there is a significant effect (H is accepted and H is rejected). So there is an influence of the ethnoscience-based Problem-Based Learning (PBL) model on the scientific literacy skills of fifth-grade students at SDN Bringinbendo 2. In addition, it can be seen how much the increase in the results of the Eta Square test there is an increase with a vulnerable t score > 0.14, indicating that there is an enormous influence.

Using the Ethnoscience-based Problem-Based Learning (PBL) model increases scientific literacy skills. Because by applying this model, students will get direct experience and can play an active role in learning.

In this study, the aspects you want to know are using the Problem-Based Learning model (PBL) based on ethnoscience regarding students' scientific literacy abilities. For other researchers, they can conduct a review from another side, for example, critical thinking skills, process skills, and so on. It is necessary to conduct similar research to compare the most effective learning models for students' scientific literacy abilities. It is hoped that further research can develop and strengthen research results to determine the effectiveness of the Problem-Based Learning model (PBL) based on ethnoscience on students' scientific literacy skills in several schools.

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