Multidisciplinary Output Research For Actual and International Issue (MORFAI Journal) ISSN (e): 2808-6635
Volumes 5 No. 4 (2025)

ANALYSIS OF LOCAL WISDOM IN SCIENCE LEARNING: PEDAGOGICAL APPROACH AT SDN 64, AIR TEMAM VILLAGE, LUBUKLINGGAU SELATAN 1 DISTRICT, LUBUKLINGGAU CITY

Onky Paramanda Arma[1,*], Iis Siti Aisyah[2]. Lud Waluyo[3].
[1,2,3.] Universitas Muhammadiyah Malang
* corresponding author : 15kyah@gmail.com, siti@umm.ac.id, ludwaluyo63@gmail.com.

Received	: 31 October 2024	Published	: 31 October 2024
Revised	: 31 October 2024	DOI	: https://doi.org/10.54443/morfai.v4i3.1898
Accepted	: 31 October 2024	Publish Link	: https://radjapublika.com/index.php/MORFAI/article/view/1794

Abstract

This study aims to explore the integration of local wisdom in Natural Science (IPA) learning at SDN 64 Kelurahan Air Temam, Lubuklinggau. Using a qualitative approach and case study, this study involved fifth grade students as subjects to understand their perceptions of learning that integrates local wisdom. Data were collected through questionnaires, interviews, observations, and analysis of curriculum documents. The results showed that the integration of local wisdom not only increased students' interest and motivation, but also deepened their understanding of scientific concepts. This study is expected to contribute to the development of learning methods that are more relevant and responsive to local culture, as well as being the basis for educational policies that are more oriented towards local wisdom.

Keywords: ***Local Wisdom, Science Learning, Elementary School***

1. Introduction

Local wisdom is knowledge and values that develop in a community that are passed down from generation to generation. Indonesia has a wealth of diverse local wisdom, which is not only a cultural heritage but also has great potential to be integrated into various aspects of life, including education.(Ade et al., 2023). In learning, especially in Natural Sciences (IPA) subjects, local wisdom can be a relevant context for linking scientific concepts to students' daily lives, thus creating a more holistic and meaningful learning experience.(Hasanah et al., 2023).

However, a major challenge arises in integrating local wisdom into the national curriculum. Empirically, at SDN 64 Kelurahan Air Temam, Lubuklinggau, the science learning materials taught still tend to be conventional, with the dominance of modern scientific concepts that minimally relate to local knowledge. As a result, students are less familiar with and appreciate their local culture, which could actually provide a practical context in understanding science.(Basuki et al., 2019).

A more innovative and contextual pedagogical approach is needed to support the integration of local wisdom in science learning from a theoretical perspective.This approach not only aims to improve students' understanding of science concepts but also to foster a love of local culture, as expressed by Hadi et al. (2019) in their study of ethnoscience.(Hadi et al., 2019).

Previous research, such as that conducted by Indrawan and Mahendra (2021), has shown the effectiveness of a local wisdom-based approach in improving student learning outcomes.(Indrawan & Mahendra, 2021). However, the study focuses more on the integration of e-learning with Balinese local wisdom. In the context of this study, the focus is to explore and integrate local wisdom typical of Lubuklinggau into science learning directly through an appropriate pedagogical approach.

I Putu Oktap Indrawan and I Gede Jaka Mahendra (2021), in their research entitled "Integrated E-Learning of Balinese Local Wisdom Based on 4c in Science Subjects" showed that the integration of local wisdom in e-learning is not yet comprehensive.(Indrawan & Mahendra, 2021). The integrated e-learning design of Balinese Local Wisdom based on 4C has been well developed and the trial results show significant differences between the pre-test and post-test taking place in Bali. Different from the research that will be conducted, the researcher does not focus on the integration of E-Learning but on the culture or customs that exist in the city of Lubuklinggau.

Likewise, Siti Halimah Khaerani, Septiana Dwi Utami and Saidil Mursali (2020) in their research entitled "Development of Science Learning Devices Based on Local Wisdom to Improve Students' Cognitive Learning Outcomes" found that this research developed science learning devices based on local wisdom to improve students' cognitive learning outcomes.(Siti et al., 2020). Different from this research because this research is not to develop learning tools but to find out, identify relevant local wisdom that can be integrated into science learning for fifth grade students of Lubuklinggau Elementary School.

In addition, integrating local wisdom into science learning can help preserve valuable traditional knowledge and encourage younger generations to appreciate their cultural heritage. Local knowledge often includes understanding of the environment, ecology, and traditional technology that are relevant to science concepts. Thus, science learning based on local wisdom not only improves students' academic understanding but also strengthens their relationship with the natural and social environment.

In order to achieve these goals, in-depth research is needed on local wisdom found in student communities, as well as the most effective learning methods to integrate it into the science curriculum. This research will involve collaboration between teachers, students, and local communities to explore and document local wisdom relevant to science materials. In addition, it is necessary to develop learning modules and tools that support the implementation of a local wisdom-based pedagogical approach.

2. Method

2.1. Research Approach and Type

Qualitative research approach is a research method used to understand social and cultural phenomena through the perspective of participants in their natural context.(Hasibuan et al., 2022). Qualitative research emphasizes in-depth and detailed exploration that allows researchers to gain a rich understanding of the experiences, views, and motivations of individuals or groups. This method relies on non-numerical data such as in-depth interviews, participant observation, and document analysis. The goal is to understand the complexity of social phenomena in a specific context, and to generate theories that are based on field data.

In this study, the type of field research used is a case study. Case studies allow researchers to conduct in-depth analysis of local wisdom in a specific context, namely the development of science learning methods for fifth grade students of SD N Kelurahan Air Temam. By using case studies, researchers can collect rich and detailed data on how local wisdom is integrated into learning, as well as its impact on student learning processes and outcomes. Case studies provide the flexibility to combine various data collection techniques such as interviews, observations, and document analysis to gain a comprehensive understanding.

2.2. Research Subjects and Informants

2.2.1. Research Subject

The subjects of this study were fifth grade students of SD N Kelurahan Air Temam, Lubuklinggau Selatan II District, Lubuklinggau City. The selection of fifth grade students as research subjects was based on the consideration that they are at a stage of cognitive development that allows a more complex understanding of science concepts as well as the ability to actively participate in learning activities that integrate local wisdom. In addition, as students who are in the final year of elementary education, they have quite diverse learning experiences and can provide valuable perspectives on the effectiveness of local wisdom-based learning methods.

2.2.2. Research Subject

The informants of this research include several groups that have important roles in the learning process and the application of local wisdom in the curriculum. The informant groups include:

1. Science teacher.
   Science teachers who teach in grade V of SD N Kelurahan Air Temam. These teachers play an important role in designing and implementing learning methods that integrate local wisdom. Interviews with teachers will provide insight into the teaching strategies used, challenges faced, and their perceptions of the effectiveness of local wisdom-based learning.
2. Headmaster.
   The principal of SD N Kelurahan Air Temam who has a comprehensive view of the policies and implementation of the curriculum in the school. Information from the principal will help understand institutional support and policies that support the integration of local wisdom in learning.
3. Grade V students.

Fifth grade students who can provide perspectives on patterns and impacts of local wisdom-based learning. By conducting interviews with students, it will be obtained directly what students know and feel in following the lessons given by science teachers.

Through in-depth interviews and participatory observations with the subjects and informants of this study, it is expected to obtain rich and detailed data on the process and results of integrating local wisdom in science learning. The data will be used to develop a comprehensive and contextual understanding of the effectiveness of this learning approach.

2.3. Research Location

This research was conducted at SD N Kelurahan Air Temam, Lubuklinggau Selatan II District, Lubuklinggau City. Kelurahan Air Temam is located in the southern part of Lubuklinggau City, South Sumatra, Indonesia. This location was chosen because it is representative as a basic education environment in an urban area that has unique and relevant local wisdom to be integrated into science learning in grade V of elementary school.

SD N Kelurahan Air Temam was chosen as the research location because this school represents the characteristics of public elementary schools in Indonesia that strive to develop a curriculum that is responsive to local wisdom. Through this location, researchers can directly observe the implementation and results of the development of science learning methods that integrate local wisdom in real contexts.

The research location located in an urban environment provides good accessibility for researchers to conduct data collection such as observation, interviews, and direct observation of the learning process in the classroom. In addition, the existence of unique local wisdom in Air Temam Village provides the potential to explore various traditional and local aspects that can be applied in an innovative and relevant science learning approach.

2.4. Research Instruments

The research instruments used in this study were designed to collect the data needed to answer the research questions and achieve the study objectives. The instruments used include (Waruwu, 2023):

a) Interview Guidelines.
Interview guidelines are designed to conduct in-depth interviews with various informants, such as science teachers, principals, and students. The interview guidelines will include structured questions designed to explore informants' perceptions, views, and experiences related to the integration of local wisdom in science learning. Interviews will be conducted directly at the research location to allow for in-depth discussions and direct interaction between researchers and informants.

b) Observation Checklist.
The observation checklist will be used to record direct observations of the science learning process that integrates local wisdom in grade V of SD N Kelurahan Air Temam. This checklist includes relevant variables such as the type of local wisdom used, student responses to learning, teacher-student interactions, and the use of learning materials. Observations are carried out systematically and continuously to gain a comprehensive understanding of the implementation of learning methods.

c) Questionnaire for Students.
The questionnaire was specifically designed for fifth grade students of SD N Kelurahan Air Temam to evaluate their perceptions of science learning that integrates local wisdom. The questionnaire will include questions about their interest in science learning, their understanding of the scientific concepts taught, and whether the use of local wisdom increases their motivation and engagement in learning. Data from this questionnaire will help in assessing the effectiveness of the learning method from the students' perspective.

d) Curriculum Documentation and Learning Materials.
This documentation will include the design of a science curriculum that integrates local wisdom, as well as the learning materials used in the classroom. This documentation will be analyzed to understand how the concept of local wisdom is adapted into the formal school curriculum and how this material is presented to students. This analysis will provide insight into the teaching strategies used by teachers and the suitability of the materials to the learning objectives.

2.5. Data Analysis

Data analysis in this study aims to interpret information collected from various sources to answer research questions and achieve study objectives. The following are the steps and approaches in data analysis:

a) Transcription and Data Organization.

The first step in data analysis was to transcribe all recorded interviews and document the observations. Data from student questionnaires and curriculum documents were also organized so that they were easily accessible and grouped according to relevant themes or variables.

b) Data Coding and Categorization.
The organized data is then coded, that is, given labels or categories based on certain themes or topics that emerge from the data. This process allows researchers to identify patterns, trends, or issues that are relevant in the context of integrating local wisdom in science learning.

c) Qualitative Analysis.
Qualitative data from interviews and observations were analyzed in depth to identify key themes, disagreements, and emerging patterns. Qualitative analysis techniques such as content analysis or thematic analysis were used to understand the meaning behind the data and develop a deeper understanding of how local wisdom is integrated into learning practices.

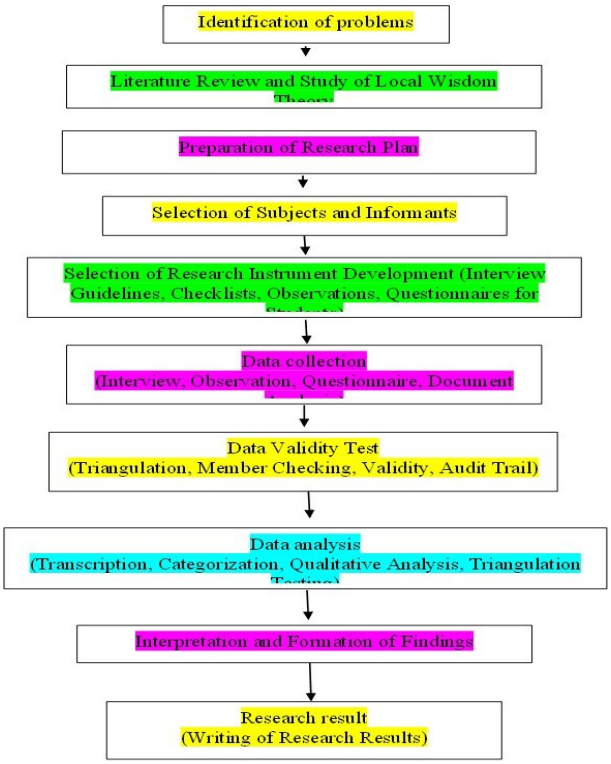
d) Quantitative Analysis.
Quantitative data from student questionnaires can be analyzed using descriptive statistical methods to describe the distribution of student responses to structured questions. This analysis provides an overview of student perceptions and responses overall to local wisdom-based learning.

e) Triangulation Testing.
Data from different sources and methods are reviewed together in the process of triangulation. This is done to ensure consistency of findings and confirm interpretations derived from different types of data. Triangulation allows researchers to verify findings and strengthen confidence in the conclusions drawn.

f) Interpretation and Formation of Findings.
The results of the data analysis are used to interpret the research findings and form conclusions. The researcher connects the findings with relevant theories and existing literature contexts to construct a cohesive and reasoned narrative about the integration of local wisdom in science learning.

Through these steps, data analysis is expected to provide in-depth insights into the implementation, effectiveness, and impact of learning approaches that integrate local wisdom at SD N Kelurahan Air Temam. The results of this analysis are expected to provide significant contributions to the development of learning practices that are more responsive to local culture and improve the overall quality of education.

Research Flowchart



3. Results and Discussion

3.1. Overview of the Research Site

SD Negeri 64 Lubuklinggau has prepared the Independent Curriculum for the 2024/2025 Academic Year as a guideline for organizing education. This preparation involves various parties, including the principal, teachers, and school committee, to ensure that the curriculum is relevant to the characteristics of the educational unit and the needs of students. SD Negeri 64 Lubuklinggau is located in a strategic environment near health and religious facilities. The number of students reaches 252 people with an almost balanced composition between boys and girls. This heterogeneous environment supports the creation of diverse and inclusive learning.

This curriculum is developed with a legal basis, including the National Education System Law, as well as an educational philosophy that prioritizes national culture and students' life skills to face the challenges of the 21st century. The curriculum structure includes intracurricular learning, Pancasila student profile strengthening projects, extracurricular activities, and school culture familiarization. This is integrated with the principle of fun and student-centered learning.

In the 2024/2025 academic year, grades 1, 2, 4, and 5 will use the Merdeka Curriculum, while grades 3 and 6 will continue to use the 2013 Curriculum. Learning is focused on learning outcomes based on certain phases for each level. This project aims to instill a character of faith, independence, creativity, and mutual cooperation. The theme carried in semester 1 is local wisdom, while in semester 2 is entrepreneurship. Activities include farming and processing agricultural products.

The following is the vision and mission of SD Negeri 64 Lubuklinggau. The vision of SD Negeri 64 Lubuklinggau is "To create a generation that is moral, smart, innovative, and collaborative."The Vision Achievement Indicators include:

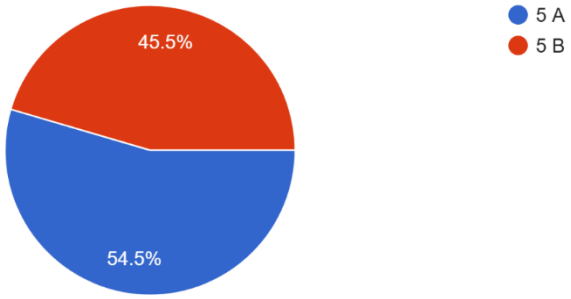
1. Curriculum development according to content standards.
2. Teaching staff with minimum academic qualifications of S1/D4.
3. A quality and enjoyable learning process.
4. A safe, comfortable, conducive and harmonious school environment.
5. School citizens with high discipline, noble morals, and responsibility.
6. Increasing students' interest in reading.
7. Competitive spirit to improve achievement.
8. Students who are able to recognize their interests, talents and potential optimally.
9. Superior achievements in academic and non-academic fields.
10. Students who appreciate and develop local wisdom.
11. Optimal utilization of science and technology by students.
12. Effective collaboration in group projects or assignments.
13. Synergy between the principal, teachers, committee, guardians of students, and students.
14. Realizing the profile of Pancasila Students who are critical, moral, and global.

To achieve this, SDN 64 Lubuklinggau developed missions including:

1. Building a school environment that forms students with noble character through religious activities and interactions that are in accordance with religious teachings.
2. Developing active, collaborative, and student-centered learning by utilizing information technology.
3. Improve students' literacy skills.
4. Implementing learning based on local wisdom.
5. Implementing digital-based learning.
6. Implementing Pancasila values in everyday life.
7. Optimizing students' potential, interests and talents through extracurricular activities.
8. Optimizing the Pancasila Student (P5) profile strengthening project.

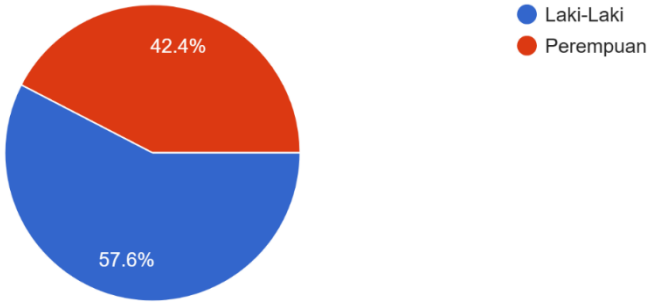
This vision and mission reflect the efforts of SD Negeri 64 Lubuklinggau in building a superior generation that has character and is adaptive to the development of the times.

3.2. Description of the Resource Person in the Form of a Grade 5 Student



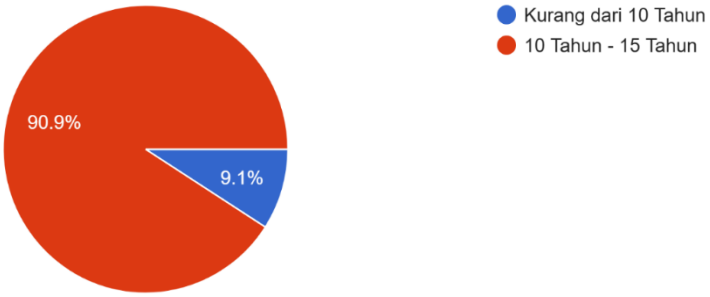
Picture1. Number of students who became respondents

The resource persons were 33 students from grade 5 of elementary school consisting of 33 students, where the class was divided into 2 classes, namely class 5 A with 18 students (45.5%) and class 5 B with 15 students (54.5%).



Picture2. Gender of student respondents

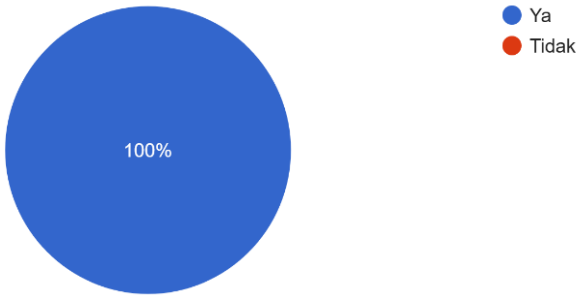
Student respondents consisted of 14 female students (42.4%) and 19 male students (57.6%).



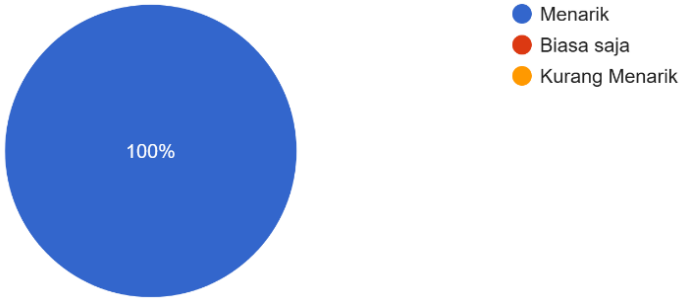
The age of the student respondents was less than 10 years, as many as 3 students (9.1%) and those aged 10 years and over were 30 students (90.9%).

Next, respondents were given interview questions with multiple choice answers, considering that the respondents were students, including:

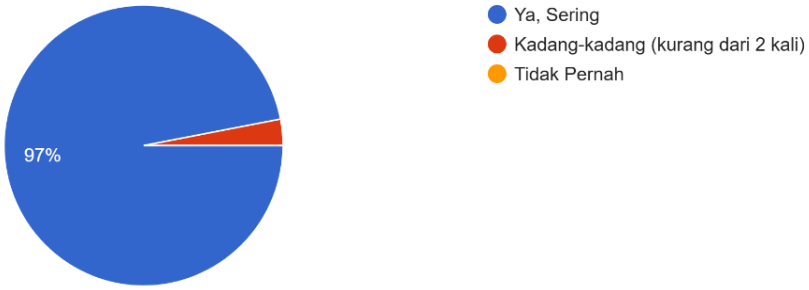
1. Have students ever learned about local culture or traditions in science lessons? The results obtained were that all respondents answered yes or as many as 100% of respondents.



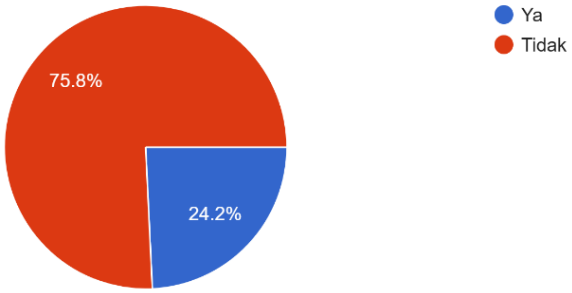
2. How do students feel when learning science using stories or examples from local culture? The results obtained showed that all respondents answered that it was interesting or as many as 100% of respondents.



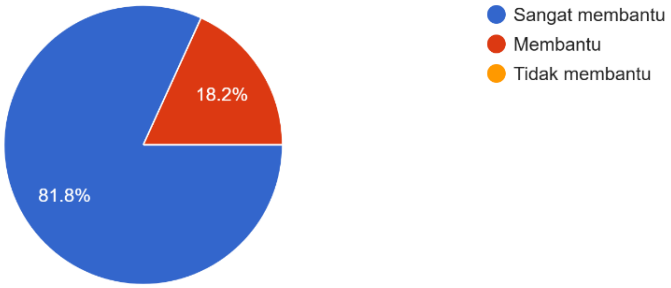
3. Do student teachers use tools or media related to local wisdom? The results obtained were that 32 students answered often or as much as 97% and 1 student said sometimes (3%).



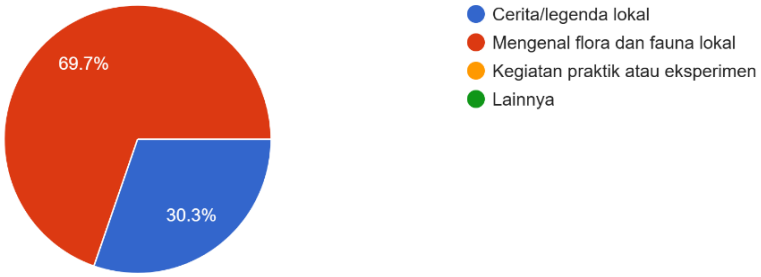
4. Have students ever visited places around Lubuklinggau to learn science? The results obtained were 8 people answered yes (24.2%) and 25 people answered no or as many as 75.8%). After being traced, 8 people answered yes because they were invited by their parents or other relatives.



5. According to students, does learning about local wisdom help students understand science lessons? The results obtained were that 27 students stated that it was very helpful and 6 people stated that it was helpful.



5. What do students like most about learning science with local wisdom? The results obtained, 23 students prefer when the local wisdom used in learning science is in the form of local stories/legends while 10 other students prefer getting to know local flora and fauna.



3.3. Discussion

3.3.1. Forms of Local Wisdom Relevant to Science Learning

SD Negeri 64 Lubuklinggau utilizes local wisdom as an important part of the learning process to develop the character and competence of students. The location of the school in Air Temam Village, close to waterfall tourism, plantations, and markets, is a strategic resource for integrating environmental-based learning. One implementation of local wisdom is through a farming project. Students are invited to plant chilies and cassava on fertile school land, utilizing supportive geographical conditions. In addition to introducing them to farming activities, this activity also teaches environmental conservation values and basic agricultural product management skills. This is as stated bySukri Prasetyo, S.Pd., who is the head ofPublic Elementary School 64 Lubuklinggau:

> "encourage teachers to use local wisdom. For example, nuggal is related to science. Starting from learning from tubers to making tape, not just fried results. We have local wisdom with a healthy canteen. So the children bring their own food containers. That was the beginning of the condition of our school, there was a lot of plastic waste to reduce waste. In the future, to strengthen the relationship between teachers and children, they eat together on Fridays and on that day the canteen is closed. The intention is so that the day is also free of waste and emotional closeness"(Arma, 2024c)

In the first semester, the project theme is Local Wisdom. Through this activity, students learn to appreciate the surrounding environment while fostering a sense of responsibility for preserving the local ecosystem. In the second semester, this activity is continued with the theme of Entrepreneurship. Students are directed to process agricultural products, such as cassava, into products with sales value, instilling an entrepreneurial spirit from an early age. This approach not only involves experiential learning but also supports the implementation of the values in the Pancasila Student Profile. With activities like this, students are expected to become individuals with independent, cooperative, and creative characters, and are able to face the challenges of life in the future by utilizing existing local potential.

“Our local wisdom is planting sweet potatoes (P5) so for class V learning. In general, we use Indonesian in teaching, but for some words we emphasize that there are several languages used here. After Indonesian is explained, it is also in the daily language used here, which is Palembang, Javanese, and Doson. Generally, we use Palembang language. Because it is mixed here. Ado is related to learning the Ecosystem (food chain). Stories about the food chain by showing the natural environment around. And to be better understood by drawing by children.”(Arma, 2024b)

The use of local wisdom strengthens the commitment of SD Negeri 64 Lubuklinggau in creating equitable and inclusive education, while making the school a learning center that is relevant to the needs of the surrounding community. The interview results showed several forms of local wisdom that are used and relevant to be integrated into science learning:

a) Planting Sweet Potatoes (Nuggal).
   This process is used to teach the concept of ecosystem, food chain, and plant adaptation. This is as conveyed by Cahyono, S. Pd., as a science teacher for class VB: "Learning Ecosystems with games and agriculture utilizing existing school wisdom, namely nuggal, namely planting sweet potatoes."(Arma, 2024a)
b) Traditional Games.
   Like the dragon snake and the game of eating each other that illustrates the interaction between consumers and producers in the ecosystem. As conveyed during the interview "Kito uses traditional games that are like sports games eating each other. The food chain as consumers and producers eating each other. Students traveling around eating each other."(Arma, 2024a)
c) Local Stories and Languages.

Teachers use traditional stories and regional languages such as Palembang, Javanese, or Dusun to clarify the material.(Arma, 2024c, 2024a, 2024b).

d) Introduction to Local Flora and Fauna.
For example, the teacher shows the surrounding nature to explain the food chain.

e) Healthy Canteen Without Plastic.
This initiative teaches students about waste management, recycling, and the importance of protecting the environment.
The integrated local wisdom reflects students' daily lives, so it is relevant to science learning which focuses on human interaction with the environment.

3.3.2. Approaches that Support the Integration of Local Wisdom The pedagogical approach at SDN 64 uses experience-based methods, cultural relevance, and contextual learning. Some approaches include:

a) Direct Method.
Such as gardening and observing the surrounding nature. Teachers involve students in hands-on practices such as planting sweet potatoes or drawing food chains.

b) Interactive Games.
Traditional games are used to explain scientific concepts in a fun and easy-to-understand way.

c) Local Language as a Tool.
The teacher explains the material using students' everyday language to make it easier to understand.

d) Collaboration Between Teachers.
The principal encouraged teachers to share good practices in using local wisdom.

e) Training from the Department.
Although limited, training on locally based learning methods has been provided.

This approach strengthens the link between science learning and students' local culture, increasing the relevance and appeal of the material.

3.3.3. Obstacles and Solutions for Local Wisdom Integration Several obstacles related to the implementation of integration with local wisdom were found during the research, including:

a) Limited Teacher Resources.
Young teachers are more responsive to this approach, but some teachers face difficulties due to lack of training and experience. As conveyed by the Principal of SD N 64 Kelurahan Air Temam "There are teachers who are quick to respond. If the young ones are quick but the others are limited because of the problem of staff, activeness becomes a limitation of Human Resources."(Arma, 2024c)

b) Class Management.
Difficulties in organizing group activities, such as gardening, are often encountered because they involve many students.

c) Lack of Specific Policy Support.
Although the principal encourages the use of local wisdom, there is no official policy that specifically regulates its implementation.

d) Media and Field Visit Limitations.

e) Most of the learning takes place in the classroom without optimal field experience.

Apart from the existing obstacles, several solutions can also be implemented, including:

a) Training and Workshops: Conducting intensive training for teachers on local wisdom-based teaching strategies.

b) Local-Based Module Development: Creating specific teaching materials that integrate local wisdom with science materials.

c) Collaboration with Local Communities: Involving the community or cultural institutions to enrich learning. For example, introducing the “Aksara Ulu” script through school activities.

d) Optimizing the School Environment: Utilizing facilities such as school gardens as living laboratories for science learning.

e) Emotional Approach: Such as a program of eating together every Friday to strengthen the emotional relationship between students and teachers while reducing plastic waste.

4. Conclusion

Based on the results of research on the integration of local wisdom in Natural Science (IPA) learning at SDN 64 Kelurahan Air Temam, it was found that local wisdom can be integrated effectively into science learning. Learning methods that link scientific concepts with local culture and traditions help students understand the subject matter contextually and relevantly. The analysis shows that students involved in local wisdom-based learning experience an increase in understanding of science concepts. In addition to understanding the theory, they can also see practical applications in everyday life, which strengthens their knowledge of their own environment and culture.

In addition, the integration of local wisdom contributes to increasing student motivation and engagement in learning. Materials that are connected to local experiences and knowledge make students more connected to the lesson, so that their active participation in the learning process increases. However, this study also identified challenges in its implementation, such as lack of resources and training for teachers. Therefore, greater support from schools and the government is needed to develop learning materials based on local wisdom.

Suggestions

As a suggestion from the researcher, the development of curriculum and learning materials at SDN 64 Kelurahan Air Temam needs to pay more attention to aspects of local wisdom. This is important to create a holistic and relevant learning experience for students, while preserving local knowledge and culture. Thus, this study has succeeded in answering the formulation of the problem on how to integrate local wisdom in science learning and its impact on students' understanding and motivation. The results of this study are expected to be a reference in developing educational practices that are more responsive to local culture.

REFERENCES

Ade, Pujiastuti, E., Maemuna, S., Pendidikan, D., & Cirebon, K. (2023). Preparation of Operational Curriculum for Equivalency Education Based on Local Wisdom at PKBM. Journal of Citizenship, 7(2), 1966–1982.

Agung, B. (2023). Local Wisdom-Based Character Education in Mahmud Cigondewah Village, Bandung. Ma'rifah: Journal of Islamic Religious Education and Civilization, 2(1), 35. https://doi.org/10.54801/ijed.v2i1.173

Agustyaningrum, N., Pradanti, P., & Yuliana. (2022). Piaget and Vygotsky's Development Theory: What are the Implications for Elementary School Mathematics Learning? Absis Journal: Journal of Mathematics and Mathematics Education, 5(1), 568–582. https://doi.org/10.30606/absis.v5i1.1440

Arma, OP (2024a). Interview with Cahyono, S.Pd., as a Science Teacher for Class VA of SD Negeri 64 Lubuklinggau on Monday, December 2.

Arma, OP (2024b). Interview with Indah Permatasari, S.Pd., as a Science Teacher for Class VA of SD Negeri 64 Lubuklinggau on Monday, December 2.

Arma, OP (2024c). Interview with Sukri Prasetyo, S.Pd., as the Principal of SD Negeri 64 Lubuklinggau on Saturday, November 30.

English: Philosophy of Education in the Development of Science Based on Local Wisdom. Journal of Law, Politics and Social Sciences, 1(3), 126–134. https://doi.org/10.55606/jhpis.v1i3.543

Basuki, FR, Kurniawan, W., Jufrida, J., & Kurniawan, DA (2019). Mapping of Basic Competencies and Integration of Local Wisdom in Science Learning for Junior High Schools in Muaro Jambi Regency. Dedication: Journal of Community Service, 1(2), 301. https://doi.org/10.32332/d.v1i2.1767

Dipraja, MK (2019). Capturing Meaning in the Dynamics of Education (Guapedia (ed.)). Guapedia.

Fatmi, N., & Fauzan, F. (2022). Study of Ethnopedagogical Approach in Education Through Aceh Local Wisdom. Al-Madaris Journal of Education and Islamic Studies, 3(2), 31–41. https://doi.org/10.47887/amd.v3i2.98

Ginting, SB, Astuti, Hanipah, S., Kaize, BR, Sinaga, SB, & Marpaung, RW (2024). Analysis of the Needs for Developing LKPD Based on Local Wisdom in Science Learning in Elementary Schools. Journal of Transformative Scientific Education, 8(5), 65–73.

Hadi, WP, Sari, FP, Sugiarto, A., Mawaddah, W., & Arifin, S. (2019). Madura Shrimp Paste: Ethnoscience Study in Science Learning to Develop Local Wisdom Values and Student Character. Quantum: Journal of Science Education Innovation, 10(1), 45. https://doi.org/10.20527/quantum.v10i1.5877

Hadiyanti, AHD (2021). Development of Digital Science Learning Modules Based on Flipbooks for Online Learning in Elementary Schools. Jurnal Elementaria Edukasia, 4(2), 284–291. https://doi.org/10.31949/jee.v4i2.3344

Hasanah, A., Amelia, CR, Salsabila, H., Agustin, RD, Setyawati, RC, Elifas, L., & Marini, A. (2023). Integration of Independent Curriculum in Science Learning: Efforts to Maximize Students' Understanding of Local Culture. Journal of Elementary Education and Social Humanities, 3(1), 89. http://www.nber.org/papers/w16019

Hasibuan, S., Rodliyah, I., Thalhah, SZ, Ratnaningsih, PW, & E, AAMS (2022). Qualitative Research Media (M. Hasan (ed.); Vol. 5, Issue January). Throne Media Group. http://belajarpsikologi.com/method-penelitian-kualitatif/

Hilal, M., & Islamy, A. (2021). Transformation of Civic Education in the Midst of the Covid-19 Pandemic. Proceedings of the VI National Civic Conference, September, 298. https://www.researchgate.net/publication/363383287

Idhayani, N., Nurlina, N., Risnajayanti, R., Salma, S., Halima, H., & Bahera, B. (2023). Early Childhood Learning Innovation: Local Wisdom Approach in Management Practice. Obsesi Journal: Journal of Early Childhood Education, 7(6), 7453–7463. https://doi.org/10.31004/obsesi.v7i6.5624

Ilhami, A., Diniya, D., Susilawati, S., Ramadhan, CF, & Sugianto, R. (2021). Analysis of Local Wisdom of Manongkah Shells in Indragiri Hilir Regency, Riau as a Science Learning Resource Based on Ethnoscience. Social Culture, 18(1), 20. https://doi.org/10.24014/sb.v18i1.12723

Indrawan, IPO, & Mahendra, IGJ (2021). Integrated E-Learning of Balinese Local Wisdom Based on 4c in Science Subjects. Journal of Pedagogy and Learning, 4(3), 511. https://doi.org/10.23887/jp2.v4i3.41415

Jufrida, J., Basuki, FR, & Destinanda, A. (2020). Analysis and Integration of Local Wisdom of Lubuk Larangan Tantang Sakti in Science Learning. EduFisika, 5(01), 32–38. https://doi.org/10.22437/edufisika.v5i01.9583

Kainama, F., Johannes, NY, & Mahananingtyas, E. (2023). Implementation of Discovery Learning Model Based on Local Wisdom to Improve Learning Outcomes of Grade IV Students at SD Inpres 48 Ambon. Pedagogika: Journal of Pedagogy and Educational Dynamics, 11(1), 149–156. https://doi.org/10.30598/pedagogikavol11issue1page149-156

Kholidah, LN, Sholeh Hidayat, Jamaludin, U., Mukti, S., & Leksono. (2023). Ethnoscience Study in Science Learning to Develop Local Wisdom Values and Character of Elementary School Students Through Milkfish Satay (Chanos Chanos). Journal of Elementary Education and Social Humanities, 8(2), 2548–6950.

Lukman, A., Hayati, DK, & Hakim, N. (2019). Development of Local Wisdom-Based Animation Videos in Science Learning for Grade V in Elementary Schools. Elementary: Scientific Journal of Elementary Education, 5(2), 153. https://doi.org/10.32332/elementary.v5i2.1750

Luthfiyah, L., & Lhobir, A. (2023). Ontology, Epistemology and Axiology of Philosophy of Education. Basicedu Journal, 7(5), 3249–3254. https://doi.org/10.31004/basicedu.v7i5.6150

Marlina, M., Syafii, W., & Apriyandi, R. (2024). Analysis of TPACK-Based Teaching Materials Integrated with Local Wisdom on Students' Social Culture Awareness (SCA). Proceedings of the 2024 National Biology Seminar XII, 145–151.

Meilana, SF, & Aslam, A. (2022). Development of Thematic Teaching Materials Based on Local Wisdom in Elementary Schools. Basicedu Journal, 6(4), 5605–5613. https://doi.org/10.31004/basicedu.v6i4.2815

Muhsam, J., Hasyida, S., Uslan, & Aiman, U. (2021). Implementation of Contextual Teaching and Learning and Authentic Assessments to the Science (IPA) Learning Outcomes of 4th Grade Students of Primary Schools (SD) in Kupang City. Journal of Educational Research and Evaluation, 5(3), 380–390. https://ejournal.undiksha.ac.id/index.php/JERE/article/view/32338

Nikat, RF, & Algiranto, A. (2022). Improving Science Teachers' Pedagogical Knowledge and Skills through Local Wisdom-Based Assessment Assistance. Community Service Journal (Abdira), 2(3), 1–10. https://doi.org/10.31004/abdira.v2i3.161

Nur Ngazizah, Rahmawati, R., & Oktaviani, DL (2021). Development of Comic Media Based on Local Wisdom in Integrated Thematic Learning. Science Tech: Journal of Science and Technology, 8(2), 147–154.

Nurrubi, HM, Nurfadilah, VA, & Latip, A. (2022). Nyaneut Local Wisdom: Ethnoscience Perspective and Its Relation to Science Learning. UNIGA Education Journal, 16(2), 623. https://doi.org/10.52434/jpu.v16i2.2022

Pamungkas, A., Subali, B., & Linuwih, S. (2017). Implementation of Science Learning Model Based on Local Wisdom to Improve Creativity and Student Learning Outcomes. Journal of Science Education Innovation, 3(2), 118. https://doi.org/10.21831/jipi.v3i2.14562

Parmin, P. (2015). Potential of Local Wisdom in Science Learning at SMP Parmin. Biology Education, Geography Education, Science Education PKLH – FKIP UNS, 278–282.

Pasaribu, L. (2023). Development of Science Module on Integrated Local Wisdom Style Material Hunting Using Bows and Arrows to Improve Learning Outcomes of Grade IV Students of SD Inpres Timika III. Nakula Journal: Center for Educational Sciences, Language and Social Sciences, 1(5), 140–150.

Purwati, PD, Azzahra, A., Bestari, SK, Ramadhani, NL, Ardiansyah, DR, Maharani, DS, Saputro, NA, & Maharani, R. (2024). Innovative Learning Design in Facing the Challenges of the Digital Era (B. Wijayama (ed.)). Cahya Ghani Recovery. https://books.google.co.id/books?hl=en&lr=&id=u_X8EAAAQBAJ&oi=fnd&pg=PA36&dq=ANALYSIS+of+local+wisdom+in+science+learning:+pedagogical+approach,+in+Elementary+Schools&ots=ylH6jB9bWy&sig=m1qKbmZ-MRORzgzKiqeY07LhbX8&redir_esc=y#v=onepage&q&f=false

Puspasari, A., Susilowati, I., Kurniawati, L., Utami, RR, Gunawan, I., & Sayekti, IC (2019). Implementation of Ethnoscience in Science Learning at SD Muhammadiyah Alam Surya Mentari Surakarta. SEJ (Science Education Journal), 3(1), 25–31. https://doi.org/10.21070/sej.v3i1.2426

Putra, P. (2017). Ethnopedagogical Approach in Elementary/MI Science Learning. Primary Education Journal (Pej), 1(1), 17–23. https://doi.org/10.30631/pej.v1i1.1

Rahmatih, AN, Maulyda, MA, & Syazali, M. (2020). Reflection of Local Wisdom Values in Elementary School Science Learning: Literature Review. Jurnal Pijar Mipa, 15(2), 151–156. https://doi.org/10.29303/jpm.v15i2.1663

Rini, NPY (2023). Implementation of Science Learning Based on Local Wisdom Regional Culture to Improve Students' Critical Thinking Skills at SD N 6 Songan. Journal of Deiksis Education, 5(2), 35–42.

Sahil, J., Taher, DM, Majid, I., & Hasan, S. (2021). Science Learning for Junior High Schools Based on Ternate Local Wisdom: An Idea for Developing a Learning Design Based on Local Wisdom. Wahana Pendidikan Scientific Journal, 8(7), 51. https://doi.org/10.5281/zenodo.6540719

Sari, YS (2018). Development of Elementary School Teacher Pedagogical Competence in Integrative Thematic Learning of 2013 Curriculum Based on Local Culture. Ensains Journal, 1(1), 64–71. https://doi.org/10.31848/ensains.v1i1.53

Siti, KH, Utami, SD, & Mursali, S. (2020). Development of Science Learning Tools Based on Local Wisdom to Improve Students' Cognitive Learning Outcomes. Journal of Banua Science Education, 1(1), 35–42. https://doi.org/10.20527/jbse.v1i1.2