

Stringing Together Diversity: Exploring Indonesian Culture Through The TRI N Integrated Indonesian Traditional House (Puradi) Puzzle (Niteni, Nirokke, Nambahi)

Pri Hastuti Komarul, Insanul Qisti Bariyah, Heri Maria Zulfiati, Sutrisna Wibawa
Universitas Sarjanawiyata Tamansiswa Yogyakarta, Indonesia
Email: pkomarul@gmail.com, Insanul_qisti@ustjogja.ac.id, heri.maria@ustjogja.ac.id, trismagb@ustjogja.ac.id,

ABSTRACT

In Indonesia's diverse educational landscape, elementary students often struggle to understand and appreciate cultural diversity through traditional methods. Limited interactive media and declining engagement in cultural education highlight the need for innovative approaches that blend experiential learning with cultural literacy. This study explores the effectiveness of the project "*Stringing Together Diversity: Exploring Indonesian Culture Through the Tri N Integrated Indonesian Traditional House (PURADI) Puzzle (Niteni, Nirokke, Nambahi)*" in enhancing phase B students' understanding of Indonesia's cultural diversity. Grounded in the importance of instilling values of diversity from an early age, the project employs a research and development (R&D) design using the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model. The subject of the research is a phase B student at SD Negeri Gembongan. Data were gathered through participant observation, semi-structured interviews, and analysis of students' puzzle work. Findings indicate that the PURADI project significantly improves students' knowledge of traditional houses in Indonesia while strengthening their ability to recognize cultural differences. Furthermore, the integration of *Tri N* values (*Niteni, Nirokke, Nambahi*) encourages students to observe, imitate, and expand their understanding of culture in a more meaningful way. In conclusion, the PURADI project provides an innovative and effective learning strategy for cultivating awareness of Indonesian cultural diversity among elementary school students, making cultural education more engaging and impactful.

KEYWORDS Cultural Diversity, Traditional House, Project-Based Learning (PjBL), Tri N (Niteni, Nirokke, Nambahi), Puzzle, Pancasila Education, Social Studies, SBdP, Phase B



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INTRODUCTION

Education in the modern era faces the challenge of not only imparting knowledge but also developing 21st-century skills. Project-Based Learning (PjBL) is one of the relevant approaches because it creates a more meaningful and contextual learning experience (Lin et al., 2018; Liu et al., 2024). Through PjBL, students are not merely passive recipients of information but are actively involved in exploration, discovery, and problem-solving. In this context, the project "*Stringing Together Diversity: Exploring Indonesian Culture through the Tri N Integrated*

Indonesian Traditional House (PURADI) Puzzle (Niteni, Nirokke, Nambahi)" emerges as an effort to integrate PjBL with Indonesia's rich cultural diversity (Johnson et al., 2024).

Jannah (2018:121) argues that a puzzle game is designed to train children to think more creatively as they assemble pre-prepared puzzle pieces. According to Jannah (2018:121), puzzle games have several objectives: (1) to foster children's creative thinking; and (2) to develop cognitive and fine motor skills in children (Nazilah et al., 2020).

Based on interviews with grade III and IV teachers at SD Negeri Gembongan, problems in the learning process were identified, particularly the limited use of learning media. This lack of media makes developing integrated learning tools that combine multiple subjects more difficult compared to creating materials for just one subject (Springer International Publishing, 2015). As a result of the absence of varied learning media, students' concentration in class decreases, with attention spans averaging only ten to fifteen minutes. Additionally, students are sometimes engaged in activities unrelated to learning (OECD, 2015).

Understanding cultural diversity and tolerance is a crucial skill for individuals and societies, enabling them to appreciate, respect, and actively participate in their social environment (Tsalapatas et al., 2019). This aligns with the goals of Pancasila Education, which emphasizes unity in diversity. It also corresponds to the IPAS phase B material titled *My Region and Natural Resources*. In Indonesia, the diversity of ethnicities, cultures, religions, and customs is an invaluable resource. However, challenges remain in instilling an appreciation of this diversity in younger generations, particularly at the elementary school level (Suhana et al., 2022).

Twenty-first-century learning requires students to develop higher-order thinking skills, including critical, creative, collaborative, and communicative abilities. The *PURADI* project is designed to foster these skills through the creation of traditional house puzzles (Weng et al., 2022). Puzzle-making, which incorporates visual and spatial elements, enhances students' cognitive abilities. The project also supports the Cultural Arts and Crafts curriculum in Phase B, particularly within the theme *Indonesiaku Rich Culture*. Moreover, this project integrates the values of *Tri N (Niteni, Nirokke, Nambahi)* from Ki Hajar Dewantara's philosophy, which emphasizes observing, imitating, and developing deeper understanding. This research uniquely combines *Tri N* values with PjBL through puzzle-making activities, aiming to improve both students' cultural literacy and higher-order thinking skills. Unlike previous studies that addressed these elements separately, this research synthesizes cultural philosophy (*Tri N*), interactive learning media (puzzles), and contemporary pedagogy (PjBL) into a unified educational intervention tailored for Indonesian elementary students studying cultural diversity (UNESCO, 2023).

The objectives of this research are to: (1) evaluate the effectiveness of the *PURADI* project in improving Phase B students' understanding of Indonesian cultural diversity, measured through their knowledge of traditional houses and recognition of cultural characteristics; (2) analyze how the *PURADI* project fosters higher-order thinking skills—particularly critical thinking, creativity, and collaboration—within cultural and civic literacy; and (3) identify the contribution of implementing *Tri N* values (*Niteni, Nirokke, Nambahi*) in facilitating cultural learning processes.

The significance of this research lies in its provision of empirical evidence supporting innovative approaches to cultural education in Indonesian elementary schools. It contributes to pedagogical knowledge by integrating traditional learning philosophies with modern teaching methods. Practically, the research offers a replicable model for educators seeking to enhance cultural literacy while simultaneously developing 21st-century skills, addressing the dual challenges of preserving cultural heritage and preparing students for global citizenship. The findings are expected to benefit curriculum developers, teachers, and policymakers in designing

more engaging and effective cultural education programs that align with Indonesia's educational goals of unity in diversity.

RESEARCH METHOD

This research used a research and development (R&D) approach with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). The approach was chosen to develop and test the effectiveness of the project "*Stringing Diversity: Exploration of Indonesian Culture Through the Puzzle of Indonesian Traditional Houses (PURADI) Integrated Tri N (Niteni, Nirokke, Nambahi)*" as a learning medium. The ADDIE framework guided the process from needs analysis to evaluation.

The subjects of the study were Phase B students at SD Negeri Gembongan. This school was selected due to the relevance of its curriculum to cultural diversity material, accessibility of data, school support, and its commitment to innovative learning.

Data were collected through observation, interviews, and documentation. Observations were conducted during the puzzle-making process to monitor student activities, collaboration, and the use of *Tri N* values. Semi-structured interviews with students and teachers explored experiences, understanding of cultural diversity, and perceptions of *Tri N*. Documentation involved collecting student work in the form of traditional house puzzles, supported with photographs and descriptions, to analyze cultural understanding, creativity, and application of *Tri N* values.

RESULTS AND DISCUSSION

PURADI Project Description

This research aims to develop and test the effectiveness of the project "Assembling Diversity: Indonesian Cultural Exploration Through the Tri N Integrated Indonesian Traditional House (PURADI) Puzzle" in improving Phase B students' understanding of Indonesian cultural diversity. The development model used is ADDIE, which includes five stages: Analysis, Design, Development, Implementation, and Evaluation.

The PURADI project is designed as a project-based learning activity (PjBL) that actively involves students in making traditional house puzzles. This project integrates Pancasila Education and SBdP learning materials, especially about cultural diversity in Indonesia. Students are given the freedom to choose the traditional house they want to make the puzzle for, so they can explore different types of traditional houses from all over Indonesia.

The puzzle making process involves several stages. First, students observe (Niteni) the pictures or photos of the traditional houses they choose. Then, they imitate (Nirokke) the shape and structure of the traditional house in the form of puzzles. Finally, they develop their creativity in designing and decorating puzzles, as well as adding information about the traditional house.

This project was carried out during 1x meeting, with a time allocation of 2x35 minutes. The meeting began with a brief introduction from the teacher, followed by puzzle-making activities, discussions, and presentations of students' work. During the implementation of the project, teachers act as facilitators who provide guidance and support to students.

Results of Making Traditional House Puzzles

At this stage, the results of the traditional house puzzle making activities will be presented by students. These results are presented in the form of descriptions, photos, and visual analysis of students' work.

In general, the students' work shows interesting variations in the selection of traditional houses. Students choose various types of traditional houses from various regions in Indonesia, such as Rumah Gadang (West Sumatra), Rumah Joglo (Central Java), Rumah Honai (Papua),

and Rumah Tongkonan (South Sulawesi). The selection of these diverse traditional houses shows the interest and interest of students in the diversity of Indonesian culture.

The puzzle making process involves several stages, starting from observing the drawing or photo of the traditional house (Niteni), imitating the shape and structure of the traditional house (Nirokke), to developing creativity in designing and decorating the puzzle (Nambahi). The students' work shows that they are able to apply the three stages of Tri N.

Analysis of Observation Data

The analysis of the observation data aims to describe the activities of students during the process of making traditional house puzzles, as well as to identify how students apply the concept of Tri N (Niteni, Nirokke, Nambahi) in these activities. Observations were carried out using pre-designed observation sheets, focusing on aspects such as student participation, cooperation, problem-solving skills, and the use of Tri N values.

Student Participation:

In general, the participation of students in traditional house puzzle-making activities is very high. This is shown by the:

- 1) Active involvement of students in every stage of puzzle making.
- 2) The enthusiasm of students in choosing a traditional house and discussing with peers.
- 3) Students' ability to follow instructions and complete tasks on time.

Collaboration

Cooperation between students also looks quite good. Students help each other in:

- 1) Sharing tools and materials.
- 2) Give each other input and suggestions.
- 3) Help friends who are in difficulty.

Application of the Tri N Concept:

Niteni (Observing): Students show the ability to observe pictures or photos of traditional houses. They are able to identify various architectural details of traditional houses, such as the shape of the roof, windows, doors, and ornaments.

Elinka was able to mention 3 characteristics of Rumah Gadang, namely having an upward-curved roof, made of wood and having stairs.

Nirokke (Imitate): Students show the ability to imitate the shape and structure of traditional houses. They try to create a puzzle that is similar to the image or photograph they are observing.



Figure 1. A colorized photo of the puzzle of Gadang's house as in the video they saw earlier

Source: Primary research documentation (2024)

Add: Students show creativity in designing and decorating puzzles. They add unique details, such as coloring, decorations, and information about the traditional house.



Figure 2. Testing a puzzle by spilling and reassembling it

Source: Primary research documentation (2024)

Analysis of Interview Data

The analysis of the interview data aims to dig deeper about the students' experience in participating in the PURADI project, as well as to find out the teacher's perception of the effectiveness of the project. Interviews were conducted with students and teachers using semi-structured interview guidelines.

Analysis of Interviews with Students:

Interviews with students yielded some important findings:

Interest and Interest: Most students stated that they were very interested in the PURADI project. They felt happy and enthusiastic in making traditional house puzzles. "I really like to make puzzles of traditional houses, because I know more about houses in Indonesia!" (Iqbal).

Understanding of Cultural Diversity: Students revealed that they gained a better understanding of Indonesia's cultural diversity through this project. They are able to name various types of traditional houses, understand architectural differences, and know the origin of the area. "This Honai house from Papua looks very simple in shape, right? It is in the form of a tube with a half-ball roof only. Does it stay warm inside when the weather wants?" (Samuel)

Application of Tri N Values: Students admit that they apply Tri N values in puzzle making. They observe drawings of traditional houses (Niteni), imitate their shapes (Nirokke), and develop their creativity in decorating puzzles (Nambahi). "I see that the house is good, can I color it with gradations like the one in the video earlier, ma'am? Only later will I stick it in a cardboard box and cut it into puzzles" (Selma)

Analysis of Interviews with Teachers

Interviews with teachers also provide valuable information:

Project Effectiveness: Teachers stated that the PURADI project was effective in improving students' understanding of cultural diversity and developing their skills. "This project is very good, students are more enthusiastic about learning and understand more about traditional houses." (Rini Ismiyati, Phase B Teacher).

Student Engagement: Teachers observe increased student involvement in the learning process. Students are more active, enthusiastic, and enthusiastic in participating in activities.

"The students are very enthusiastic, they can't wait to make another puzzle soon" (Devi Seftiana, Grade 4 teacher).

Challenges and Solutions: Teachers conveyed some of the challenges faced during the implementation of the project, such as time constraints and the availability of tools and materials. The teacher also gave suggestions for future project improvements.] "It may take longer to complete this project." (Susmiati, 5th grade teacher).

Interpretation of Research Results

The Indonesian traditional house puzzle development project (PURADI) which is integrated with the values of Tri N in Pancasila Education (PKn) and SBdP phase B learning shows positive results in improving students' understanding and attitudes. This puzzle not only serves as a visual and interactive learning medium, but also as a means of internalizing national and cultural values. The results of this study are in line with the theory of constructivism, which emphasizes that students build their own knowledge through direct experience and interaction with the learning environment (Piaget, 1977).

Analysis of observational data showed that students showed high participation and good cooperation during the puzzle-making process. This indicates that the PURADI project has succeeded in creating a fun learning environment and motivating students to be actively involved. The active involvement of students in learning activities is a key factor in improving the understanding and retention of information (Johnson, 2009).

The application of Tri N values (Niteni, Nirokke, Nambahi) in the PURADI project also makes a significant contribution to students' understanding of cultural diversity. Through the Niteni process, students learn to observe and understand various aspects of traditional houses. Through the Nirokke process, students mimic the shape and structure of traditional houses, thus improving their understanding of architectural details. Through the Nambahi process, students develop their creativity in designing and decorating puzzles, as well as adding information about traditional houses, thus deepening their understanding of the cultural values contained in the traditional houses.

The results of interviews with students and teachers also support these findings. Students stated that they felt happy and enthusiastic in participating in the PURADI project, as well as gaining a better understanding of cultural diversity. Teachers also observed increased student engagement and project effectiveness in improving student understanding.

Implications of PURADI Project Learning

The PURADI project has several important implications in the context of learning in elementary schools:

Improving Understanding of the Concept of Cultural Diversity: This project has proven to be effective in increasing students' understanding of the concept of cultural diversity in Indonesia. Through making traditional house puzzles, students learn about different types of traditional houses from various regions, as well as understand the differences in architecture, philosophy, and cultural values contained in them. This is in line with the learning objectives of Pancasila Education and SBdP which emphasizes the importance of recognizing and appreciating cultural diversity as part of the nation's identity.

21st Century Skills Development: The PURADI project also contributes to the development of 21st century skills, such as critical thinking, creativity, collaboration, and communication. Students are required to think critically in observing and analyzing images of traditional houses, develop creativity in designing and decorating puzzles, collaborate with peers, and communicate in presenting their work.

Application of Project-Based Learning Approach (PjBL): This project is a concrete example of the implementation of an effective project-based learning approach (PjBL). PjBL

provides students with the opportunity to learn actively, engage in meaningful activities, and apply the knowledge they gain in real-world situations. The application of PjBL can increase students' motivation to learn, develop high-level thinking skills, and prepare students to face future challenges.

Integration of Tri N Values: The integration of Tri N values (Niteni, Nirokke, Nambahi) in this project provides a structured framework to improve student understanding. Through observation (Niteni), imitation (Nirokke), and development (Nambahi), students gradually build a deep understanding of the concept of cultural diversity. This approach is in line with Ki Hajar Dewantara's educational philosophy which emphasizes the importance of a holistic and student-centered learning process.

Research Limitations

Each study has limitations, and this study also has some limitations that need to be noted:

Research Scale: This research was conducted on a relatively small scale, namely in one elementary school with a limited number of students. This limits the generalization of research results to a wider population.

Duration of Implementation: The relatively short duration of the implementation of the PURADI project (1x meeting) may limit the long-term impact on students' understanding of cultural diversity.

Research Instruments: The research instruments used, such as observation sheets and interview guidelines, may have limitations in comprehensively measuring all aspects related to the student's understanding and the effectiveness of the project.

External Factors: External factors, such as classroom conditions, availability of tools and materials, and teacher experience, can affect research outcomes.

Nevertheless, this research makes a valuable contribution in understanding the effectiveness of the PURADI project in improving students' understanding of cultural diversity. The results of this study can be the basis for further research on a wider scale and taking into account existing limitations

CONCLUSION

The *PURADI* project proved to be an effective and innovative approach to enhancing students' understanding of Indonesia's cultural diversity, particularly through the study of traditional houses, while simultaneously fostering 21st-century skills such as critical thinking, creativity, collaboration, and communication. The integration of *Tri N* values (*Niteni, Nirokke, Nambahi*) provided a clear and structured framework that strengthened the learning process and cultural exploration. Despite certain limitations, the project demonstrated strong potential as a replicable model for promoting cultural literacy, national identity, and essential skills in primary education. Future research should expand its implementation to different regions and educational levels to test adaptability, scalability, and long-term impacts on students' cultural awareness and learning outcomes.

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