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# Preservation of Local Wisdom through the Batik Mangrove Project at SD Negeri 025 Teluk Binjai

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## Abstract

This community service initiative at SD Negeri 025 Teluk Binjai addresses the need to enhance students' knowledge and skills related to Malay local wisdom and the mangrove ecosystem. The project aims to introduce students to the art of batik and the importance of preserving the mangrove ecosystem through the Batik Mangrove project. Using a descriptive qualitative method involving observation, interviews, and documentation, the project targeted fifth-grade students due to their cognitive ability to grasp ecosystem concepts and basic art skills. The activities included introducing the mangrove ecosystem, collaboratively designing batik inspired by mangrove flora and fauna, engaging in batik-making under the guidance of local artisans, and evaluating the impact through observations and interviews. The results indicated significant improvements in students' artistic skills, environmental awareness, and understanding of cultural preservation. This project also faced challenges such as limited curriculum time and initially low student interest in local culture. Future recommendations include involving more local elements, enhancing collaboration with stakeholders, and extending the project duration for greater impact. Ultimately, this initiative contributes to community well-being by fostering a generation that values and preserves local culture and the environment.

**Keywords:** Batik Mangrove; Local Wisdom; Cultural

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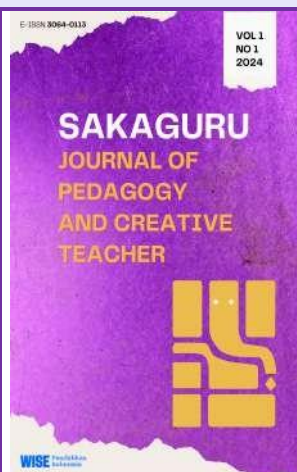
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## INTRODUCTION

Indonesia is a nation with an extensive territory, making it a maritime country situated in a vast sea region, comprising 34 provinces [1]–[3]. Indonesia is a unified country rich in diversity, encompassing a wide range of cultures, regional languages, ethnicities, races, religions, and beliefs, among others [4]–[6]. Indonesia's vast territory encompasses immense diversity. This diversity is a blessing from God, highlighting the beauty of Indonesia as it was created. The numerous differences within society across various fields demonstrate the existence of diversity [7]–[9].

Indonesia is the fourth most populous country after the United States, with a population of over 267 million people, comprising various social, religious, ethnic, and cultural diversities [10]. Indonesia is home to a multitude of religions, cultures, ethnic groups, races, and languages, often referred to as "mega cultural diversity" [11]. The diversity of Indonesian society is influenced by various factors. These differences have long been an important aspect of life in Indonesia and are not only significant in the modern era [12]. Essentially, culture carries values that are continually passed down, interpreted, and practiced along with the process of social change within society [13].

The definition of culture, etymologically, comes from the Sanskrit word "budh," which means "to understand" or "to know." [14]–[16]. In Indonesian, the term "culture" refers to the entire set of values, beliefs, behaviors, and traditions passed down from generation to generation within a society [17]. Therefore, the linguistic definition of culture can be said to be a way of life rooted in local wisdom and handed down from one generation to the next within a community. Culture is a set of values, beliefs, behaviors, and traditions shared by a specific group or society. Culture encompasses all aspects of human life, including language, religion, art, music, food, clothing, and more [18].

The role of local wisdom critically transforms and shapes global culture to be meaningful and aligned with the social and cultural life of the community. Young people who understand and adopt the values of local wisdom early on will use them as an analytical tool to dissect and differentiate foreign cultures [19]–[21]. The importance of local wisdom-based learning aligns with educational goals as an effort to pass on culture and underpin the growth of character education values. Batik is one of Indonesia's original cultural products, recognized internationally as a masterpiece of intangible and oral heritage of humanity [22].

Local wisdom, or kearifan lokal, refers to the culture of a particular region that encompasses moral values, knowledge, and serves as a source of learning. These moral values originate from the surrounding community, often manifested as unwritten customary rules that are collectively adhered to [20]. Local wisdom is defined as the cultural heritage of a local area, containing advice and a way of life that considers guidelines and wisdom for living [23]. Students are beginning to lose their sense of nationalism as they learn more about foreign cultures and have less understanding of Indonesia's local wisdom in the era of globalization [24].

Most local cultures in Indonesia are known for their unique local wisdom, which teaches ethical and moral values and is passed down from generation to generation. The effort to preserve this wisdom is hoped to remain strong in facing the challenges of globalization, which offers a practical and liberal lifestyle [25]. Batik is a priceless heritage from our ancestors. Batik has also been designated by UNESCO as a Masterpiece of the Oral and Intangible Heritage of

Humanity [26]. Batik is a type of fabric with distinctive patterns created using a special technique [27], salah satunya batik di daerah Riau, Dumai, Teluk Binjai.

Riau is a province in Indonesia located in the central part of Sumatra Island. This province lies along the central eastern coast of Sumatra, specifically along the Strait of Malacca. Until 2004, the province also included the Riau Islands, a large group of small islands (the main ones being Batam Island and Bintan Island) situated east of Sumatra and south of Singapore. The capital and largest city of Riau is Pekanbaru. Other major cities include Dumai, Selatpanjang, Bagansiapiapi, Bengkalis, Bangkinang, Tembilahan, and Rengat [28]. Melayu culture is a distinctive characteristic of the Malay region, emerging from the lives of the Malay people. One of the areas inhabited by the Malay community is the province of Riau [29].

One of the forest ecotourism attractions that is popular among local and international tourists and frequently becomes a national topic is mangrove ecotourism. This is due to the unique ecosystem of mangroves, which possesses great beauty and high biodiversity[30]. In the city of Dumai, there are existing mangrove ecosystems, such as Dumai Bandar Bakau, that are being developed for mangrove ecotourism purposes [31]. The Bandar Bakau Mangrove Forest in Dumai City presents considerable potential as a tourist destination. Tourists can relish the fresh and cool air, and the site is home to various mangrove species that enhance the local biodiversity. Furthermore, the area includes mangrove nurseries and planting zones, offering opportunities for educational tourism [32].

At SD Negeri 025 Teluk Binjai, the majority of students are of Batak descent, comprising approximately 80% of the student population. This demographic composition presents a unique challenge in introducing the local Malay wisdom, which is an integral part of the region's cultural heritage. The local wisdom of Dumai, especially regarding the mangrove ecosystem, is often less known and understood by students from different cultural backgrounds. Furthermore, students' knowledge and skills in the art of batik are limited. This community service initiative arises from the need to bridge this knowledge gap by introducing students to the art of batik and the importance of preserving the mangrove ecosystem through the Batik Mangrove project. The project aims to provide students with a profound understanding of the interconnectedness between culture, art, and the environment. This comprehensive approach is expected to enhance their appreciation and awareness of local wisdom. Recognizing the crucial role of education in preserving cultural and environmental heritage, the Batik Mangrove project seeks to integrate experiential learning with cultural education. By engaging students in hands-on activities related to batik making, coupled with ecological education about mangroves, the project aspires to foster a sense of pride and responsibility towards their local environment and cultural roots..

Previous research conducted by Hendika Whesli et al., titled "The Application of Project Based Learning Model in the Making of Tie Dye Batik to Improve Procedural Text Writing Skills," aimed to enhance students' procedural text writing skills in the context of tie dye batik making using the Project Based Learning (PBL) model. This model comprises six steps: defining basic questions, designing product planning, scheduling project creation, monitoring project activity and progress, testing results, and evaluating the learning experience. The research findings indicate that (1) the learning process using the Project Based Learning method, by assigning projects/tasks to students, allows them to create and innovate to the fullest, and (2) the Project Based Learning method effectively enhances the procedural text

writing skills of fifth-grade students at SDN Jogoyitnan Wonosobo in the making of tie dye batik [33].

Subsequent research conducted by Yeni Fisnani et al., titled "The Application of Project Based Learning Method in Local Content of Batik to Enhance Students' Creativity," aimed to (1) describe the learning process of local content batik using the project-based learning method, (2) describe the increase in students' creativity using the project-based learning method, and (3) describe the students' works produced through the project-based learning method. The study was implemented from the pre-action activities to the second cycle, and it was found that the project-based learning method applied to fourth-grade C students at SD Negeri Klego 01 resulted in an improvement in students' creativity [34].

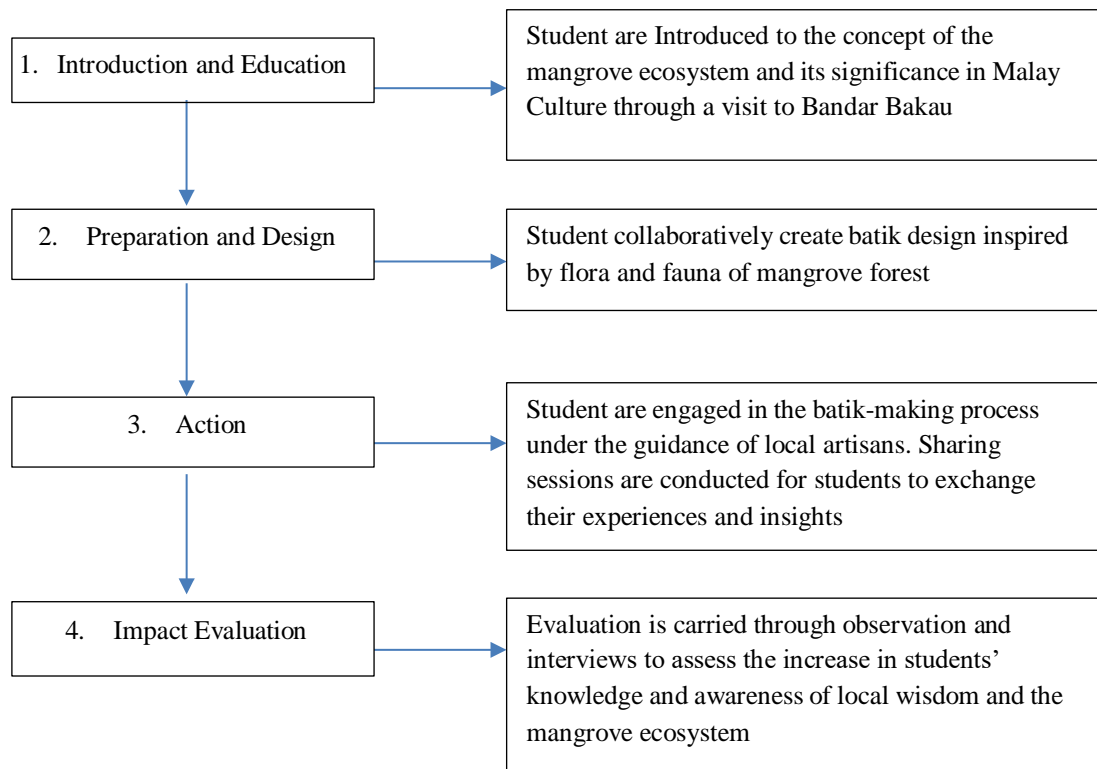
Research by Hendika Whesli et al. and Yeni Fisnani et al. has shown that Project Based Learning (PBL) is effective in improving students' procedural writing skills and creativity. However, these studies did not explore other cognitive and affective aspects such as critical thinking and cultural appreciation, nor did they consider the long-term impact of PBL. The community service project at SDN 025 Teluk Binjai aims to address this gap by integrating the enhancement of writing skills and creativity within a comprehensive PBL framework. This project teaches students to create batik with mangrove motifs while understanding the mangrove ecosystem and the importance of environmental conservation as part of local wisdom. Additionally, the project is designed for a sufficient duration to allow for the evaluation of long-term impacts. Therefore, this community service project not only fills the gaps identified in previous research but also provides a more comprehensive and sustainable project-based education model, integrating writing skills, creativity, and cultural appreciation in a local context.

The objectives of this community service project are to introduce students to the mangrove ecosystem as part of Dumai's local wisdom through educational and interactive activities. Additionally, the project aims to enhance students' skills in batik art by using inspiration from mangrove flora and fauna. Through this project, it is expected that students' awareness and concern for environmental and cultural preservation will increase. The project also aims to cultivate a younger generation that appreciates and protects local wisdom and their surrounding environment. By achieving these goals, students are expected not only to acquire new knowledge but also to develop a positive attitude towards cultural and environmental preservation. Ultimately, this will contribute to the well-being of the local community, creating a society that is more caring and responsible towards its cultural and environmental heritage.

## METHODS

This community service activity employs a descriptive qualitative method. Data collection techniques involve observation, interviews, and documentation throughout the project implementation. The target participants for this activity are fifth-grade students at SD Negeri 025 Teluk Binjai. These students are chosen because, at this age, they possess sufficient cognitive abilities to understand ecosystem concepts and basic art skills. The steps undertaken during the activity implementation are illustrated in Figure 1 below:





**Figure 1:** Steps of the Mangrove Batik Project Activities

## RESULT AND DISCUSSIONS

### *Result*

This community service activity has achieved significant results in enhancing students' knowledge and skills regarding Malay local wisdom and the mangrove ecosystem. Through the Batik Mangrove project, students at SD Negeri 025 Teluk Binjai have gained a deeper understanding of the importance of mangrove ecosystems and how to integrate local cultural values into batik art. The students successfully created batik works inspired by the flora and fauna of the mangroves, demonstrating an improvement in their artistic skills. Additionally, there was an increase in environmental awareness among the students, as evidenced by their enthusiasm in maintaining and preserving the mangrove ecosystem following this activity. Students also showed a better understanding of the importance of preserving local culture, which was reflected in their discussions and presentations during the reflection sessions.



**Figure 2.** Cultural Exhibition and Showcase of Malay Culture in Dumai City

## Discussions

The impact analysis of this activity indicates that the Batik Mangrove project positively influenced students' understanding of local culture and the environment. One of the main impacts was the increased awareness and concern among students for the mangrove ecosystem. Previously, many students were unaware of the vital role of mangroves in maintaining coastal ecosystem balance and supporting biodiversity. Through visits to Bandar Bakau and interactive educational sessions, students learned not only about the ecological functions of mangroves but also about the challenges faced in mangrove conservation efforts.

Despite the positive impacts, this activity also faced several challenges. One major challenge was the limited time in the school curriculum, making it difficult to allocate sufficient time for both the theoretical and practical aspects of batik mangrove. To address this challenge, the service team organized intensive sessions outside school hours and collaborated with local batik artisans to provide more effective practical training. Another challenge was the initially low interest of students in local culture that was not their own. To overcome this, the service team used interactive and engaging approaches, such as taking students directly to the mangrove ecosystem and involving them in the creative batik-making process.

Additionally, the project faced challenges in coordination and collaboration with various parties. Involving batik artisans, environmental experts, and the local community required careful communication and planning. These challenges were successfully addressed through regular meetings and discussions with all involved parties, ensuring that each stage of the activity ran smoothly and according to plan. Overall, this community service activity has successfully achieved its primary objectives and provided significant positive impacts. The improvement in artistic skills, ecological understanding, and cultural awareness among students are indicators of the project's success. However, for similar activities in the future, it is recommended to extend the duration of implementation and involve more local elements from the outset to achieve more maximal and sustainable results. Through these efforts, it is hoped that the younger generation will increasingly appreciate and protect local wisdom and their surrounding environment, contributing to the overall well-being of the community.

Research by Nunuk et al., titled “Enhancing Students' Creativity through Project Based Learning Model in Batik Making Techniques for Sixth Grade Elementary School Students,” aimed to investigate the impact of Project Based Learning (PjBL) on improving sixth-grade students' creativity in batik-making techniques. The results showed a significant increase in students' creativity skills after the implementation of PjBL, from 35% before PjBL to 85% afterward. The similarity with the Batik Mangrove project at SDN 025 Teluk Binjai lies in the use of the PjBL approach to enhance students' batik-making skills and the measurement of skill improvement before and after the method's implementation. The differences include the research subjects (sixth grade vs. fifth grade), skill focus (creativity vs. environmental and cultural awareness), batik-making method (ecoprint vs. mangrove motifs), and project duration and scope (short-term vs. long-term). The Batik Mangrove project also emphasizes environmental and cultural education, providing a more holistic and sustainable educational model [35].

Subsequent research by Yuli Bangun Nursanti et al., titled “Training on the Utilization of Mathematical Facts in Batik Making in Elementary Schools to Support the Implementation of the Merdeka Curriculum,” focused on the implementation of the Merdeka Curriculum

through the utilization of mathematical facts in batik making in elementary schools in Jatisrono District, Wonogiri Regency. The aim was to support differentiated learning and strengthen the Pancasila Student Profile. This activity involved mentoring teachers and students in designing mathematics learning that also incorporates ethnomathematics and local culture, such as Wonogiren Batik. The similarity with the Batik Mangrove project at SDN 025 Teluk Binjai is the use of a project-based approach to integrate art and cultural education into the curriculum and enhance students' skills through meaningful and enjoyable learning. The differences lie in the focus of the material; the research in Jatisrono integrates mathematics and ethnomathematics, while the project at SDN 025 Teluk Binjai focuses on batik art with mangrove motifs and environmental awareness. Additionally, the Jatisrono study involved more teachers in the mentoring scheme, whereas the Batik Mangrove project is more focused on students with a longer duration for long-term evaluation [36].

Research on the implementation of the Merdeka Curriculum in Jatisrono District and the Batik Mangrove project at SDN 025 Teluk Binjai demonstrates that the project-based learning (PjBL) approach is effective in improving students' skills and making learning more meaningful. In Jatisrono District, the integration of mathematics with ethnomathematics through batik making successfully supported differentiated learning and introduced local culture to students. Meanwhile, the Batik Mangrove project at SDN 025 Teluk Binjai not only enhanced students' writing and creativity skills but also increased their awareness of the environment and local culture. Both studies emphasize the importance of incorporating art and cultural education into the curriculum to create a richer and more sustainable learning experience for students.

## CONCLUSION

This community service activity has successfully enhanced students' knowledge and skills regarding Malay local wisdom and the mangrove ecosystem. Students demonstrated increased awareness and concern for environmental conservation. The results of this activity contribute to the well-being of the community by preserving local culture and environment and fostering a generation that is more environmentally conscious. However, some challenges were encountered, including limited implementation time and initially low interest from students in local culture that is not their own. For similar activities in the future, it is recommended to involve more local elements and enhance collaboration with various stakeholders. Additionally, a longer implementation period may help achieve more maximal results. Therefore, it is hoped that these activities can continue to develop and provide greater positive impacts on the preservation of local culture and environment.



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## CONFLICT OF INTEREST

“The authors declare no conflict of interest”.

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