



GREEN SCHOOL: Creating an Environmental Friendly and Sustainable School at Muhammadiyah PK Sambu Elementary School

Yuli Priyana^{1*}, Iqbal Agung Hidayat¹, Maulida Fatkhayah¹

Department of Geography, Faculty of Geography, Universitas Muhammadiyah Surakarta¹,

Corresponding Email*: yuli.priyana@ums.ac.id

Article Info:

Submitted: 30 June 2024
Revised: 28 July 2024
Accepted: 19 February 2025
Publisher: 21 February 2025

Keywords: Green School, Environmentally Awareness, Environmentally Friendly, Childrens

Abstract

Green School is a concept that promotes the use of environmental friendly and sustainable practices in daily school activities. This includes efficient energy use, waste reduction, responsible water management, and comprehensive environmental education. The goal of this initiative is to raise awareness and implement eco-friendly school practices at Muhammadiyah PK Sambu Elementary School, Boyolali. The implementation methods involve brief lectures, discussions, and hands-on activities, such as planting greenery in the schoolyard. The research results indicate an increase in environmental awareness and the implementation of eco-friendly practices in the school. Key findings include reduced energy consumption, more efficient waste management, and heightened environmental awareness among students and school staff. In conclusion, the application of the Green School concept is effective in creating an environmental friendly and sustainable school and can serve as a model for other educational institutions. This effort can contribute positively to addressing global environmental challenges and preparing future generations who care about the environment.

1. Introduction

Schools play a crucial role in shaping the next generation. Beyond providing quality education, schools also hold the responsibility of educating students about environmental awareness. The Green School concept encourages the adoption of sustainable and eco-friendly practices in daily school activities. These include efficient energy use, waste reduction, water management, and comprehensive environmental education (Fadjarwati et al., 2022; Yamin et al., 2022).

The existence of Green Schools is highly significant because they promote: (a) Environmental awareness – This program helps increase awareness among students, teachers, and school staff regarding environmental issues and the importance of sustainable actions. (b) Holistic learning – By implementing eco-friendly practices in schools, students learn about the environment through direct experience, enhancing their understanding in a holistic way. (c) Resource conservation – Green Schools reduce energy, water, and resource consumption, which in turn lowers operational costs (Kurniati et al., 2021; Rosanti et al., 2022).

The Green School introduction program is particularly essential for elementary school students as it provides them with the opportunity to learn about and understand their natural surroundings. In this program, students are taught about biodiversity, environmental protection, and the importance of preserving nature. This education helps them become responsible individuals who are aware of the impact of human activities on the environment.

Several studies have shown that early exposure to environmental education has a positive effect on students' understanding and attitudes toward nature. According to Jean Piaget's cognitive theory, elementary school children are in the concrete operational stage, where they can grasp abstract concepts such as the environment. With proper introduction, students can develop a deep understanding of ecosystems and how humans can interact with nature in a sustainable manner (Kurniawan, 2020; R. S. Putra et al., 2023).

Additionally, the Green School introduction program enhances students' awareness of current environmental issues. They learn about problems such as climate change, ozone depletion, and biodiversity loss. Studies in environmental psychology indicate that early awareness of environmental issues helps shape positive attitudes and values regarding environmental protection in the future.

A Green School is an initiative that encourages all school members to adopt a more environmentally conscious and sustainable lifestyle. It involves instilling sustainability values in students to ensure environmental protection for future generations (Syukur et al., 2021). The association of "green" with education and curriculum can be traced back

to the 1980s, reflecting efforts to incorporate holistic approaches into environmental education (Hamza et al., 2020). While the origin of the term "Green School" remains unclear, green education often aligns with eco-political principles, including ecological wisdom, social justice, grassroots democracy, and non-violence.

The benefits of Green Schools are diverse. Firstly, they focus on creating and maintaining sustainable environments, helping to shape environmentally conscious generations while ensuring awareness of environmental preservation. Secondly, Green Schools serve as an effective platform for teaching students about current environmental challenges and how individual and collective actions can mitigate negative environmental impacts. Moreover, through programs such as field trips and collaborations with environmental organizations, students gain firsthand exposure to sustainable practices, inspiring them to apply these practices in their daily lives (Chisyarani & Yasa, 2021; J. S. Putra et al., 2018).

Beyond environmental benefits, Green School programs also contribute to students' health and well-being. A clean environment and exposure to nature have positive effects on both physical and mental health. Additionally, students learn about efficient resource use and adopting sustainable lifestyles. By providing in-depth knowledge on environmental issues, Green School initiatives help cultivate environmental consciousness and prepare students to become future leaders in sustainability. The objectives of this initiative include: (a) Increasing awareness among students and school staff about environmental issues and the importance of sustainable actions. (b) Implementing eco-friendly practices in schools to minimize environmental impact and promote long-term sustainability.

2. Methods of Implementation

The methods used in this initiative, such as short lectures, discussions, and practical tree planting activities at school, were carefully selected to achieve specific goals in implementing the Green School concept (Mahagiyani, 2024). The short lecture served as a way to provide basic understanding of the Green School concept to participants, including students and school staff. The lecture materials covered topics such as the importance of environmental

conservation and the benefits of eco-friendly practices in schools. These were delivered in simple and easy-to-understand language to ensure that the message was effectively conveyed.

Discussion played a crucial role after the lecture, engaging participants in the learning process. It allowed them to share experiences, ideas, and perspectives on environmental issues, enriching their collective understanding of the importance of sustainable practices in schools. The practical tree planting activity was a concrete step in applying the Green School concept. Besides providing hands-on experience, it helped participants develop an emotional connection with their school environment. Through this activity, participants could understand the importance of environmental preservation and the positive impact of simple actions like planting trees. Additionally, it fostered collaboration among students, staff, and the school community in creating a greener and healthier environment. The development of these methods was based on the principle of inclusivity, ensuring that all participants were actively involved in each stage of the activity.

2.1 Implementation Process

The initiative was implemented at Muhammadiyah PK Sambi Elementary School over three months. The tools and materials used included:

- A set of laptops
- LCD projectors
- Digital cameras
- Green plants for reforestation
- Activity evaluation questionnaires

The stages of the Green School awareness program included:

- Coordination of community service activities
- Short lectures and discussions
- Tree planting in the schoolyard
- Program evaluation

2.2 Evaluation Process

The evaluation was conducted to analyze the program's outcomes and measure its success using a formative evaluation approach. Formative evaluation is carried out during the learning process or program implementation to provide constructive feedback for both organizers and participants (Septyanun & Rohayu H, 2020).

3. Results and Discussion

3.1 Environmental Education for Raising Awareness

Environmental education aims to increase environmental awareness. This awareness includes a positive relationship between individuals and both the natural and social environment, considering ecological principles. The goal is to shape environmentally conscious attitudes based on relevant values. According to developmental psychology theories, environmental education has a more significant impact on children.

From a learning psychology perspective, environmental education is essential as it involves learning through teacher examples, hands-on projects, internal and external motivation, and research. With numerous environmental issues such as air pollution, ozone depletion, flooding, drought, and global warming, environmental education should not merely focus on lamenting the consequences. The motto "Think globally, act locally" must be realized not just in words but in concrete actions.

Several conditions are necessary for the success of environmental education. First, environmental education should be a fundamental principle that permeates all school activities. Second, learning should be project-oriented, integrating multiple disciplines, providing broad access, and focusing on both process and outcomes. Third, education should take place in ecological environments relevant to the school's context.

3.2 Green School as an Alternative for Environmental Education with a Contextual Approach

There are two main strategies for delivering environmental education: the monolithic approach and the integrative approach. The monolithic approach treats each subject as an

independent component with a specific objective, while the integrative approach incorporates environmental education into various fields of study.

Environmental education can start with simple activities, progressing to more complex ones such as research projects. Students are introduced to an education model integrated with nature, helping them understand that everything in nature can be a learning resource. Contextual learning helps students connect academic material with real-life experiences. From the teacher's perspective, contextual teaching enables students to strengthen their knowledge and skills in solving real-world problems. From the student's perspective, contextual learning requires a strong connection between academic content and direct experiences. There are six key components in developing contextual learning, including emphasizing positive values, applying knowledge, encouraging higher-order thinking, respecting cultural diversity, and using authentic assessment methods.

As part of environmental education, the Green School model continues to evolve. Green Schools can be developed through activities such as using the schoolyard as a learning resource, waste management practices, water and wastewater management, environmental excursions, and expanding environmental literacy materials. Innovations such as creating recycled products, enhancing teacher skills, and conducting environmental programs are also essential for the development of Green Schools.

3.3 Pre-Implementation Activities

The greening program was conducted at Muhammadiyah PK Sambu Elementary School. The initial phase of the program prioritized socialization among early childhood education (PAUD) teachers. This stage aimed to equip teachers with the motivation and ability to instill environmental awareness in their students. During this session, the school principal warmly welcomed the initiative and its objectives. A total of 14 teachers with undergraduate qualifications (S1 degree) participated in the program. At this stage, the organizing team provided several tree seedlings for planting in the front yard of the school, contributing to a greener and more sustainable school environment.



Figure 1. Planting Activities in the Schoolyard of Muhammadiyah PK Sambu Elementary School

3.4 Implementation Phase of the Program

This community service initiative aimed to enhance environmental awareness and promote eco-friendly practices at Muhammadiyah PK Sambu Elementary School, Boyolali. Through a demonstration-based approach, teachers and students were expected to understand the importance of environmental conservation and implement these practices in their daily school activities.

The implementation process began with thorough preparation by the service team, including planning educational materials, demonstration techniques, and procuring plant seedlings. Prior to the event, the team coordinated with the school to set a schedule and ensure the availability of meeting space and planting locations within the schoolyard. On Friday, September 15, 2023, at 1:00 PM WIB, the entire service team gathered at Muhammadiyah PK Sambu Elementary School, Boyolali. The event started with an opening speech by the school principal, who introduced the importance of this initiative. This was followed by a brief lecture on the Green School concept and the significance of tree planting for the environment.

After the lecture, a demonstration session was conducted by the service team. The participating teachers and students were guided through practical steps in planting. These steps included soil preparation, seedling planting, and proper plant care. During the planting process, teachers provided instructions to students on the importance of nurturing plants and the positive impact on the environment. They also emphasized the shared responsibility of maintaining environmental sustainability within the school.

Meanwhile, the service team provided technical guidance to teachers on eco-friendly practices that could be implemented in schools, such as waste management, water conservation, and efficient energy use. Discussions were held between the service team, teachers, and the school principal to exchange experiences and ideas on how to improve environmental awareness in the school. By 3:00 PM WIB, the tree-planting activity was completed. Participants reassembled in the meeting room for an evaluation and reflection session. They shared their experiences, highlighting successes and challenges encountered during the activity. The school principal also expressed appreciation to the service team for their contribution to raising environmental awareness at the school.

Following the event, the planted trees were regularly monitored by teachers and students. They took care of the plants with dedication, ensuring their growth and positive impact on the school environment. This community service initiative was not merely a one-time demonstration and planting activity but marked the beginning of sustainable efforts to establish a Green School at Muhammadiyah PK Sambu Elementary School, Boyolali. Teachers and students are expected to continuously implement eco-friendly practices in their daily activities and actively participate in environmental conservation efforts.

The service team remains committed to providing ongoing support and guidance to the school in implementing eco-friendly practices. They will continue to monitor progress and offer necessary recommendations to enhance the effectiveness of the Green School program. Thus, this initiative is expected to create a positive impact in increasing environmental awareness and transforming behaviors toward more sustainable practices at Muhammadiyah PK Sambu Elementary School, Boyolali. It is hoped that this school can serve as a model for other schools in environmental conservation efforts and in fostering a generation that cares for the environment.

3.5 Program Evaluation

Overall, the community service initiative at Muhammadiyah PK Sambu Elementary School has had a positive impact in increasing environmental awareness and introducing eco-friendly practices to teachers and students. Participants were actively engaged in all phases of the activity, from demonstrations to tree planting, involving teachers, the school principal, and a large number of students.

The evaluation process focused on several key aspects, including participation, material comprehension, behavioral changes, and program sustainability. Evaluation methods included interviews, questionnaires, observations, and document analysis. Key Findings in this program:

1. High Participation Rate

- Both teachers and students participated actively in all activities.
- They showed a strong interest in learning about eco-friendly practices.
- Participants demonstrated willingness to adopt these practices in their daily school routines.

2. Understanding of the Green School Concept

- Most participants understood the concept of Green Schools and environmental conservation.
- They were able to explain eco-friendly practices learned during the event.
- However, some participants needed further guidance to deepen their understanding.

3. Behavioral Changes

- A noticeable shift towards eco-friendly behaviors was observed.
- Many participants started implementing waste management and energy-saving measures.
- This indicates that the initiative successfully influenced their mindsets and habits toward sustainability.

4. Challenges in Ensuring Program Sustainability

- While positive changes were evident, sustaining the program long-term requires continuous efforts.

- A strong commitment from the school, teachers, students, and the surrounding community is necessary.

5. Areas for Improvement

- Continuity of the Program
 - Efforts should be made to ensure that eco-friendly practices are consistently applied rather than being a one-time event.
 - Ongoing support is needed to integrate sustainability into daily school activities.
- Regular Monitoring and Evaluation
 - Routine surveys, interviews, and observations should be conducted to measure the long-term impact on the school environment and community.
- Further Training and Guidance
 - Periodic training and mentorship for teachers and students can help deepen their knowledge and technical skills in environmental conservation.

4. Conclusion

From the activities carried out, several conclusions can be drawn as follows: the community service program at Muhammadiyah PK Sambu Elementary School, Boyolali, aimed at creating a Green School, was successfully implemented by involving teachers and students in demonstrations and planting activities in the schoolyard. The selected plant species, such as red and white shoot plants, longan trees, and caladium plants, were chosen to enrich the school environment and enhance environmental awareness among students. Through these activities, it is expected that there will be a better understanding of the importance of eco-friendly and sustainable practices, as well as the creation of a greener and more sustainable school environment. The active involvement of teachers and students in planting activities can serve as a foundation for building a sustainable environmental awareness culture in the school. Formative evaluation can be an effective tool to continuously monitor and improve the effectiveness of the activities, as well as to support the further development of the Green School concept in the future.

5. Acknowledgements

Expressions of thanks for the reviewers for feedback and insight.

6. References

- Chisyarani, D. D., & Yasa, A. D. (2021). Program Green Zone Untuk Melatih Siswa Sekolah Dasar Peduli Lingkungan. *Jurnal Pengabdian Dharma Wacana*. <https://doi.org/10.37295/jpdw.v2i2.226>
- Fadjarwati, N., Suciyani, W. O., Yusup, M., Oktavia, H. C., Sastrawan, J., Sayuti, A. M., & Pramono, T. D. (2022). Optimalisasi Pemanfaatan Ruang Sekolah Melalui Penataan Lingkungan Sebagai Upaya Mewujudkan Green School di SDN 231 Sukaasih Kota.
- Hamza, S., Musta'Amal Jamal, A. H., & Kamin, Y. (2020). Integration factors of green skills into building construction trade programme in nigeria. *Journal of Technical Education and Training*. <https://doi.org/10.30880/jtet.2020.12.01.001>
- Kurniati, A., Dike, D., & Parida, L. (2021). Pengembangan Literasi Lingkungan untuk Membangun Sekolah Sehat dan Hijau di SD Negeri 01 Kenukut Kecamatan Kelam Permai Kabupaten Sintang. *Jurnal Abdidas*. <https://doi.org/10.31004/abdidas.v2i2.243>
- Kurniawan, M. (2020). Pengenalan Sekolah Sehat Melalui Storytelling Dalam Kegiatan Menanam Tumbuhan Hijau Bagi Peserta Didik Di TK Kristen 1 Satya Wacana Salatiga. *Jurnal Pendidikan Dan Pengabdian Masyarakat*. <https://doi.org/10.29303/jppm.v3i1.1736>
- Mahagiyani, M. (2024). Analisis Usaha Tanaman Sayuran secara Hidroponik di Panti Asuhan Lksa Nurul Haq Madania Yogyakarta. *ADARMA: Jurnal Pengabdian Masyarakat Universitas Janabadra*. <https://doi.org/10.37159/jad.v10i2.11>
- Putra, J. S., Dania, D., & Arlinkasari, F. (2018). Peran *Perceived Restorativeness* Terhadap Environmental Attitude Pada Anak Sekolah Dasar. *Jurnal Ecopsy*. <https://doi.org/10.20527/ecopsy.v5i3.5517>
- Putra, R. S., Handayani, D., & Ranuhandoko, N. (2023). Mural sebagai Media Sosialisasi Lingkungan Sekolah Hijau Bersih dan Indah. *Darma Cendekia*. <https://doi.org/10.60012/dc.v2i1.55>
- Rosanti, A., Juhana, H., Ruswandi, U., & Erihadiana, M. (2022). Pendidikan Hijau (Green Education) Dalam Menghadapi Isu Nasional Dan Global. *Edumaspul: Jurnal Pendidikan*. <https://doi.org/10.33487/edumaspul.v6i1.3637>
- Septyanun, N., & Rohayu H, R. (2020). Diseminasi Online Model Perlindungan Hukum Bagi Nasabah Perbankan Akibat Force Majeour Covid-19 di Kota Mataram. *Community Engagement and Emergence Journal (CEEJ)*. <https://doi.org/10.37385/ceej.v2i1.132>
- Syukur, M., Darman, & Manda. (2021). Penerapan Model Green School Dalam Rangka Membentuk Gaya Hidup Berkelanjutan Di Sma Negeri 5 Kota Makassar. *Pengabdian Kepada Masyarakat*.
- Yamin, M., Ahmad, N., & Suhartini, A. (2022). Konsep Pendidikan Berwawasan Lingkungan dalam Perspektif Islam. *EDUKATIF: JURNAL ILMU PENDIDIKAN*. <https://doi.org/10.31004/edukatif.v4i4.3513>