

Improving Ecological Intelligence Through Environmental Education in Elementary School Students of Indonesian Nature School

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Improving Ecological Intelligence Through Environmental Education in Elementary School Students of Indonesian Nature School

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ABSTRACT

This study investigates the role of environmental education in enhancing ecological intelligence among students at Sekolah Alam Indonesia Elementary School. Using a qualitative survey design, participants were selected through purposive sampling, including the principal, vice principal, and teachers as key informants. Data was collected using semi-structured interviews, observations, and document studies, with instruments developed based on environmental education theories and best practices. Instrument validation involved expert assessments and pilot testing, achieving a high reliability index score of 0.85 using Cronbach's Alpha. The findings indicate that initiatives to boost environmental awareness were particularly effective through the application of the Seven Green Principles in daily activities. Students showed increased awareness in actions like reducing carbon emissions and participating in conservation efforts. The study concludes that fostering awareness of the Seven Green Principles through education on waste management, carbon reduction, organic farming, optimizing green spaces, and utilizing renewable energy significantly enhances students' ecological intelligence. Engaging students in hands-on activities, such as establishing waste banks and exploring local ecosystems, further promotes environmental stewardship. Overall, environmental education has proven to positively influence students' ecological behaviors, such as cycling to school and participating in conservation campaigns.

Keywords: Environmental Education, Ecological Intelligence, Nature School

INTRODUCTION

Environmental education is globally recognized as a crucial component of sustainability education. The primary goal of environmental education is to raise public awareness of environmental issues, promote sustainable behavior, and equip individuals with the skills necessary to address complex environmental challenges. Many countries around the world have integrated environmental education into their educational curricula, in line with the 2030 Agenda for Sustainable Development, particularly Goal 4, which emphasizes quality education. In Asia, environmental education is increasingly becoming a key focus in both formal and non-formal education. Countries such as Japan, South Korea, and India have implemented innovative programs that not only teach theory but also engage students in real-world practice. These initiatives are often driven by factors such as population growth and the impacts of climate change, which demand a better understanding of the environmental challenges facing the younger generation.

In Southeast Asia, countries such as Malaysia, Thailand, and the Philippines are actively developing environmental education curricula. Collaboration between governments and non-governmental organizations helps disseminate environmental education through various methods, including outdoor activities, community-based projects, and integration into school curriculum. However, challenges remain, such as a lack of resources, teacher training, and a need for increased public awareness. In Indonesia, environmental education is crucial given its biodiversity and environmental challenges, such as deforestation and pollution. Environmental education has been incorporated into the national curriculum, with an emphasis on developing

students' ecological intelligence. Nature schools, such as Sekolah Alam Indonesia, implement a practical approach by focusing on nature conservation activities that actively engage students.

Earth is only one (only one Earth), and its survival depends heavily on humans protecting and preserving the environment. If it is destroyed, it will never be replaced by another Earth or another planet with life similar to the one we experience today. Awareness of Earth as the only planet humans inhabit, with all its potential and limitations in supporting sustainable human life, needs to be developed through a shared commitment (Ramadhan & Resmi, 2019).

The ecological crisis in the context of environmental education is currently very ¹⁵ concerning, both in local, national, and global contexts. The ecological crisis with its complexity such as: global warming, ozone layer depletion, acid rain, unpredictable climate change, environmental damage, natural resource crisis, environmental pollution, declining biodiversity, forest fires, drought, floods, erosion, and so on threatens human life. The ecological crisis occurs on a local, national, and global scale and is a shared problem that must be addressed collectively (Muthmainnah et al., 2020).

In recent decades, the environment has become a major global issue. Preserving and maintaining environmental balance must be a collective effort as a form of responsibility for our common future and sustainable development. Sustainability is not an end in itself, but rather a goal to be continuously pursued within society (Rahayu et al., 2023).

In the world of education, it is necessary to develop comprehensive thinking by reconstructing various things, especially in the formation of children's character that covers every dimension in their development, which includes spiritual, moral, imaginative, intellectual, cultural, aesthetic, emotional, physical and directing all these aspects towards the formation of personality and character or a complete human identity. How to utilize science and technology that makes sustainable life important in the midst of various ecological crises in all forms (Aprilianto & Arief, 2020).

Humans are required to behave ethically towards nature, which means responding to nature by maintaining its sustainability. Nature's benefits are not only exploited for its content, but also ensured to keep nature intact and sustainable by providing opportunities for nature to rehabilitate or help accelerate its recovery. ²⁴

Environmental concern is one of the main concerns developed in character education in Indonesia, which includes: (1) religious, (2) honest, (3) tolerance, (4) discipline, (5) hard work, (6) creative, (7) independent, (8) democratic, (9) curiosity, (10) national spirit, (11) love of the homeland, (12) respect for achievement, (13) friendly/communicative, (14) love of peace, (15) love of reading, (16) care for the environment, (17) social care, and (18) responsibility (Akromusyuhada, 2023). Specifically, the character of environmental care emphasizes how students have internalized ²³ morals and ethics, attitudes and behaviors are a primary concern in character development in the context ²⁰ of education in Indonesia.

Environmental awareness in Indonesia is one of the ⁶ values developed in the nation's cultural and character education. Environmental awareness is defined by attitudes and actions that consistently strive to prevent damage to the surrounding natural environment and develop efforts to repair existing damage. In the implementation of the 2013 curriculum, environmental awareness is a primary focus for student development, outlined in the core competencies of the 2013 curriculum.

The green school and green curriculum movement is an effort to change behavior and attitudes among various parties or elements of society, particularly within the educational context (Nada et al., 2021). It aims to increase public knowledge, skills, and awareness of environmental values and issues, ultimately motivating the community to play an active role

in environmental conservation and safety efforts for the benefit of current and future generations. To address these issues, environmental education is needed at Sekolah Alam Indonesia Studio Alam Elementary School in Depok. Environmental education is a solution for enhancing students' ecological intelligence. In this education, learning focuses not only on academic aspects but also emphasizes understanding and skills in addressing complex environmental issues.

The theory used in this study is project-based learning theory. Project-based learning theory uses a hands-on approach where students engage in real-life projects that have a direct impact on the environment. Through project-based learning, students can learn about environmental issues while taking practical action, such as creating a waste bank or planting trees (Almulla, 2020). Project-Based Learning (PBL) is a pedagogical approach that allows students to actively engage in the learning process through real-life projects. This approach emphasizes the importance of practical experience, where students not only learn theory but also apply it in real-life contexts. By engaging in projects, students can gain a deeper and more relevant understanding of environmental issues.

In PBL, students work in groups to complete projects related to real-life challenges or problems in their environment (Yodding et al., 2023). For example, they might participate in activities like establishing a waste bank at school, where they learn about waste management, waste management, and recycling. These projects not only raise students' awareness of environmental issues but also teach practical skills and social responsibility, as they are taught to take positive action on them.

Furthermore, tree planting activities are a concrete example of what can be done within a PBL framework. Through these activities, students not only learn about the importance of reforestation but also about ecosystems, the process of photosynthesis, and the positive impacts of trees on the environment and human health. Direct involvement in such projects fosters a sense of ownership and responsibility, which fosters environmental stewardship in students.

Project-Based Learning theory also encourages cooperation and collaboration among students. They learn to communicate and work together to achieve common goals, creating a dynamic and supportive learning environment. Thus, PBL focuses not only on academic aspects but also on developing students' social and emotional skills.

Considering previous research on environmental education, several limitations warrant consideration, particularly those related to improving ecological intelligence. First, many studies assessing the impact of environmental education tend to focus on theoretical aspects rather than on actual practice in the field. This makes the research results less applicable to the real-world contexts students face. Furthermore, some studies do not account for local variables that may influence the effectiveness of environmental education, such as cultural contexts and different school infrastructures. This limitation could potentially lead to inaccurate generalizations about environmental education outcomes across Indonesia.

The problem statement in this study focuses on the lack of a deep understanding of how environmental education can specifically improve students' ecological intelligence. There is a need to address questions regarding the most effective learning methods and strategies for increasing students' environmental awareness and ecological behavior, which may have remained unanswered in previous research. This study is significant because it will contribute to understanding the relationship between environmental education and the development of ecological intelligence, particularly in the context of Indonesian Nature Schools. By incorporating student and teacher perspectives on the implementation of environmental

education, this study aims to explore how the specific characteristics of these schools influence ecological education outcomes.

The purpose of this study is to assess how environmental education can effectively improve students' ecological intelligence at Sekolah Alam Indonesia Studio Alam Elementary School. This research focuses on applying real-world practices and identifying the most effective learning methods and strategies to improve students' ecological awareness and behavior. This research is expected to provide data-based recommendations for developing a better environmental education curriculum, which other schools in Indonesia can adapt.

11 RESEARCH METHOD

This research method is qualitative. A qualitative approach was chosen because of its ability to explore the complexity of ecological intelligence phenomena in depth and to adapt to the natural context of the research setting at Sekolah Alam Indonesia Studio Alam Depok. It was conducted on elementary school students at Sekolah Alam Indonesia Studio Alam Depok. The school's characteristics align with the research needs. The sampling technique used was purposive sampling, in which researchers selectively selected respondents based on certain criteria, such as active involvement in environmental education programs. Five students and five teachers served as primary informants, while the principal acted as a supporting source.

The primary data source for this study was the ecological intelligence of elementary school students at Sekolah Alam Indonesia Depok, West Java. Secondary data consisted of verbal or sentence-based data describing events and problems aligned with the research objectives. Five teachers and five students served as primary informants, and one principal served as a supporting source.

The following are the stages in data collection using qualitative research methods: (Sugiono et al., 2023)

1. Observation is a technique or method of collecting data by observing ongoing activities.
2. Interviews, In its simplest form, an interview consists of a series of questions prepared by the researcher and asked to someone about the research topic face-to-face, with the researcher recording the answers themselves.
3. Documentation is information derived from important records, whether from an institution or organization or from an individual. This research documentation consists of photographs taken by the researcher to support the research findings.

The method used to analyze the data obtained from the literature research is descriptive-analytical. In this study, the author describes or explains matters related to ecological intelligence. The author carried out the above steps as follows: first, selecting the main theme to be discussed, then collecting data and references related to ecological intelligence. Second, reviewing the data comprehensively and comparing it with primary and secondary sources. Third, drawing conclusions to answer the problem formulation (Rofiah, 2022).

Instrument validity was ensured through a pilot study to ensure the questions were effective in gathering relevant information. Input from environmental education experts was used to improve the instrument's accuracy. Instrument reliability was measured using inter-rater reliability, in which researchers compared interview and observation results with assessments from several other assessors to ensure consistency of the data obtained. With a structured research design and appropriate approach, it is hoped that this research can provide in-depth insights into the impact of environmental education on students' ecological intelligence at the Indonesian Nature School, Studio Alam Depok.

RESULTS AND DISCUSSION

Efforts to increase environmental conservation awareness among students at the Indonesian Natural Studio Elementary School

Ecological intelligence is the ability of individuals or groups to understand, appreciate, and interact sustainably with their natural environment. This concept refers to the human capacity to recognize and understand the relationship between themselves and nature, including entire ecosystems, and how human activities can affect ecological balance.

According to the principal, Rizko Pujiantono, to increase environmental awareness at the Indonesian Nature School, Studio Alam, the Seven Green Principles concept is implemented in daily learning activities through education and practices on waste management (waste responsibility), carbon emission reduction (zero emission), organic and independent farming (green farming), optimization of green spaces in schools (green landscape & architecture), application of processed garden harvests from the "kitchen" (pawon show), utilization of renewable energy, and water conservation (water conservation). These steps not only provide theoretical understanding, but also facilitate direct experiences that shape students' ecological intelligence in everyday life.

These principles include waste management (waste responsibility), carbon emission reduction (zero emissions), organic farming (green farming), green landscape & architecture (green landscape & architecture), garden harvest utilization (pawon show), renewable energy utilization, and water conservation. The Seven Green Principles approach implemented at this school reflects a comprehensive effort to educate students about environmental conservation. Each principle not only offers theoretical understanding but also provides hands-on experience, so students can feel the real impact of their actions on the environment. Programs such as waste management and organic farming directly involve students in concrete environmental conservation practices. This aligns with the theory of experiential learning, which emphasizes the importance of real-world experiences in building knowledge.

The implementation of the Seven Green Principles can be seen as one of the most effective methods for developing students' ecological intelligence. By integrating environmental conservation activities into daily life, schools successfully connect theory with practice. However, to maximize its impact, regular evaluations are needed to determine how deeply these principles are understood and applied by students, and how they carry these practices into their lives outside of school. An explanation of the Seven Green Principles as a program aimed at increasing students' environmental awareness at Sekolah Alam Indonesia Studio Alam Elementary School can be seen in Figure 1.



Figure 1 the Seven Green Principles of SAI

1. Waste Responsibility ([Street et al., 2022](#)): This principle emphasizes a responsible attitude towards the waste/residue generated by daily life activities. 4
2. Water Conservation : Management of a place with the aim of maintaining the existence and sustainability of the condition, nature, and function of water so that it is always maintained and available in quality and quantity to meet the needs of living things.
3. Green Farming : A farming/livestock principle that prioritizes environmentally friendly concepts. It is friendly to both biotic and abiotic elements (Regenerative Agriculture). All components in the universe are interconnected; if any of these ecosystems are damaged, ultimately, humans will suffer the consequence. 7
4. Zero Emission : A principle that emphasizes a condition where the amount of carbon emissions released into the atmosphere does not exceed the amount the earth can absorb.
5. Renewable Energy : This is a principle that seeks to maximize, capture, and store energy potential that is continuously renewable. Examples include wind, solar, and water.
6. Pawon shows a processing/kitchen area. A location commonly used by Javanese people to process various things, from raw materials to ready-to-harvest. In this case, there is an implicit meaning that what is worthy of processing and harvesting is not only vegetables, but also can be mindsets, compost, eco-enzymes, creations from used goods, anything. Anything that can provide value/benefit to many people definitely requires processing and harvesting. 18
7. Green Landscape Architecture : A design and development approach based on ecological principles and environmental conservation, resulting in buildings that are environmentally sound and create a better and more sustainable life.

Effective environmental education requires a comprehensive and interactive approach ([Nugroho, 2022](#)). One way to achieve this is by utilizing environmental conservation displays and visualizations in classrooms and schools. For example, schools can display posters, murals, and informational displays about biodiversity, the water cycle, recycling, and the importance of environmental protection. These visualizations not only beautify the classroom but also serve as educational tools, reminding students of the importance of environmental conservation every day. Furthermore, role models from the school community, including teachers, staff, and students, are crucial. When school members consistently practice environmentally friendly habits, such as sorting waste, conserving water, and using energy efficiently, students will observe and emulate these behaviors. These role models have a powerful impact because students learn not only from theory but also from the real-life practices of those around them.

In the field of education, the PKLH program is included in the curriculum from elementary school to university level. PKLH is an educational program that uses an integrative and monolithic approach strategy. The integrative approach is applied at the elementary and secondary education levels (from PAUD, elementary school to high school/vocational school), while in universities the monolithic approach is applied, namely as a single course. PKLH is a way to equip a set of environmental knowledge, so that based on the knowledge possessed, students can have attitudes and behaviors that care about the environment ([Khoiri & Peterianus, 2021](#)).

Therefore, it can be concluded that one of the goals of environmental education is to form environmentally aware citizens or more concretely called responsible environmental behavior. A quite important thing in changing behavior is the ultimate goal of environmental education. And the goal of PKLH is to form a society with a population and environmental

insight, where in their daily behavior prioritizes rational behavior and attitudes towards population and environmental problems towards a harmonious and balanced community life with its environment.

Strategies to improve ecological intelligence in students at Alam Indonesia Elementary School Studio Alam

According to the Principal of at Alam Indonesia Elementary School Studio Alam, Rizko Pujiyantono, strategies to improve ecological intelligence in students at Alam Indonesia Elementary School Studio Alam involve a holistic and practical learning approach, where students directly participate in activities focused on environmental sustainability. Project-based learning, such as organic farming, waste management and renewable energy use, allows students to develop critical thinking skills and understand the relationship between humans and nature. Additionally, other strategies include curriculum integration that links ecological concepts across all subjects, the introduction of a school greening program, and student involvement in observing and exploring local ecosystems. By consistently practicing the "Seven Green Principles," students are introduced to the importance of ecosystems, resources, and individual responsibility in preserving the environment, thus developing ecological intelligence that will carry into adulthood.

The author believes that the primary strategy for enhancing students' ecological intelligence involves a holistic and practical learning approach. Students are encouraged to engage directly in project-based activities such as organic farming, waste management, and renewable energy use. Curriculum integration that links ecological concepts to every subject, as well as the introduction of school greening programs, helps strengthen students' understanding of the importance of environmental sustainability.

The project-based learning implemented at this school provides students with opportunities to engage in real-world experiences relevant to environmental conservation (Nababan, 2023). By exposing students to practical challenges such as farming or waste management, they are encouraged to think critically about how humans impact the environment. The Seven Green Principles concept provides students with a clear framework for thinking about the importance of maintaining ecosystem balance and individual responsibility for nature conservation. This approach aligns with project-based learning theory, which emphasizes independent problem-solving through real-life projects.

The strategy implemented by the principal is highly effective in developing students' ecological intelligence because it involves hands-on experiences that reinforce theoretical understanding. By introducing the Seven Green Principles, students not only understand the theory but also connect it to practical, everyday actions. To enhance its impact, this strategy needs to be supported by ongoing evaluation and reflection with students on the lessons learned from these projects, to deepen their understanding and engagement in environmental conservation.

Nature-based learning (Sholihin et al., 2021), gardening programs, recycling education, and environmentally-themed extracurricular activities are essential components of the strategy to enhance students' ecological intelligence. Furthermore, collaboration with the local environmental community provides students with opportunities to learn directly from real-world experiences.

The nature-based learning implemented at this school utilizes the potential of the surrounding environment as an open learning space. The gardening program, for example, teaches students about the life cycle of plants, the importance of soil conservation, and the natural processes that support ecosystems. Students' involvement in collaborative activities

with the environmental community broadens their understanding of how communities work together to preserve nature. The interdisciplinary approach implemented in the curriculum also emphasizes the importance of connecting science with the realities of nature.

The Role of Environmental Education in Enhancing the Ecological Intelligence of Elementary School Students at Sekolah Alam Indonesia Studio Alam

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According to principal Rizko Pujiyantono, environmental education plays a crucial role in enhancing the ecological intelligence of elementary school students at Sekolah Alam Indonesia Studio Alam. Through a nature-based learning approach, students are directly invited to interact with their surroundings, deepening their understanding of ecosystems and the reciprocal relationship between humans and nature. This education encourages students to think critically about environmental issues and seek solutions through practical activities, such as waste management, water conservation, and the use of renewable energy. Furthermore, environmental education also teaches the values of sustainability, responsibility, and environmental care, which gradually shape students' ecological mindsets. Thus, students gain not only academic knowledge but also practical awareness and skills that they can apply in their daily lives to preserve nature for the future.

The role of environmental education at Sekolah Alam Indonesia Studio Alam Elementary School in enhancing students' ecological intelligence is powerful due to the practical approach employed. By providing students with opportunities to learn from direct experience in the natural environment, they gain a deeper understanding of ecosystems and the importance of maintaining natural balance. Furthermore, this applied learning also helps students develop critical awareness and social responsibility, enabling them to act as future environmental stewards.

Environmental education at Sekolah Alam Indonesia Studio Alam Elementary School begins with the instilling of good practices through the school culture. Furthermore, the Project-Based Learning (PjBL) program supports the achievement of ecological learning targets. As a culmination, in sixth grade, students are involved in a simple research program to strengthen their character as earth stewards.

Instilling good practices through the school culture is an effective way to instill sustainable values in students' daily lives. Through activities such as waste sorting, wise water use, and the Project-Based Learning program, students are encouraged to understand ecological concepts directly through concrete actions. The simple research program in sixth grade also provides students with opportunities to apply their knowledge in research relevant to environmental issues around them (Ritonga et al., 2024).

This environmental education strategy, which focuses on habituation and PjBL, is highly effective in developing students' ecological intelligence. By providing students with opportunities to engage directly in environmental projects and research, they are encouraged to think critically and deeply about ecological issues. This process helps build students' character as stewards of the earth, equipping them not only with the knowledge but also with the skills and awareness necessary to take actions that positively impact the environment.

Direct experiences with nature teach students about the interconnectedness of living things and their environment. Local conservation projects and waste management programs help students see the impact of human actions on the balance of ecosystems. These experiences also provide a profound emotional and social dimension to their learning.

Direct experiences with nature are one of the most effective approaches to environmental education. Through activities such as conservation and waste management projects, students gain a concrete understanding of the interrelationship between humans and

nature. Furthermore, these experiences provide students with a deeper emotional awareness of the importance of maintaining a balanced ecosystem, as they see firsthand the positive and negative impacts of their actions.

The role of environmental education in connecting theory with real-world practice is highly effective in enhancing students' ecological intelligence. This comprehensive approach not only provides knowledge but also instills the attitudes and values necessary to preserve nature. By actively participating in environmental conservation activities, students gain hands-on experience that strengthens their theoretical understanding and helps them become more ecologically intelligent.

Through a comprehensive and sustainable approach to environmental education, Sekolah Alam Indonesia Studio Alam Elementary School can develop a generation of students with high ecological intelligence and the ability to act responsibly in preserving nature.

Research Limitations

This study has several limitations that should be considered, which may affect the generalizability of the results and the impact of the findings. First, this study was conducted in one specific location, namely the Indonesian Natural School Studio Alam in Depok, West Java. This limitation means the results may not be fully representative of other school contexts in Indonesia, especially those with different characteristics. Therefore, the results should be interpreted with caution when applied to other educational settings.

Second, the relatively small sample size, consisting of specific students and teachers, may limit the variety of experiences and perspectives obtained. Although a purposive sampling approach was used to select respondents with relevant knowledge, the limited number of informants may have resulted in a lack of broader perspectives on the implementation of environmental education and ecological intelligence among all students.

Finally, although environmental education is integrated into the curriculum, external factors such as parental support and the condition of the school's surrounding environment can also influence outcomes. This study did not consider these dynamics in depth, thus providing an incomplete picture of the factors that may influence students' ecological intelligence. Acknowledging these limitations, future research should conduct broader and more in-depth studies, including longitudinal approaches and assessments across various educational contexts, ⁹ to obtain more comprehensive and representative results. Based on the limitations identified in this study, several suggestions for future research can be considered to improve understanding of environmental education and students' ecological intelligence. It is recommended to conduct research in several different locations to increase the generalizability of the findings. By involving a variety of schools, both those with and without an environmental focus, researchers can compare the effectiveness of environmental education programs in diverse contexts.

Furthermore, collaborating with external parties, such as environmental experts, government agencies, and non-governmental organizations, can provide additional knowledge and resources for program development. Collaborative research can also strengthen the implementation of environmental education programs.

Recommendations

Based on the conclusions of this study, several recommendations can be made to further enhance environmental awareness and ecological intelligence at the Indonesian Nature School, Studio Alam, Depok, West Java. First, it is important to continue promoting and integrating the Seven Green Principles into students' daily learning activities. Through

education focused on waste management, carbon emission reduction, organic farming, optimizing green spaces, utilizing renewable energy, and water conservation, students can better understand responsible environmental practices. Furthermore, incorporating a project-based learning approach into the curriculum will provide students with relevant, practical experiences. By engaging students in real-life activities such as establishing a waste bank, implementing a plant care program, and exploring local ecosystems, they will gain hands-on experience that supports their understanding of environmental issues.

Furthermore, it is important to select themes related to nature and its preservation in learning activities. This will not only increase student engagement but also strengthen their emotional connection to the environment. Activities such as animal conservation campaigns and the promotion of sustainable lifestyles, such as cycling to school, can be enhanced to encourage students to actively contribute to their environment. The next recommendation is to provide training for teachers on environmental education and how to implement the Seven Green Principles in teaching. By effectively preparing teachers, they can become key drivers in creating a more environmentally conscious generation.

Finally, it is important to conduct ongoing evaluations of the impact of implemented environmental education programs. By gathering feedback from students, teachers, and parents, schools can continuously adapt and improve existing programs to be more effective in fostering students' ecological intelligence. By implementing these recommendations, Sekolah Alam Indonesia Studio Alam can be more effective in developing students who not only understand environmental issues but also act as agents of change in society for a better environment.

CONCLUSION

The conclusion of this study is that efforts to increase environmental awareness among students at Sekolah Alam Indonesia Studio Alam Elementary School in Depok, West Java, can be achieved by fostering student awareness of the Seven Green Principles in their daily learning activities through education and practices on waste management (waste responsibility), carbon emission reduction (zero emissions), organic farming (green farming), optimizing green spaces in schools (green landscape & architecture), implementing processed garden harvests from the pawon show, utilizing renewable energy, and water conservation. Furthermore, incorporating environmental stewardship into the curriculum, selecting themes related to nature and its preservation, and implementing project-based learning and student-centered active learning are highly effective in fostering environmental stewardship.

The strategy to improve ecological intelligence in elementary school students at the Indonesian Studio Alam School is implemented through engaging students using a good practice learning approach. Students directly participate in activities focused on environmental conservation, such as establishing a waste bank, cultivating a culture of proper waste disposal, sorting waste, caring for plants in the school environment through a livestock program, and engaging students in the observation and exploration of the local ecosystem.

The role of environmental conservation education has been proven to improve students' ecological intelligence at the Indonesian Studio Alam School Elementary School in Depok. This is reflected in students' awareness of various actions, such as cycling to school to reduce carbon emissions, planting trees, participating in protected animal conservation campaigns, and disposing of waste properly. Environmental education also has a significant impact on improving students' ecological intelligence through the implementation of the Seven Green Principles.

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REFERENCES

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