

# IMPACT ANALYSIS OF ADIWIYATA PROGRAM IMPLEMENTATION IN DEVELOPING STUDENTS' PRO-ENVIRONMENTAL ATTITUDES IN ELEMENTARY SCHOOLS

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## ABSTRACT

This study examines the role of the Adiwiyata program in shaping pro-environmental attitudes in elementary school students. The urgent need for effective environmental education to raise awareness from an early age motivated this research. Using a descriptive qualitative approach and a multisite study design, data were collected through observation, interviews and documentation. The research sample consisted of three elementary schools that have implemented the Adiwiyata program: SDIT Ahmad Yani, SDN Percobaan 2, and SDN Lowokwaru 2. Data analysis was conducted using cross-site analysis and data validity was guaranteed through triangulation. The results showed that the implementation of the Adiwiyata program through initiatives such as the formation of wiyata cadres, waste management, and environmentally friendly activities succeeded in increasing students' awareness and participation in protecting the environment. Factors such as physical readiness, administration, aligned vision and mission, educators' involvement, as well as school community support are critical to the success of this program. This study concludes that a gradual and experiential learning approach can improve students' understanding and involvement in environmental conservation. The study suggests improving the school's green infrastructure, continuous training for educators, strengthening student engagement through interactive activities, school policy support, regular evaluation of the program, and collaboration with the community. Implementation of these recommendations is expected to strengthen the effectiveness of the Adiwiyata program and expand its impact on education.

**Keywords:** Adiwiyata, Pro-Environmental Attitude, Multi-site, Applied

## INTRODUCTION

Environmental education in the Adiwiyata school program can help in the formation of students' environmental care character at school. The character of environmental care can be developed with environmental education. Environmental education refers to organized efforts to teach how the environment functions and teach how humans can manage behavior and ecosystems to live sustainably. (Permana & Fatmawati, 2020). The purpose of environmental education is to provide knowledge, skills, and attitudes to students so that they have concern for the environment, can be maximized in utilizing existing resources in the environment, and develop positive character and attitudes towards the environment (Yusliani & Yanti, 2020). Environmental education is a key element in efforts to reduce negative impacts on the environment. Environmental education is a step taken to increase people's understanding and awareness of how to find solutions and prevent

environmental problems (Makkasau et al., 2020). Through education, values related to the relationship between humans and the natural environment can be instilled. Caring attitude towards the environment refers to efforts made to maintain, prevent, and improve the condition of the natural environment (Fitriati et al., 2019).

Supportive school environment conditions are very important to create a comfortable and quality learning atmosphere (Ramadani, 2017). The Adiwiyata program is an effort to create schools that have concern for the environment and embrace an environmental culture. This concept is explained in Article 1 paragraph 1 of the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 05 of 2013 concerning Guidelines for Implementing the Adiwiyata Program. The regulation stipulates the principles, components, training guidelines, assessment process, and other aspects related to the implementation of this program. The Adiwiyata program, introduced in Indonesia in 2006, has become an important initiative in environmental education in primary schools. The program aims to shape environmental awareness and change the behavior of learners, teachers, and school staff towards sustainability.

The Adiwiyata school program has an important role in raising awareness of the environment. With such goals and roles, the contribution of the Adiwiyata program can form characters who care about the environment (Batubara, 2018). The Adiwiyata program has several main components, namely: (a) environmentally sound school policy, (b) participatory-based environmental management, (c) environmental learning, and (d) school cooperation with the community. The four components are expected to encourage the creation of a clean, healthy, and comfortable school environment, and can foster a pro-environmental attitude in students.

Based on the results of research that has been conducted by several researchers, the Adiwiyata program is proven to have a positive impact on students' environmental care attitudes. Research conducted by (Zuchron, 2016) at SMP Negeri 1 Banguntapan, Yogyakarta, showed that the Adiwiyata Program can increase students' knowledge, awareness, and attitudes towards the environment. Research conducted by (Alamsyah, 2020) at SD Negeri 05 Beji, Pemalang, Central Java, also showed that the Adiwiyata Program can improve students' environmental care attitudes. However, these studies are still limited to a certain school scale. Therefore, this study has the potential to fill the existing research gap. Multi-site studies that compare the effectiveness of the Adiwiyata Program in several elementary schools can provide a more comprehensive picture. The availability of research that reviews this aspect in detail can provide a strong foundation for evaluating the impact of the program specifically.

This research aims to provide an in-depth analysis of the effectiveness of the Adiwiyata Program in developing pro-environmental attitudes in elementary schools, through a multicity study approach at SDIT Ahmad Yani Malang, SDN Percobaan 2 and SDN Lowokwaru 2 Malang

## **METHOD**

This research uses a descriptive qualitative approach with a multisite study design. This type of descriptive research was chosen to describe the applied impact of the Adiwiyata Program in an effort to develop pro-environmental attitudes. The locations in this study

were SDIT Ahmad Yani Malang, SDN Percobaan 2, and SDN Lowokwaru 2 Malang. This research was conducted for 5 months, from November to March 2024. The three research locations were selected using purposive sampling technique, because the sampling was done by grouping at certain levels.

The data sources in this study can be divided into two, namely primary includes direct words or actions collected by researchers through interviews, observation, and documentation, while secondary data is in the form of documents, organizational structure layouts, and team training documents related to the focus of this research. Data collection techniques in this study were obtained through observation, documentation, and interviews. The data analysis technique used in this research was conducted in two stages; (1) individual site data analysis and (2) cross-site analysis. The validity test in this research is Triangulation which is the verification of information from different sources, ways, and times. Source triangulation is used to review data from various sources. The triangulation technique is used to verify data from the same source but with different techniques.

## DISCUSSIONS

The propositions were developed into theoretical findings based on the results of the analysis and discussion of the cross-site research findings above. The following are the substantive theoretical propositions related to planning at site 1 (SDIT Ahmad Yani), site 2 (SDN Percobaan 2) and site 3 (SDN Lowokwaru 2):

### **Preparation for the Implementation of the Adiwiyata Program in Efforts to Develop Students' Pro-Environmental Attitudes**

Although the feasibility of the school is generally good, there are still some aspects that need to be improved such as waterways, green houses that are not well maintained, and vacant land that has not been utilized. Document preparation, implementation by all parties, and regular evaluation are essential. Administrative readiness and infrastructure are key to supporting Adiwiyata activities and meeting the requirements of the center. Feasibility conditions continue to improve every year, with regular evaluations and improvements made to follow Adiwiyata school standards.

The school's vision and mission are in line with the vision and mission of the Adiwiyata program. The school's noble ethical vision includes the meaning of doing good not only to humans but also to God and other creatures. This vision and mission is also in line with the environmental program, such as the mission of having an Indonesian personality and culture, which can be related to the attitude of loving the country, including protecting the environment. In addition, the school's vision and mission have undergone changes by adding more detailed aspects related to the environment, which are elaborated into seven school goal points that address environmental issues.

The readiness of educators in implementing the Adiwiyata program begins with coordination, attending training, and preparing lesson plans. Educators are ready to implement Adiwiyata by preparing modules and lesson plans, and establishing good cooperation with other stakeholders. They also emphasize basic competencies related to the environment in more conceptual learning, such as learning outside the classroom, recycling crafts, and habituation related to the environment.

Supporting facilities and infrastructure are ready, but there are several components that need to be developed such as water channels, poorly maintained land, and bioponic plants that need to be better utilized. The complete infrastructure includes trash bins with sorting, sinks in each corner of the classroom, chopping machines, green houses, Waste Water Treatment Plants (WWTP), ablution water waste treatment, fish ponds, and green houses.

The Adiwiyata program relies heavily on multi-stakeholder involvement, including the principal, teachers, administrative staff, students, school committee, parents, community, environmental agencies, and related agencies. Teachers play a central role in educating and motivating students, while parental and community support, both material and emotional, is essential. Collaboration with external agencies provides technical guidance and assistance that increases school capacity. The active involvement of students fosters environmental responsibility and awareness, supported by adequate facilities and the establishment of a pro-environmental culture through socialization and joint activities.

### **Implementing the Adiwiyata Program in an Effort to Develop Pro-Environmental Attitudes**

The involvement of students in the implementation of the Adiwiyata program can be seen from the formation of wiyata cadres and environmental habituation organized through working groups (POKJA). At SDIT Ahmad Yani, student participation is realized through the formation of wiyata cadres and environmental habituation. At SDN Percobaan 2, student involvement can be seen in the habit of keeping the classroom clean, responsibility for named plants, and the existence of Adiwiyata cadres. At SDN Lowokwaru 2, student involvement includes Adiwiyata cadre training with environmental institutions and the existence of POKJA.

The results of this study indicate that SDIT Ahmad Yani Malang, SDN Percobaan 2, and SDN Lowokwaru 2 Malang successfully implement environmental programs that support the concepts of energy saving, waste prevention, recycling, and nature conservation through different approaches. (1) Implementation of Environmental Programs: All three schools implemented effective environmental programs through various initiatives such as the Pancasila Student Profile Strengthening Project (P5) at SDIT Ahmad Yani and the Adiwiyata program at SDN Percobaan 2. Activities such as "My Trash My Responsibility", garbage fasting, and the use of waste ablution water demonstrate a commitment to environmental management. (2) Increased Environmental Awareness: Through socialization and hands-on involvement, students in both schools are taught to apply environmental principles both at school and at home. This included the installation of energy-saving stickers and water-saving posters at SDIT Ahmad Yani as well as declarations of tumblr use at SDN Percobaan 2 and SDN Lowokwaru 2. (3) Real Practices and Habituation: Observations showed that students in both schools began to cultivate environmentally friendly practices, such as turning off lights when not in use and using waste paper for crafts. Recycling and waste utilization projects are activities that have a positive impact on students' environmental awareness. (4) Collective Support and Commitment: The success of these programs requires commitment from all parties, including teachers, students, and school staff. For example, the Adiwiyata program at SDN Percobaan 2 that includes processing organic waste into chicken feed and making eco-enzyme fertilizer from food waste requires strong cooperation. (5) Gradual Improvement: Although students' understanding and participation may vary, with constant habituation, their environmental awareness gradually increases. This shows that

environmental programs such as Adiwiyata have the potential to shape students who care more about the environment.

Overall, this study indicates that a practical and sustainable approach to environmental education can effectively increase pro-environmental awareness and action among students.

### **The impact of implementing the Adiwiyata program in an effort to develop students' pro-environmental attitudes**

The Pancasila Student Profile Strengthening Project (P5) program that integrates the concepts of energy saving, waste prevention, recycling, and nature conservation increases students' awareness and participation in environmentally friendly practices through socialization and direct involvement. The Adiwiyata program, with ablution water waste management, organic waste use, and tumblr use declaration, successfully increased students' environmental awareness with full support from all school members and parental involvement at SDN Percobaan 2 Malang. Students' participation in the environmental program, which includes knowledge, attitude change, environmental principles, and responsibility, shows a significant increase in environmentally friendly behavior, supported by school policies and real practices at home and school.

Overall, planned environmental education that involves the entire school community can effectively shape pro-environmental attitudes and behaviors in students.

### **Implementation of the Adiwiyata Program in an Effort to Develop Students' Pro-Environmental Attitudes**

This research shows that the Adiwiyata program plays an important role in developing pro-environmental attitudes in elementary school students. Research that has been conducted by (Winata et al., 2023) The implementation of routine activities at UPT SPF SDN Minasaupa, such as waste management, environmental campaigns, bringing lunch from home, forming Adiwiyata cadres, planting and maintaining trees, and Saturday clean-up, shows that the Adiwiyata program is effective in increasing environmental awareness among teachers and students. Several indicators of becoming an Adiwiyata school need to be considered in an effort to make the program successful in developing pro-environmental attitudes of students in elementary schools. The feasibility and initial readiness of the school is an important stage in the effort to successfully become an adiwiyata school.

Based on the multisite research that has been conducted in three primary schools, the big picture includes that school feasibility has generally reached a good level, but there are still some aspects that need to be improved, such as waterways, green houses that are not well maintained, and vacant land that has not been utilized. In this context, document preparation, implementation by all parties and regular evaluation are essential. Administrative readiness and infrastructure are key to supporting Adiwiyata activities and meeting the requirements of the center. Feasibility conditions continue to improve every year with regular evaluations and improvements made to follow Adiwiyata school standards. In line with these results, research from (Utaminingsih & Munandar, 2023) school management by integrating stages of activities that refer to management functions, namely planning, organizing and implementing and monitoring evaluation combined with 4 adiwiyata components: implementation of environmentally sound policies, participatory-based activities,

implementation of environmentally based curriculum and management of environmentally friendly supporting facilities with the validity of "very feasible".

In addition to physical readiness and school management administration, the school's vision and mission are important as the basis for implementing the Adiwiyata school program. The research findings of the vision and mission of SDIT Ahamad Yani school have been adjusted to the vision and mission of the Adiwiyata program, including the noble value of ethics that not only do good to humans but also to God and other creatures. According to (Indrawan, 2014) Character is the values of human behavior related to God, self, others, the environment, and nationality, which are manifested in thoughts, attitudes, feelings, words, and actions in accordance with religious norms, laws, manners, culture, and customs.

The vision and mission of SDN Percobaan 2 are also in line with the environmental program, such as the mission to have an Indonesian personality and culture, which can be related to loving the country and protecting the environment. According to (Widyaningrum, 2016) School awareness and environmental culture can be used as one of the foundations in building environmental care character in elementary school students. In addition, the vision and mission of SDN Lowokwaru 2 have been changed to include more detailed environmental aspects, which are elaborated into seven points of school goals that allude to environmental issues such as developing learning skills and environmentally friendly technology according to the talents and interests of students. This agrees with ((Muttaqin et al., 2022) The concept of environmental ethics that is most widely presented in science learning materials at all levels of primary and secondary education is dominated by the theory of anthropocentrism, according to (Safitri, 2019). The results of correlation and linear regression tests show a moderate relationship between the mastery of environmental knowledge and the environmental ethics of students of SMAN 1 Natar.

Environmental education theory as proposed by (Hungerford & Volk, 1990) emphasizes the importance of integrating the school's vision and mission with environmental programs to create a holistic and sustainable framework. This alignment demonstrates the school's commitment in creating a learning environment that supports comprehensive environmental education.

The next indicator is the readiness of teaching staff in implementing the Adiwiyata program, starting with coordination, attending training, and preparing lesson plans. Educators are ready to implement Adiwiyata by preparing modules and lesson plans, and establishing good cooperation with other stakeholders. They also emphasize basic competencies related to the environment in more conceptual learning, such as learning outside the classroom, recycling crafts, and habituation related to the environment. According to constructivist education theory popularized by Piaget and Vygotsky, learning that involves real-life experiences and active collaboration can improve student understanding and engagement. By applying this principle, educators in schools involved in the Adiwiyata program can create dynamic and interactive learning environments that encourage students to develop pro-environmental attitudes (Danoebroto, 2015). According to some research such as from (Ridwan, 2017) The principal and teachers' council compile and document the adiwiyata program, involve the entire school community in its implementation, and integrate it into the curriculum. Regular evaluations are conducted through field inspections and follow-up meetings.

Another indicator is the availability of Environmentally Friendly Supporting Facilities and Infrastructure. Environmentally friendly supporting facilities and infrastructure are ready, but there are several components that need to be developed such as waterways, poorly maintained land, and bioponic plants that need to be better utilized. The complete infrastructure includes trash bins with sorting, sinks in each corner of the classroom, chopping machines, green houses, Waste Water Treatment Plants (WWTP), ablution water waste treatment, fish ponds, and green houses. According to the Green School theory proposed by (Gough, 1997), facilities that support good environmental practices are essential for integrating environmental education into daily life at school. Adequate facilities allow students to learn through hands-on practice, which can increase their awareness and responsibility for the environment (Kridel, 2010).

The implementation of the Adiwiyata Program at SDIT Ahmad Yani Malang and SDN Percobaan 2, and SDN Lowokwaru 2 Malang shows the importance of multi-stakeholder involvement in achieving sustainable environmental education goals. Principals, teachers, administrative staff, students, school committees, parents, communities, environmental organizations and relevant agencies play key roles. According to (Zubaidillah, 2020) emphasizes that child development is influenced by various interacting environmental systems. Effective collaboration between various parties creates a holistic educational ecosystem, supporting character building and environmental awareness among students. (Lasaiba, 2023).

The results also show that the involvement of students in the Adiwiyata program in various schools has succeeded in fostering pro-environmental attitudes through various initiatives. At SDIT Ahmad Yani, student participation is implemented through the formation of Adiwiyata cadres and the habit of protecting the environment managed by the working group (POKJA). Students at SDN Percobaan 2 are actively involved in maintaining classroom cleanliness, caring for plants, and becoming Adiwiyata cadres. Meanwhile, at SDN Lowokwaru 2, students are trained by an environmental organization and participate in the POKJA. According to Kolb's (1984) Experiential Learning Theory, which states that learning that involves direct experience can increase students' understanding and involvement in a concept. Through direct involvement in environmental activities, students not only learn about the importance of protecting the environment but also internalize the values through daily practice. Research results from (Hayati, 2020) Environmental education based on experiential learning provides provisions for students to design pro-environmental actions and participate in providing solutions to environmental problems.

Other findings in this study suggest that environmental programs at SDIT Ahmad Yani Malang and SDN Percobaan 2 Malang, such as the Pancasila Student Profile Strengthening Project (P5) and the Adiwiyata program, are effective in supporting energy saving, waste prevention, recycling, and nature conservation. Initiatives such as "My Trash My Responsibility", garbage fasting, and the use of waste ablution water at SDIT Ahmad Yani as well as the installation of energy-saving stickers and water-saving posters, and the declaration of tumblr use at SDN Percobaan 2 and SDN Lowokwaru 2, demonstrate the school's efforts in teaching environmental principles to students. Theory of Planned Behavior by (Ajzen, 1991), which states that a person's intention to perform an action is influenced by attitudes, subjective norms, and perceived behavioral control. By integrating environmental concepts in daily activities, schools help shape students' positive attitudes

towards the environment and increase their perception of behavioral control towards environmentally friendly actions.

In addition, field observations showed that students in these schools began to cultivate environmentally friendly practices, such as turning off lights when not in use and using used paper for crafts. Recycling and waste utilization projects are activities that have a positive impact on students' environmental awareness. The success of the program is supported by the collective commitment of the entire school community, including teachers, students and staff. Learning occurs in a social context through observation, imitation and modeling. By seeing and imitating environmentally friendly behaviors from teachers and peers, students are more likely to adopt those practices in their own lives (Bandura, 1977) Research results from (Wiryawan, 2018) there is a significant influence of Environmental Attitude on Pro-Environmental Behavior in Elementary School Children.

The Adiwiyata program at SDN Percobaan 2, which includes processing organic waste into chicken feed and making eco-enzyme fertilizer from food waste, requires strong cooperation from all parties. This shows that a successful environmental program requires the full support of the entire school community. According to (Bronfenbrenner, 1979), which states that individual development is influenced by various interacting environmental systems. In this context, support from various systems such as family, school and community is essential to develop pro-environmental attitudes in students. Students' understanding and participation vary, but with continuous habituation, their environmental awareness gradually increases. Environmental programs such as Adiwiyata have great potential to form students who are more concerned about the environment. the implementation of the adiwiyata program at SMP Negeri 1 Kemranjen, which has been implemented since 2019, has been running well and has benefited the school community by creating a generation who cares about the environment. (Widya, 2021).

Incremental Learning Theory, which states that learning and attitude change occur gradually through repeated exposure and reinforcement (Purwati et al., 2024). By constantly exposing students to environmentally friendly practices, schools can increase their awareness and commitment to environmental conservation. The P5 and Adiwiyata programs have successfully increased students' awareness and participation in environmentally friendly practices. Active participation in waste management, energy saving, recycling, and nature conservation shows a significant increase in students' environmentally friendly behavior. Support from school policies, real practices at home and school, and parental involvement are instrumental in this success.

Overall, this study indicates that planned environmental education that involves the entire school community can effectively shape pro-environmental attitudes and behaviors in students. Practical and sustainable approaches in environmental education are essential to increase pro-environmental awareness and actions among students, in line with theories that experiential learning and hands-on engagement are key in fostering environmental awareness (Muttaqin et al., 2022; Safitri, 2019; Widyaningrum, 2016).

## **CONCLUSSION**

This research shows that the Adiwiyata program plays an important role in developing pro-environmental attitudes in primary school students. The implementation of



the Adiwiyata program in various elementary schools, such as SDIT Ahmad Yani, SDN Percobaan 2, and SDN Lowokwaru 2, through various initiatives such as the formation of wiyata cadres, waste management, and other environmentally friendly activities, has succeeded in increasing students' awareness and participation in protecting the environment. The research also indicates that physical readiness, administration, aligned vision and mission, involvement of educators, and support from the entire school community are critical to the success of this program. The findings suggest that a gradual and experiential learning approach can improve students' understanding and involvement in environmental conservation efforts.

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