

## Implementation of Environmental Education Through Adiwiyata Mandiri Program in Vocational High School 1 Boyolangu Tulungagung

Lativa Hartiningtyas<sup>1,\*</sup>, Riana Nurmalasari<sup>2</sup>

<sup>1</sup> IAIN Tulungagung, Indonesia

<sup>2</sup> Universitas Negeri Malang, Indonesia

Email : [lativahartiningtyas@gmail.com](mailto:lativahartiningtyas@gmail.com)

**Abstract.** Currently, there are many environmental damages caused by human activities. Environmental damage can cause harm to humans, for example, floods, landslides, and air and water pollution, which are examples of environmental damage caused by human activity. Education is one of the means to raise awareness for students to preserve their environment. The government seeks to apply environmental insights through formal education. One of the government programs in environmentally sound education is the Adiwiyata Program. The purpose of this study was to determine the application of environmental education at SMK Negeri 1 Boyolangu to get the Adiwiyata Mandiri award. This study used a qualitative approach with one type of case study site. Data collection techniques used interviews, observation, and documentation. The results of the study were an explanation of the application of environmental education at SMK Negeri 1 Boyolangu to get the Adiwiyata Mandiri award, a description of the steps taken by the school to anticipate obstacles to the implementation of environmental education, and exposure to the efforts made by schools in maintaining these achievements and always developing students' awareness to protect the environment.

**Keywords:** environmental education, Adiwiyata program

### INTRODUCTION

Humans always interact with the environment in life. Humans need the environment, unconscious or not. Likewise, the ground must be preserved by humans. Maintaining environmental sustainability is not only for the sake of the environment but for the survival of humans. So, protecting the environment is the same as keeping human beings. Humans must have the awareness to protect the surrounding environment to maintain the balance of nature and provide health benefits for humans. According to Wagler [1], humanity is currently on the verge of mass extinction of plants and animals induced by real-life that have and will have a profound effect on the future biological evolution of Earth species if environmental sustainability is not achieved.

Based on geographical location, Indonesia has the potential for a massive natural disaster. However, in reality, the destruction of nature is mainly due to the behaviour of human hands. Floods, landslides, droughts, extinction of the types of flora and fauna, forest fires, and so on are human-caused disasters that are the result of illegal logging and deforestation. Large-scale hunting of animals has also disrupted the food pyramid and caused the extinction of several species of animals in Indonesia. Even a trivial thing and maybe often done is throwing garbage carelessly and out of place, let alone throw it into the river. This causes clogging of the river flow so that it cannot accommodate water discharge when the rainy season arrives.

Technological advances have a very positive and negative impact, especially on the balance of ecosystems and the environment. As a result, floods often occur during the rainy season, and droughts occur during the dry season because the land cannot store water supplies. A large number of fossil-fueled motorized vehicles is also one of the things that cause environmental pollution, especially vehicles that are not feasible to use. The number of factories and industries that dispose of waste carelessly also contributes to causing environmental pollution. The use of excessive plastic will also cause environmental pollution because plastic waste cannot be described, and if destroyed by burning, it will cause air pollution. These are examples of development progress and technology that harm the environment. If such a situation is left uninterrupted without efforts to prevent and cope, it is not impossible that a few decades before a healthy environment will not be found.

Environmental damage is mostly caused by people who exploit nature for personal gain. Without realizing it, they have done a lot of environmental damage. This will hurt the community for survival in the future. Protecting the environment is something that must be done for the good of humankind itself. Environmental destruction will have a bad impact on humans which may not have happened at this time. The reality now is that there are still many people who do not care and do not respect the environment [2].

The issue of environmental damage is not only a national issue in Indonesia but has become an international problem throughout the world. Governments in various countries are trying to repair environmental damage, one of which is through educational institutions. Educational institutions are suitable institutions for maintaining environmental sustainability in the long and medium-term. This is an effort to make future generations of human beings who have environmental awareness and will take care of the environment well and strive to develop environmentally friendly renewable energy sources.

A country that seeks to instil awareness to protect the environment with Environmental Education is the Philippines. The Environmental Education curriculum (EE) on educational institutions focused on teaching students about various processes, and environmental phenomena may have more impact on the development of environmentally friendly decision making [3].

Calsado et al. [3] stated that environmental education based on research results showed that the development of an Environmental Education curriculum should not be based solely on individual cognitive and cognitive abilities. There may not be a correlation between environmental values and other factors in this study. Still, it is essential to note that individual actions are actions that can have a positive or negative impact on the environment. Bruyere [4] stated that higher education institutions pay attention to the application of environmental education. Ecological literacy will be critical to deal with these complex and potentially frightening problems effectively. In higher education, first-level students (new students) research the environment that assesses the extent to which knowledge of ecological principles, biological cycles, and environmental systems affects specific environmental behaviours and behaviours, and if environmental education can positively influence environmental behaviour. It aims to foster knowledge about the environment and attitudes to preserve the environment.

Some universities in the United States carry out programs called campus agriculture. This is an effort to improve environmental sustainability and improve the environment. The findings of the LaCharite study [5] illustrated how higher education interacts with agriculture and agriculture-based education that are outside agriculture in universities that implement campus agricultural programs to focus on the sustainability of teaching about the environment, critical thinking and skills to conduct research and encourage ownership of the community.

Nowadays, there are many important aspects to increase the quality of education. The teacher is one crucial aspect of increasing the quality of learning [6]. Besides, many innovations on curriculum are part of improving the quality of education too. At present, Environmental Education (EE) is part of various disciplines and is included in the European Union education curriculum. Environmental education projects are a way to synthesize and update the EE methodologies and strategies in educational institutions. The EU government policymakers propose a common EE framework in the European Union. Therefore, this work is a real international effort to implement environmental sustainability [7].

The integration of environmentally sound education can be applied in the education curriculum. This is consistent with the research of Fortuin et al. [8]. Conceptual models are useful for dealing with curriculum challenges and developers of environmental subjects and students. This study reviews the benefits of conceptual models in dealing with this challenge. This model is very valuable because it can be used to (a) improve the coherence and focus of an environmental science curriculum, (b) analyze environmental issues and integrate knowledge, (c) examine and guide the environmental processes of research and problem solving, and (d) examine and guide knowledge integration in the process of research and solving environmental issues. We advocate the use of various conceptual models in environmental education. By applying and reflecting on this model, students begin to recognize the complexity of the human environment system, to appreciate multiple approaches to framing environmental problems, and also understand the role of science in dealing with this problem [8].

Indonesia also seeks to implement environmental education as an effort to preserve life. The government plans and implements environmental education in educational unit institutions which aim to educate students so they can raise awareness and have the character to always preserve the environment around them. The implementation of environmental education through formal channels in educational institutions is one of the Adiwiyata Programs. The Adiwiyata Program is one of the programs of the Ministry of Environment, which is the implementation of Environmental Regulation No. 02 the year 2009. This program is a form of appreciation given by the government to formal education institutions which are considered to be instrumental in developing environmental education.

The implementation of the Adiwiyata program is a synergic collaboration between all components of the school community, namely school managerial parties, teachers, students, and administrative staff, and school employees. This program also requires management in various fields, for example, in facilities and infrastructure, human resources, and education curriculum. This study aimed to uncover the facts that occur in the management of the school environment and what steps are taken by the school to achieve the success of environmental education and gain the title ADIWIYATA and to find out what obstacles occur in the management of environmental education.

However, in the implementation of environmentally sound education, there will undoubtedly be some obstacles. Desfandi [9] argued that one of the efforts to overcome the weaknesses in Environmental Education, schools must provide effective learning practices to develop environmentally responsible behaviours in the learning environment that are needed to allow students to study outside the classroom, observe nature, practice and test learning issues about the environment. The purpose of the Adiwiyata program is to realize school citizens, especially caring and cultured students. The Adiwiyata program at the school level is a right and ideal place where all knowledge and various norms and ethics can be obtained which can be a human basis towards the creation of welfare and towards the ideals of sustainable development [10].

The Adiwiyata program is one of the programs developed by the Ministry of Environment in 2006 at the level of primary and secondary education. The program aims to encourage schools in Indonesia to be able to implement government efforts in the context of environmental preservation and sustainable development for the benefit of present and future generations [11]. According to Sulistyowati et al. [12] in the implementation of the Adiwiyata program, schools were given guidance so that they could become Adiwiyata schools. Related agencies carry out guidance in each city up to the province. One of the Adiwiyata awards, the Adiwiyata Mandiri school, is an award to schools that have succeeded in obtaining national-level Adiwiyata awards and have at least 10 Adiwiyata impact schools, where the impacted schools are given guidance by the Adiwiyata Mandiri school candidates and successfully become Adiwiyata schools.

The development of the School of Caring and Environmental Culture Policy is to create schools that care for the environment and foster awareness to protect the environment. This requires a policy that supports the implementation of activities related to environmental education by all components of the school community following the basic principles of the Adiwiyata Program, which are participatory and sustainable [13]. Adiwiyata School is a school that is considered successful in implementing Environmental Education. Prospective Adiwiyata schools are schools that are considered successful in developing the environment. The final achievement of the Adiwiyata program is that an environmentally sound school is expected to be formed [14].

Based on this research, it can be concluded that environmental education is one of the efforts to preserve the environment by fostering awareness of the importance of protecting the environment through the formal education system. The purpose of this study was to find out about the application of environmental education through the Adiwiyata Mandiri program at Vocational High School 1 Boyolangu Tulungagung.

## **METHODS**

This study used a qualitative approach. This research was carried out at the State Vocational School 1 Boyolangu Tulungagung. The time of the study was conducted from April 2019 to Mei 2019. The research subjects were Boyolangu Tulungagung State Vocational High School, students. In this study, data was collected using observation and interview methods. The interview tool used in this study was supported by interviews, notebooks, and camera guidelines. In this study, data collection also uses documentation. Documentation is used to uncover past events related to environmental

education. The documentation in this study includes school profiles and photographs of the results of environmental activities. The instrument in this study was the researchers themselves. Data collection techniques were collected through observation and interview methods. Observation is used to obtain data about the process of environmental activities in schools, as well as to reveal the civilization of the national values of students. In-depth interviews were used to explore data on the civilization of national values to students, in addition to knowing the educational background of teachers who teach PLH in schools, as well as to reveal development efforts and obstacles faced by both principals, teachers, and students in implementing learning.

## **RESULTS AND DISCUSSIONS**

Based on the results of interviews and observations carried out at Boyolangu Tulungagung 1 Vocational High School, the school managerial side made efforts in implementing the independent *adhiwiyata* program to increase the awareness and awareness of students to preserve the environment starting from the surrounding environment, namely the school environment. One of the efforts made by the school is to establish a PLH team (Environmental Education) which has the authority to control the school environment and implement programs related to the preservation of the school environment.

Also, the school conducts the Friday Morning program, which is that all school members must do voluntary work cleaning the school environment before the learning activities begin. Students, teachers and education personnel must attend the event every Friday. Furthermore, for cleaning the environment it is divided into several regions, and there is a person in charge in each region. This is so that the entire school environment is thoroughly cleaned evenly, and nothing is overlooked. Besides, to facilitate control of school residents who may violate and do not follow this program. Please note that if you do not take part in this program without any apparent reason, you will be given sanctions that educate, indiscriminately whether it is teachers, students, or educational staff. This aims to ensure that the school members are truly orderly in compliance with applicable regulations and familiarize the school community to take care of their environment. Thus, even if initially forced, then over time will be accustomed to maintaining the environment.

Also, teachers (especially those who are in charge of environmental management) must always remind students both in the school environment and during classroom learning activities and provide direct examples of teachers to provide learning to students to have an awareness of the environment by seeing actions or concrete example done by the teacher. These activities include planting plants in the school environment so that the environment becomes beautiful and comfortable, caring for and maintaining plants regularly, and participating in implementing plant fertilization.

Another exciting thing is that the landfill is empowered to become a fish pond that can provide benefits to school residents. In addition to beautifying the school environment, the presence of these fish can eradicate larvae that have the potential to become dengue fever mosquitoes. This certainly provides benefits for the school because caring for and maintaining fish is not difficult, can eradicate mosquito larvae, and beautify the school environment.

## **CONCLUSION**

The *Adhiwiyata Mandiri* program aims to foster awareness of all school people in general and especially students so that they truly protect the surrounding environment. This must start from things that are simple and easy to implement and start from the closest ones. The school environment is the closest environment to students because they spend most of their time in school. A clean, comfortable and beautiful environment will create a feeling of calm and peace that will have a positive impact on the implementation of learning in school. Policies in the form of programs that support environmental education and existing regulations aim to maintain the preservation and comfort of the school environment. This is because to start a habit that is good sometimes has to go through coercion first to get used to it by itself finally. Also, with the sanction, the aim is to educate students to maintain an orderly school environment.

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