

Implementation of Adiwiyata Program in IntraCurricular Activities at SMA Negeri 2 Brebes

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Abstract: The research aims to analyze the implementation of Adiwiyata Program in school intra-curricular activities. Adiwiyata program represents a program to develop awareness and environment - cultured school to create the responsible school community as an effort to support and manage the environment through good school governance to support sustainable development. This study employs a qualitative method with the principal, vice-principal, teachers, and students as the subject of the research. Data collection methods are interviews, observations, and documentation. The validity of data uses triangulation techniques, so the data obtained are valid. The data analysis used remains an interactive model. The results of the study are the implementation of the Adiwiyata Program in intra-curricular activities received positive responses from the school and environmental education was integrated through subjects, Biology, Handicrafts and Entrepreneurship, Physics, Chemistry, Indonesian and Javanese Language subjects based on Basic Competence (BC) in the Lesson Plan made by each teacher. The Adiwiyata program can provide effective methods for adjusting pro-environmental behavior.

Keywords: *implementation, Adiwiyata program, environmental*

INTRODUCTION

Indonesia represents a country that still struggles with environmental problems and climate change. Waste presents a problem that affects climate change. Based on data from BPS (2018) in 2017, the significant production of waste in a day occurred in Java, including Surabaya produces 9,896.78 m³/ day, Jakarta produces 7,164.53 m³/ day and Semarang produces 5,163.72 m³/ day. Waste originating from the remnants of human and unmanaged activities can present an acute problem, so it needs to promote environmental health. The threat of deforestation also has an impact on global climate change. The average combined emissions of land-based carbon dioxide from deforestation during 1990-2005, Indonesia in two positions out of 25 countries in the world (World Bank, 2010). Based on data from Forest Watch Indonesia (FWI) the rate of deforestation tends to increase from year to year. Also, it was discovered from Indonesia Corruption Watch (ICW) that the significant volume of timber experienced deforestation during 2006-2015 reached 2,547,023,080 m³ (Primayogha et al., 2017).

Based on KLHK data (2017) the National Environmental Quality Index (EQI) in 2017 (66.46) indicated an increase of 0.73 compared to the National EQI in 2016 (65.73). While the province of Central Java is ranked 28 lowest in 34 provinces in Indonesia with an EQI value of 58.15. Besides, the quality of land cover, the province of Central Java, is one of the four provinces that need to be improved so the provincial and national EQI increases.

Environmental Quality Index (EQI) is a performance index of environmental management nationally and a joint reference for all parties in measuring environmental protection and management performance. EQI calculation consists of three components, namely Water Quality Index (WQI), Air Quality Index (AQI), and Land-Cover Quality Index. The most compact unit of analysis in the National EQI is the Province. The provincial government can make EQI a reference point towards the ideal number of 100. If the value is lower than 100, more

extensive environmental protection and management efforts must be made. If the provincial EQI is below the National (or smaller), it means the province must try to accelerate and strengthen the improvement of environmental quality. According, Anderson's (2012) stated that academic interventions are the most successful when education stakeholder focus on aspects of sustainable development, real and actionable, climate change and environmental education.

Education occupies a vital role for humans in shaping knowledge, attitudes, awareness, and behavior. The Indonesian government's efforts to prevent environmental damage through environmental education or Adiwiyata Program. Various parties have taken part in environmental education, including school citizens must strive to carry out environmental sustainability programs. Based on research by Roczen et al. (2014), the aim of environmental education is enabling someone to struggle and achieve a more amiable way of life. A person's appreciation of nature is relevant to motivate further information about environmental system knowledge. Thus, environmental education is carried out in schools to prompt students who are aware of the environment. The results of the study by Olsson et al. (2019) showed that there is a decrease in sustainability consciousness for adolescent students, especially those related to sustainability behavior. This needs to be anticipated with the presence of a generation that is aware of the environment.

The Green-Schools Program provides an ideal way to encourage environmental awareness in all schools by connecting to several subjects in the curriculum. The Green-Schools Program is run by the FEE (Foundation for Environmental Education) and is known internationally as "Eco-Schools" and in Indonesia known as the Adiwiyata School.

Environmental education is a process to encourage awareness and caring for people in the world. It is moreover for people who have knowledge, skills, attitudes or behavior, motivation and commitment to work together, both individually and collectively, to combat various environmental problems (Lustyantie & Ninuk, 2015). Environmental education remains a process of someone to gain awareness through understanding, skills, values, experience, and decisions, to solve environmental problems both individually and collectively (Karim, 2012). The Adiwiyata program aims to realize a caring and cultured school that is carried out in stages from the regency or city, provincial and national levels. Through this program, students are assessed early to be caring and cultured in the environment and reflect a character of the environmental (HLH, 2017). Adiwiyata Program is a program to realize a caring and cultured school. Otherwise, it remains a program to realize responsible school members for environmental protection and management efforts through proper school management to support sustainable development.

Management as a process or framework, which involves the guidance or direction of a group of people towards organizational goals or tangible goals (Terry & Rue, 2009). Educational management is a series of activities planning, organizing, implementing, and controlling educational resources to achieve educational goals (Usman, 2011). All programs carried out by one or more people to achieve the goals set in an educational institution or education unit can be managed through school management. Schools as educational institutions, in addition to implementing effective management, must also make efforts to conduct programs that care about environmental sustainability in the context of sustainable development. Intra-curricular activities are carried out through subjects. Based on the Regulation of Education and Culture Ministry of the Republic of Indonesia No. 20 of 2018 that intra-curricular is a learning activity to fulfill the learning load in the curriculum per under statutory provisions.

The implementation of intra-curricular will supervise the implementation of learning and how to make the contents or aspects of the environment understandable to students in a proper

and ideal way. The teacher strives for students to form self-competencies by following the curriculum, as outlined in the Lesson Plan.

School as a forum to improve an understanding of environmental insights for all school citizens, including subject teachers. The principal and the Adiwiyata Team need support from all school citizens to play a role in developing environmentally schools. Therefore, it needs to be assessed from the aspect of implementing the Adiwiyata Program. This is a basis for implementing a systematic Adiwiyata Program and good management of environmental education. The research aims to analyze the implementation of the Adiwiyata Program in school intra-curricular activities.

METHOD

This study adopted a qualitative approach using a type of case study. The research focus is on the implementation of the Adiwiyata Program in intra-curricular activities. The subjects of this study were principals, vice-principals, teachers, and students. The sampling technique employed purposive sampling. The school was selected as a research place because it was categorized as the National Adiwiyata School. The method of data collection employed interviews, observations, and documentation. The data validity technique employed source triangulation and method triangulation.

The analysis in this study employed an interactive model. The flow of data analysis activities can be determined in Figure 1 as follows.

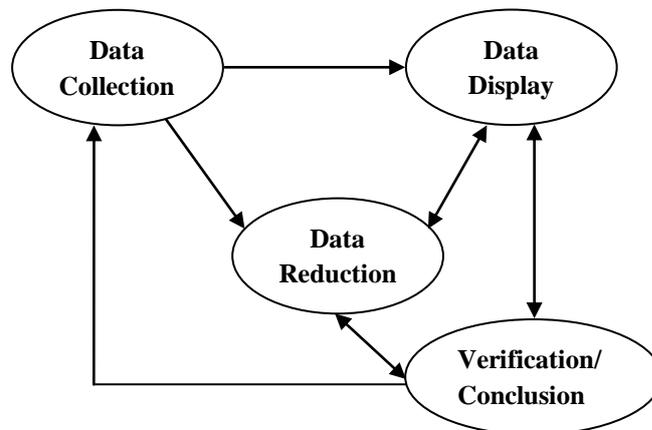


Figure 1. Components in Data Analysis (Miles & Huberman, 2007)

Data analysis for participants and teachers during the learning process (intra-curricular activities) was obtained from observation. Data analysis for the implementation of the Adiwiyata Program at SMA Negeri 2 Brebes was obtained from interviews with school principals and vice principals. Documents required include the profile of SMA Negeri 2 Brebes, teacher data, a list of students, Lesson Plan, syllabus, curriculum structure, lesson schedules, and other documents obtained from documentation studies.

RESULTS AND DISCUSSION

Based on the results of the study, intra-curricular activities have included environmental management and processing efforts, among others, in the subjects of Biology, Handicrafts and Entrepreneurship, Physics, Chemistry, Indonesian and Javanese Language subjects. This research was carried out on Biology and Handicrafts & Entrepreneurship subjects because these

subjects contained more related to environmental protection and management or the Adiwiyata concept. The results of interviews with principals, vice-principals, and teachers showed the content of environmental education can provide knowledge and ethics on the protection and management of the environment in routine life, especially for students.

Table 1. Observation Data Implementation of Learning Activities

No.	Data	Observation Description
1	Curriculum Structure	Curriculum structure integrated into Adiwiyata.
2	Infrastructure	Adiwiyata supporting infrastructure is available and well managed.
3	Environmental Conditions	Environmental conditions have a cool, green, and shady atmosphere.
4	Syllabus/ Lesson Plan	Syllabus/ Lesson Plan integrated into Adiwiyata.
5	Implementation of Learning	Implementation of learning integrated into Adiwiyata.

The results of the observations indicate the school community is involved in school management which includes the process of planning, implementing and evaluating according to responsibilities and roles. The teacher prepares a learning plan (syllabus/lesson plan) that contains environmental protection and management efforts for activities in the classroom, laboratory, and outside the classroom. Teachers develop local or global issues as environmental learning material. The school has a cool, green, and shady atmosphere because there are many trees around the school environment. There is a school forest with various types of plants and mini zoos that will add insight into several types of animals and plants.

The conclusion of the research by Miranto (2017) showed that schools can be used as a supporting tool in implementing environmental education by directing the resources. Environmental education can be integrated into all subjects in secondary schools. The research results of Iwan et al. (2018) showed that three characteristics of Green School are found, namely holistic, building, and curriculum.

The integration of intra-curricular activities refers to the applicable curriculum. The teacher inserts topics or environmental issues on certain subjects so as not to interfere with the learning objectives to be achieved. By following the results of Rosenberg (2008) the applied curriculum has a vision, mission, and objectives that contain environmental protection and management. The Adiwiyata program can improve the quality of the school curriculum, teacher competence and school management effectiveness. The research results of Mawardi et al. (2014) showed that the implementation of learning is carried out by the syllabus and lesson plan.

Subjects that are integrated with environmental education, one of which remains a biology subject. Activities that have been pursued include habituation, exemplary, and learning while doing outdoor learning. The existence of a school forest can be used as a learning resource for students to support facilities and environmentally friendly infrastructure in the Adiwiyata Program component. School forest is a source of environmental learning, so students can obtain

knowledge related to ecosystem learning material, classification and characteristics of living things and increase awareness for the surrounding environment. Facilities supporting infrastructure for environmental management need to be managed properly, like hygiene of cages, food and animal costs, and structuring of plants in school forests, as well as compost management and sorting waste. Some kinds of animals in the school forest, including deer, monkeys, geese, ducks, birds, etc.

The next subject integrated with environmental education is Handicrafts and Entrepreneurship. Students publish the results of environmental learning innovations, through wall magazines, posters, photo frames from waste, flower vases from recycled plastic straws/ ice cream sticks, lanterns from ice cream sticks/ wool yarn, key chains from the leaves with resin material, cellphone cases, pencil cases, etc.

The findings of Risnani et al. (2017) showed that there is an increase in the attitudes and behavior of students related to environmental awareness. Students begin caring about their environment as indicated by their willingness to prevent the school clean, care for plants around the school and dispose of garbage in the trash. The results of Meyer's study (2015) showed there was a substantial impact of educational attainment on pro-environmental behavior and provides some evidence that education can make individuals more aware of the external effects of behavior and more on social welfare. Kensler's (2012) research showed that the implementation and evaluation of school approaches to sustainability are still rare. Green School (sustainability school approach) practice ecological principles through designing and management building that aim to provide a healthful environment and reduce costs for negative impacts on global and local ecology.

Results of this study show that the behavior of students in Adiwiyata Schools reflects the behavior of caring for the environment, characterized by participating in adiwiyata activities and maintaining school cleanliness, maintaining the mini school forest during the learning process and outside of learning. The results of research by Pauw & Petegem (2013) showed that around 4% of environmental behavior remains a difference between Eco-Schools and Non-Eco-Schools. Whereas at the individual level shows that pro-environment behavior in boys is bare than for girls. The results of research based on Huang et al. (2016) in botanical gardens in 21 middle school students who participated in pursuing activities using various types and learning media showed that eco-discovery-based learning succeeded in stimulating positive emotions and improving student learning outcomes.

In line with the results of this study that the Adiwiyata concept integrated into learning has a positive impact on students' pro-environment behavior. Students are very enthusiastic and participate in activities that care about the environment. Students have implemented pro-environment behaviors such as managing environmentally kind trips, separating waste for recycling, and reducing energy consumption. The study of Somwaru (2016) showed that Green School had been effective. Significant beneficial changes in children's behavior towards the environment can be observed by the teachers and the Sumawa Team (The Suriname Waste Management Foundation), which is known to maintain considerable improvements especially education about endangered species, recycling activities, energy and water savings and also environment supporting.

The findings of this study accept many limitations, as the assessment of the disclosure of the Adiwiyata Program implementation tends to be subjective because not all respondents provide consistent answers to reveal a pro-environment behavior. Also, there was a lack of energy to conduct comprehensive observations on the implementation of the Adiwiyata Program through intra-curricular activities.

The implication of the study is students gain knowledge from learning environmental education through intra-curricular activities in schools, students begin to be aware of the surrounding environment as indicated by their willingness to maintain school cleanliness, recycle waste, aware of plants, and maintain school forests.

CONCLUSION

The results of the Adiwiyata Program implementation in intra-curricular activities received positive responses from the school, and then environmental education was integrated through subjects, Based on the results of the study, intra-curricular activities have included environmental management and processing efforts, among others, in the subjects of Biology, Handicrafts and Entrepreneurship, Physics, Chemistry, Indonesian and Javanese Language subjects based on Basic Competence in the Lesson Plan made by each teacher. The Adiwiyata program can provide effective methods for adjusting pro-environmental behavior.

Implementation of the Adiwiyata Program requires further research by involving aspects of management and the wider school community. It considers environmental education learning is integrated into subjects such as Based on the results of the study, intra-curricular activities have included environmental management and processing efforts, among others, in the subjects of Biology, Handicrafts and Entrepreneurship, Physics, Chemistry, Indonesian and Javanese Language it should be revealed further factors that influence the success of inculcating behaviors or attitudes to care for the environment to obtain a better awareness of the sustainability of school residents. Recommendations that can be given are that environmental education should be integrated into activities by schools that have not yet implemented environmental programs.

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