



The Impact of Adiwiyata Program On Environmental Caring Character

Syahrizal Umar Caddafie^{1✉}, Nana Kariada Tri Martuti¹, Ely Rudyatmi²

Biology Department, FMIPA, Universitas Negeri Semarang, Indonesia

Info Article

History Article:

Received : October 2017

Accepted : December 2017

Published : January 2018

Keywords:

Enviro-Science Magz,
Scientific work, supplements
learn

Abstract

This study attempted to describe the impact of Adiwiyata on the environmental caring character of the citizen of State Senior High School 14 of Semarang. This research belonged to descriptive-qualitative research. The respondents of the study were determined purposively with the criteria of the school citizen who were active in Adiwiyata activities. The data sources included principals, teachers, students and employees. The methods of data collection used interview, observation and documentation. The results showed that State Senior High School 14 of Semarang implemented environmental education (Indonesian: Pendidikan Lingkungan Hidup) (PLH) learning and environmental activities. The PLH learning process was conducted by discussion methods, practicum, direct observation, demonstration, and role play. The learning materials were developed by raising environmental issues. The assessment of learning outcomes included vegetable growing project, making recycled handicrafts, work method and presentation. The environmental activities conducted by students included daily cleaning, clean Friday, environmental extracurricular, environmental action. 3R waste management (reduce, reuse and recycle), electricity and water savings. This study concluded that Adiwiyata impacted on the environmental caring character building of the State Senior High School 14 of Semarang citizen including: the habituation of keeping the classroom and school environment cleanlines, saving electricity and water, managing the school waste and preserving the biodiversity.

© 2018 Universitas Negeri Semarang

✉ Correspondence:
Building D6 Lt.1 Jl Raya Sekaran Gunungpati Semarang
E-mail: Syahrizal.umar.caddafie@gmail.com

p-ISSN 2252-6579
e-ISSN 2540-833X

INTRODUCTION

The current global environmental damage is increasingly worrying, triggered by human activities which exploit the natural resources and the environment indefinitely (mulyana, 2009). The environmental damage can only be overcome by turning the radical and fundamental human behavior to being concerned about the environment (Keraf, 2010). One of the efforts of government to anticipate it is by applying environmental education (PLH) which is developed through Adiwiyata program in high schools.

Adiwiyata is a good and ideal means to acquire knowledge, norms and ethics which can be the basis of humankind towards the life welfare and the ideals of sustainable development. The objective of Adiwiyata program is to actualize the responsible school citizen as an effort to protect and manage the environment through good school governance (Ministry of Environment, 2011).

Adiwiyata School is an environmental caring and cultured school (Regulation of the Minister of Environment No. 05 of 2013). State Senior High School 14 of Semarang as an Adiwiyata School is expected to build the environmental caring character of the school citizen.

Based on the observation conducted in February to March 2016, State Senior High School 14 of Semarang was one of the schools which received the National Adiwiyata award. The school had the vision, mission and goals which lead to environmental conservation and carried out the environmental learning monolithically and integratedly. The environmental learning activities used active learning methods such as discussion, practicum, demonstration, and direct learning. The learning materials were linked to local issues and global issues related to environmental issues such as global warming, environmental degradation and biodiversity.

The activities of State Senior High School 14 of Semarang's students related to the environment included: class daily cleaning, sorting waste before leaving school, garbage bank management, composting and clean Friday. The environmental extracurricular activities were conducted by students including: making physic garden and biopori, composting, waste utilization and making environmental scientific works. The school had the facilities and infrastructure related to the environment, including biopori, absorption wells, composter, green house, mini forest, physic garden, fish pond, and sink.

The implementation of Adiwiyata program becomes a matter of concern. Adiwiyata is expected to have a positive impact on the environmental caring character of the citizen of State Senior High School 14 of Semarang, so that it can build the school citizen's behavior which is caring about environment. Therefore, it is important to do research on Adiwiyata impact on environmental caring character.

RESEARCH METHODS

The research was conducted in State Senior High School 14 of Semarang, in the academic year of 2016/2017. The research design of this research was descriptive-qualitative. This research was divided into three stages including preparation, implementation and data analysis.

The preparatory stage was divided into three stages including applying for license, determining the respondents and arranging the instruments. Applying for the license by handing in the research permission letter from the State University of Semarang and the Education Authorities of Semarang City. The respondents were determined purposively, with the category of the school citizen who were active in Adiwiyata program. The instruments of this study included interview guides and observation sheets.

In the implementation stage, the data collection was conducted which its validity had been checked through triangulation of source and method. The data sources were from principals,

teachers, students and employees. The methods used open-structured interview, participatory observation and documentation. The aspects studied included the implementation of PLH learning and school citizen'environmental activities. The data analysis was conducted descriptively.

RESULTS AND DISCUSSION

The impact of Adiwiyata on the environmental caring character in State Senior High School 14 of Semarang was explored from two things: (1) The implementation of PLH learning and (2) The environmental activities of the State Senior High School 14 of Semarang citizen.

The Implementation of PLH in State Senior High School 14 of Semarang

Based on the observation, PLH learning in State Senior High School 14 of Semarang was implemented monolithically and integratedly. PLH learning process was monolithically implemented by creating a stand-alone environmental subject namely PLH as Local Subject, and implemented integratedly on the compulsory subjects.

The monolithic and integrated implementation of PLH on the compulsory subjects was explored from 4 aspects including methods, materials, assessment of learning outcomes and the availability of books related to PLH.

PLH Learning Method

The PLH learning in State Senior High School 14 of Semarang was conducted through practicum activity in the form of composting and direct learning by observing the school environment ecosystem. Integrated on the compulsory subjects, PLH learning was conducted through discussion, presentation, role play and practicum.

Those learning methods were chosen based on the teacher consideration. It was related to the learning objectives which would be achieved, the condition of the class and students, as well as the readiness of the teacher itself. Some examples of the programs were composting practicum. It aimed to provide knowledge, skills and foster the responsibility for waste management, especially recycling; the observation of school's environment ecosystem which aimed to provide a real knowledge of the environmental conditions of school ecosystems, improve students' science process skills in observing the ecosystem components in the school and instill the school environmental awareness. It is in line with Jumadil (2015) who says that the implementation of PLH learning in school can improve the cognitive, affective and psychomotor ability as well as students' environmental awareness.

The PLH Learning Materials

The learning materials contained in PLH as local subject were related to environmental issues which included ecosystems, environmental degradation, energy and waste, while the PLH learning materials on the compulsory subjects were related to environmental issues, including: ecosystem, global warming, environment, recycling, and environmental sustainability. On the compulsory subjects, not all materials could be related to environment. Teachers developed the indicators and basic competence related to environment by raising environmental issues in learning materials. It is in accord with the Ministry of Environment (2011) that environmental learning material in Adiwiyata school is developed through the development of local and, or global issues related to environmental issues according to the education level.

Integrating environmental issues in learning process destined for providing knowledge and building an environmental caring character of the students. The knowledge provides the information on how to behave towards the environment, so that the students' environmental awareness was

built. For example, integrating global warming issue by providing the knowledge of global warming effect made the students wiser to keep the environment in order to reduce the risk of global warming. It is in line with Nahadi (2014) that the Integration of environmental materials in effective learning build the environmental caring character. According to Walgito (2004), environmental care behavior, one of which, can be built through the environmental knowledge obtained by students.

The Assessment of PLH Learning Results

The evaluation of PLH as local subject learning result was implemented through the project of making handicrafts from various waste materials. The assessment of PLH learning outcomes on the compulsory subjects should include explanation, making poetry, work method and environmental-themed project tasks. Those activities could measure the cognitive, affective and psychomotor skills, so the students' skill could be evaluated comprehensively. For example, in the case of the students undertaking a vegetable growing project, we could measure the students' knowledge, skills and responsibilities in using the environment, especially farming; in the case of the students making handicrafts from various kinds of garbage, we could measure their knowledge, skills and responsibility to waste processing, especially recycling. It was in line with Akib (2013), that a good learning evaluation was conducted based on the students' cognitive, affective, and psychomotor assessment results.

The Availability of Books Related to PLH in the School Library

Library of State Senior High School 14 of Semarang provided PLH books. Several available titles of PLH books were "Hydroponics of Vegetables" (Hidroponik Sayuran), "Fertilizers and Fertilization" (Pupuk dan Pemupukan), Water (Air) and "Get to Know about Our Beach Flores" (Kenalilah Flora Pantai Kita). The books provided the information related to environmental management which could support the implementation of PLH learning, such as the books entitled "Hydroponics of Vegetables" and "Fertilizers and Fertilization" which provided the information on how to grow vegetables that it helped the assignment of vegetable-growing project as what was said by Suprihatingrum (2016) that book was one of the relevant learning resource.

The Environmental Caring Activities State Senior High School 14 of Semarang

The environmental care-behavior of the State Senior High School 14 of Semarang citizen was explored from 7 aspects including: the student activity on daily cleaning activity and clean Friday, the student activity on environmental extracurricular, the school activity on environmental action, waste management, energy management, Quality of School Cafeteria service improvement, parents' participation on school environmental activities and rescue rules.

The Student Activities on Daily Cleaning and Clean Friday

The daily cleaning activities done by the students were sweeping the classroom and sorting waste 5 minutes before leaving school. The activities that students did on Clean Friday were sweeping and mopping the classroom, and cleaning up the rubbish on the drainage and fish ponds. The purpose of those activities was to form the habit of maintaining the cleanliness of the classroom and the school environment. According to Ministry of National Education (2011), instilling the habits was the basis of character building. What students usually did in the classroom was also possible to be done outside, such as in their house or family environment, in line with Hidayati (2013) that the behavior of keeping cleanliness carried out by students when performing daily cleaning and clean Friday could build the environmental caring character.

The Students' Behavior on the Environmental Extracurricular Activities

The student activities on the environmental extracurricular included: composting, providing composting course at the assisted schools, making handicrafts from waste and water hyacinth, and making environmental scientific work. Those activities could build the students' character which care about waste management and biodiversity sustainability. Some examples of the case were: when the students made handicrafts from various plastic wastes, they were accustomed to thinking to reuse the waste to be a valuable item; When the students conducted mangrove research in environmental stability, it developed their ability to handle environmental problems and instill the responsibility to preserve biodiversity. According to Yanti (2016), environmental extracurricular activities could develop the value of responsibility and awareness of students to keep the environmental sustainability.

The Behavior of the School Citizen on Environmental Action Activities

The environmental action performed by State Senior High School 14 of Semarang included "Cleaning Semarang City", eating and planting local fruits action, One Man One Tree planting action, planting 1000 flower plants and spreading 1000 fish seeds in fishponds of River Tanah Mas which involved the principals, teachers, students, employees and the surrounding communities. The action was aimed at building the character of the school citizen concerning about the environmental hygiene and biological diversity preservation. The involvement of the principals, teachers and employees made the students more enthusiastic in joining the activities. It is in accord with Lusty (2012), that the involvement of principals, teachers and employees in environmental activities motivate students to keep the environment.

The involvement of teachers in environmental action provided a particular model for students. Each of teacher's activity tended to be imitated by students, such as when teacher collected garbage on the road on the action of cleaning the city, planting trees and spreading the fish seeds. Environmental activities done by the teachers were also done by the students. Such exemplary behavior can build the students' character to be concerned about hygiene and the sustainability of biodiversity. As what Maulana (2014) says that teacher exemplary behavior to the environment can build the students' character to be concerned about environmental conservation.

The Means of Waste Management

The State Senior High School 14 of Semarang applied 3R practice (reduce, reuse and recycle) in managing waste. That is in accordance with Law No. 18 of 2008 that waste management can be conducted through 3R's namely reduce, reuse and recycle. The 3R's conducted by the school's citizen were "Reduce", which was done by minimizing the waste as little as possible by bringing lunch box and bottle from home to reduce waste; "Reuse", which could be done by utilizing waste directly by making use of bottles and detergent packages as seeding medium; "Recycle" which was performed by processing waste which could not be utilized directly with creative ideas to be re-utilized, which the activities included composting of dried leaves and making crafts from various waste, such as bags, knick knacks, or pencil case. Those activities can build the students' character to care about keeping the cleanliness and managing waste in the school environment. Hidayati (2013) says that the implementation of reduce, reuse and recycle can improve the the environment hygiene and students' creativity in managing waste.

The Means of Energy Management

The school's citizen undertook energy and water-saving efforts. The electricity saving activities included turning off the lights and lcd when not in use and inviting the school citizen to save electricity through warning stickers of turning off the socket after use. Water savings was conducted through turning off the water faucet when not in use, recycling rain water into source of

clean water and inviting the school citizen to save water through water-saving stickers. Electricity and water-saving stickers served to remind school citizen to always save electricity and water. One of the efforts to preserve the environment in Adiwiyata school is the habituation of electricity and water saving (Mulyana 2009).

The Means of Improvement of The School Cafeteria Service Quality

The school improved the quality of school cafeteria service by making sure that the cafeteria did not sell expired foods, food with preservatives, food with non-standard color additive, and did not packaged food in plastic, styrofoam and aluminum foil, except it was originally from the factory because they were difficult to decompose and able to pollute the environment. The purpose of the activities was to create a healthy and environmentally friendly cafeteria, so that it could provide healthy food and eco-friendly food packaging which familiarize the school citizen to live healthy and care about the hygiene and sustainability of environment.

The quality of school cafeteria service was arranged in the regulation of school cafeteria management which was gone down with the school and the cafeteria owners. The supervision of the regulation was conducted by the principals and teachers. The direct supervision was conducted by buying food in the school cafeteria. If the owner of the school cafeteria broke the rules, then the school would give sanctions. The sanctions might be a warning or the cafeteria closing. Enforcing the school cafeteria management was conducted in order to improve the school cafeteria quality service so it would create a healthy and intelligent generation who cared about environmental hygiene. According to Diana (2014), clean and healthy school cafeteria can form a clean, healthy and caring behavior toward the environment.

Parents' Participation on Environmental Activities

Schools involved parents in environmental activities. These activities were socialization of Adiwiyata School, providing suggestion related to wastewater treatment plant (WWTP) installation planning. The participation of the students' parents in socialization activities aimed at controlling the academic development as well as the students' character related to Adiwiyata culture. Providing space for parents to give suggestion in planning WWTP was to improve the educational meant, especially waste water treatment. It is in line with Rahman (2014) who says that the participation of parents in school activities to improve the students' academic development and character.

The Environmental Preservation Rules

State Senior High School 14 of Semarang had the environmental rules. The rules contained the obligations and sanctions for the students based on the principles of adiwiyata. The Obligations of the students in the school environment included: maintaining the schools' cleanliness, beauty and security of, keeping the school's facilities and infrastructure and tidiness. The Sanctions for those who broke the rules that they would accept verbal or written reprimands, parent calling, suspension, and even expulsion. Those sanctions were several preventive and adventive efforts for students to be discipline and the responsible to keep the school environment. It is in line with Puspitaningrum (2014) that an orderly environment is equipped with effective sanctions to instill the students' discipline and responsibility to the environment.

The environmental discipline assisted school programs in instilling discipline and students' responsibility to protect the environment. Instilling discipline and responsibility should be consistent which means, what the teachers instruct the students, should be also implemented by them, such as when a teacher instruct a student to throw garbage on the right place, then the teacher should do it also. It is commensurate with Puspitaningrum (2014) the implementation of discipline can be

effective if the teacher as a model gives examples of behavior according to the discipline so that students comply with school rules.

CONCLUSION

The conclusion of this research was that the implementation of Adiwiyata had an impact on the environmental caring character building of the State Senior High School 14 of Semarang citizen which included: keeping the classroom cleanliness and the school environment hygiene, saving electricity and water, managing the school waste and preserving the biodiversity.

REFERENCES

- Akib M. 2013. Obyek Evaluasi Pendidikan dan Penilaian Berbasis Sekolah. *Jurnal Al-Hikmah* 14 (01):1-12
- Diana F. 2014. Pelaksanaan Program Perilaku Hidup Bersih dan Sehat (PHBS) di SD Negeri 01 Tanjung Balai Karimun. *Jurnal Kesehatan Masyarakat* 8 (01):46-51
- Hidayati N. 2013. Perilaku Warga Sekolah dalam Program Adiwiyata di SMK Negeri 2 Semarang. Dalam: *Prosiding Seminar Nasional Pengelolaan Sumberdaya Alam dan Lingkungan*. Hlm 159-154.
- Jumadil. 2015. Penerapan Program Adiwiyata pada Aspek Kognitif, Afektif dan Psikomotor Tentang Pengelolaan Lingkungan Hidup Sekolah Dasar di Kota Kendari. *Jurnal Sains & Teknologi* 15 (2):195-202.
- Kementerian Lingkungan Hidup dan Kementerian Pendidikan dan Kebudayaan. 2011. *Panduan Adiwiyata Sekolah Peduli dan Berbudaya Lingkungan*. Kementerian Lingkungan Hidup. Jakarta.
- Kementerian Pendidikan Nasional. 2011. *Panduan Pendidikan Karakter*. Jakarta: Kemendiknas.
- Keraf S. 2010. *Etika Lingkungan Hidup*. Jakarta: Kompas Media
- Lusty K. 2012. Peran Warga Sekolah dalam Penerapan Pendidikan Lingkungan Hidup. *Jurnal Manajemen Pendidikan* 23 (5):454-459
- Maulana G. 2014. Peran Keteladanan Guru dalam Upaya Membentuk Karakter Peserta Didik di SMA Negeri 12 Surabaya. *Jurnal Kajian Moral dan Kewarganegaraan* 3 (2):1189-1204
- Mulyana R. 2009. Penanaman Etika Lingkungan melalui Sekolah Peduli dan Berbudaya Lingkungan. PPS Unimed. *Jurnal Tabularasa* 6 (2):175-180.
- Nahadi. 2014. Implementasi Model Pembelajaran Lingkungan Hidup Berbasis Konteks Berpendekatan Education For Sustainable Development dan Pengaruhnya Terhadap Penguasaan Konsep dan Sikap Siswa. *Seminar Kimia dan Pendidikan Kimia VI*. Hlm 33-43
- Puspitaningrum D. 2014. Implementasi Tata Tertib Sekolah dalam Membentuk Disiplin Siswa di SMP Negeri 28 Surabaya. *Jurnal Kajian Moral dan Kewarganegaraan* 2 (2):343-357
- Rahman B. 2014. Kemitraan Orang Tua dengan Sekolah dan Pengaruhnya terhadap Hasil Belajar Siswa. *Jurnal Pendidikan Progesif* 4 (2):129-138
- Suprihatiningrum J. 2016. *Strategi Pembelajaran*. Jakarta: Ar-Ruzz Media.
- Undang-Undang No. 18 Tahun 2012 tentang Pengelolaan Sampah.
- Yanti N. 2016. Pelaksanaan Kegiatan Ekstrakurikuler dalam Rangka Pengembangan Nilai Karakter Siswa untuk Menjadi Warga Negara yang Baik di SMA Korpri Banjarmasin. *Jurnal Pendidikan Kewarganegaraan* 6 (11):963-970.