



Andalasian International Journal of Social and Entrepreneurial Development (AIJSED)

ISSN: 2808-6732 (Online)

Available at: <http://aijsed.lppm.unand.ac.id/index.php/aijsed>

DOI: <https://doi.org/10.25077/aijsed.v3.i02.7-12.2023>



Article

EARLY ENVIRONMENTAL AWARENESS CHARACTER EDUCATION THROUGH ECOENZYME-MAKING TRAINING FOR TELKOM PADANG ELEMENTARY SCHOOL STUDENTS

Rahmi Awalina^{1*}, Wellyalina², Fadli Hafizulhaq¹, Muhammad Iqbal Abdi Lubis¹

¹Department of Agricultural and Biosystem Engineering, Universitas Andalas, Padang, Indonesia

²Department of Food and Agricultural Product Technology, Universitas Andalas, Padang, Indonesia

Article Information

Received : 2023-06-14

Revised : 2023-07-27

Accepted : 2023-09-05

Published : 2023-10-21

Keywords

Keyword: *Love the Environment, Character building, Elementary school*

*Corresponding Author

rahmiawalina@ae.ac.unand.id

Abstract

Environmental education needs to be introduced early on to students from elementary school so that it becomes a provision for every student to have a caring attitude in protecting the environment so that the earth remains sustainable. One of the efforts was carried out through ecoenzyme training for elementary school residents and training students in organic waste management to be useful again. This activity was carried out in the Telkom Padang Elementary School (SD), Padang City, West Sumatra. It consists of two stages of activity, namely counseling on organic waste management and the practice of making ecoenzyme. The implementation of these activities went well for three months from November 2022 to February 2023. The results of this activity were educating elementary school students about the importance of preserving the environment by processing waste into ecoenzymes and forming a positive character of loving the environment from an early age in students and residents school.

INTRODUCTION

In order to create a generation of people who care and love the environment and are ready to face the challenges of globalization, in accordance with the mandate of education contained in the National Education System Law Number 20 of 2003 explains that national education functions to develop the ability and shape the character and civilization of a civilized nation to educate the nation's life, aims to develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, and become democratic and responsible citizens.

The government through many activity programs has done various ways to develop the best education system implemented to shape the character of the nation. Character becomes a characteristic that must be owned by each individual shown through the way of behaving, how to behave, and how to act to live and cooperate in their social environment both in the school environment, family environment, and in the wider community. Education by developing character

values in students so that they have values and character and can apply these values in their lives, as members of society and citizens who are religious, nationalist, productive, and creative (Sari & Pupita, 2019).

Character education can also be defined as a systematic and planned education system to educate, empower, and develop the potential of students to build their personal character so that they can grow into individuals who provide benefits to themselves, their families, and the surrounding environment. Character education that cares about the environment needs to be instilled from an early age, an important factor and serves as a shaper of character and also the morals of participants in their interactions in the midst of social life (Efendi et al., 2020).

The character of environmental care is also closely related to other character values such as an independent attitude when students can care for plants, disciplined and orderly students when entering class, and high curiosity and responsibility when students can be active in managing waste recycling. The success in integrating environmental education also needs to be supported by the involvement of the principal, teachers, and school community in environmental care activities. Apart from that, it can also be influenced by the pedagogical ability of teachers in developing learning that is integrated with the environment. However, the implementation often experiences obstacles because some students and the community have not interacted with the environment continuously, there is limited time in implementing activities, lack of cooperation between the school environment, family, and community. Challenges in the formation of national character amid the development of the technological and information age as an impact of globalization, the phenomenon of students who do not apply ethical values, and the implementation of character education in elementary schools have not been implemented consistently (Prabandari, 2020). The younger generation is now more likely to have an individual and asocial mentality. Awareness of the importance of protecting and caring for the environment is still low, especially the attitude of people who still litter, and exploitation of natural resources the environment is not controlled so it has a bad impact on the environment, because of the assumption that the use of nature for humans is a natural thing (Idrus & Novia, 2018).

Muslim et al. (2021) said that "environmental care" character education can be instilled in everyday life by utilizing the school environment as a learning medium. The success in instilling environmental care character education in schools is inseparable from supporting and inhibiting factors. Supporting factors include facilities and infrastructure as well as the role of all school community members in the school environment. The inhibiting factors include the time for implementing activities that have not been maximized and the lack of appreciation for school members who have a caring attitude towards the environment.

Character education in elementary schools as a place of education is the basis for the formation of children's character towards a caring attitude towards the surrounding environment (Akhwani,

2019; Akhwani & Nurizka, 2021). The following character education can be carried out by students in elementary schools, including (1) religious character, (2) love for cleanliness and the environment, (3) caring attitudes and behavior, (4) honest attitudes and behavior, and (5) love for the country. Environmental care character education in elementary schools can be implemented through routine, spontaneous, exemplary, conditioning, school culture, and environmental health activities. Therefore, schools need to support these activities as an effort to implement environmental care character education from an early age through positive and fun activity programs.

Based on this, the purpose of this service activity is to develop an attitude of environmental education from an early age through training in making ecoenzyme for Telkom Padang Elementary School so that awareness of the importance of protecting the environment and the application of environmental love character education in elementary schools can be realized. Thus the character of caring for the environment from an early age can be a basic foundation for elementary school children to have an attitude of caring for the environment.

METHODS

In carrying out service activities at Telkom Padang Elementary School, the main targets and targets are high-grade students, namely starting from grade four, grade five, and grade six. Ten classes are the target of the service implementation. In this case, high-class students are better able to understand theory and practice. This service was carried out from November 2022 to February 2023 at Telkom Padang Elementary School (SD), which is located at Aur Duri Indah Raya, Parak Gadang Tim, District. Padang Timur, Padang City, West Sumatra.



Figure 1: Location of SD Telkom Padang

The achievement of service activities at school is in the form of an ecoenzyme solution which is fermented for three months. Activities have been carried out well and are useful for school residents.

RESULTS

The service activity program was carried out at Telkom Padang Elementary School on November 16-18, 2022. This activity is the development of "Caring for the Environment" character education including: The first stage, counseling on the importance of waste management both in the home and school environment. This extension program is carried out to open students' insights about

the importance of environmental care character education to train students to be more sensitive to the surrounding natural environment.



Figure 2: Counseling on Organic Waste Management Organic Waste Management

The second stage was the practice of making ecoenzyme. The materials used came from organic waste in the form of fruit peels and vegetable scraps. The practice of the ecoenzyme process is done through the fermentation method. Fermentation is a process of chemical changes in organic substrates that can survive due to the action of biochemical catalysts, namely enzymes produced by certain living microbes, such as organic acids, single-cell proteins, antibiotics, and biopolymers.

Fermentation is a very cheap process because in essence it has long been carried out by our ancestors traditionally with its products used by people until now, such as tape, tempeh, oranges, and others. Materials required: a) Household waste, especially fresh vegetables or fruit peels. Do not use rotten, moldy, or oil-soaked ones. 2) Molasses or sugar water (can be replaced with brown sugar or palm sugar) 3) Water. It is better to use well water, not PDAM water, because PDAM water contains chlorine. If you want to use PDAM water, it must first be precipitated for 3 days, 4) Plastic container.

How to make 1. Mix the 3 ingredients in a ratio of 1:3:10 = molasses: organic waste: water 2. This mixture is put into a bottle with a lid so that no air enters.



Figure 3. Practice Making Ecoenzyme

Leave it for three months. During the fermentation process, gas will be produced, so for the first two weeks or so, open the bottle cap every day to let the gas out, so it can't explode later. But it is better to use a bottle with a larger capacity than the ecoenzyme we make so that there is air space. So try to fill the bottle only 3/4 of the way. Don't fill it to the brim. Place it in a cool place with good

ventilation, and do not expose it to direct sunlight. After three months the ecoenzyme can be harvested. If you want to let it sit longer, it is also possible, even better because the ecoenzyme solution produced has no expiration time. The remaining organics can be put into a composter, used as fertilizer, or used for fermentation again.



Figure 4. Group Photo After Practice

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION

With the implementation of this service, it can be concluded, among other things: (1) The entire series of activities ran smoothly, educating students about the importance of preserving the environment from an early age for residents of the school environment; (2) Increasing awareness of the importance of protecting the environment in waste management through training in making ecoenzymes; and (3) Forming the positive character of loving the environment from an early age in students and elementary school residents.

SUGGESTION

This service activity needs to be continued by the school as a sustainable activity program regarding waste management so that it will foster an attitude of care and love for the environment in students.

REFERENCES

- Akhwani, A. (2019). *Strategy of Digital Etiquette Education of Elementary School Students*. Primaryedu-Journal of Primary Education, 3 (2), 43-54. DOI: <https://doi.org/10.22460/pej.v3i2.1378>.
- Akhwani, & Nurizka, R. (2021). *Meta-Analysis Quasi Eksperimental Model Pembelajaran Value Clarification Technique (VCT) Terhadap Terhadap Prestasi Belajar Siswa Sekolah Dasar*. Jurnal Basicedu, 5 (2), 446-454. DOI: <https://doi.org/10.31004/basicedu.v5i2.706>
- Efendi, N., R. S. Barkara, & Y. Fitria. (2020). *Implementasi Karakter Peduli Lingkungan di Sekolah Dasar Lolong Belanti Padang*. Jurnal Komunikasi Pendidikan, 4 (2), 1-10. DOI: <http://dx.doi.org/10.23917/jpis.v29i2.9747>
- Idrus, A., & Y. Novia. (2018). *Pelaksanaan Nilai Peduli lingkungan Di Sekolah Dasar*. Jurnal Gentala Pendidikan Dasar, 3 (2), 203-219. DOI: <https://doi.org/10.22437/gentala.v3i2.6757>.

- Muslim, A., Azizah, N. D., Supriatna., Nurwulan, E. D. (2021). *Penanaman Pendidikan Karakter Peduli Lingkungan di Sekolah Dasar*. Khazanah Pendidikan-Jurnal Ilmiah Kependidikan (JIK), 15 (1),98-101.DOI: 10.30595/jkp.v15i1.10365.
- Prabandari, A. S. (2020). *Impelementasi Pendidikan Karakter Di Sekolah Dasar*. JPdK: Jurnal Pendidikan dan Konseling, 2 (1), 68-71. DOI: <https://doi.org/10.31004/basicedu.v6i3.2858>. Sari, N. K., & L. D. Puspita. (2019). Implementasi Pendidikan Karakter di Sekolah Dasar. Jurnal Dikdas Bantara, 2 (1), 57-72. DOI: <https://doi.org/10.32585/jdb.v2i1.182>.
- Undang-Undang Sistem Pendidikan Nasional Tahun 2003. Link: UU No. 20 Tahun 2003 tentang Sistem Pendidikan Nasional [JDIH BPK RI].
-

© Rahmi Awalina, Wellyalina, Fadli Hafizulhaq, Muhammad Iqbal Abdi Lubis (2023)