Community Service Akseprin Journal (CSAJ)
Website : https://jurnal.akseprin.org/index.php/CSAJ/index
e-mail : sac@akseprin.org
PUBLISHER: Akademi Sertifikasi Profesi Internasional (AKSEPRIN

ISSN 3025-0110 (Online)
Pages 24-30, Vol. 01, No. 1, 2023

Received: 2022-10-09 Revised: 2022-11-11 Accepted: 2023-02-21 Published: 2023-04-04

Character Cares for the Environment Through Waste Management

Elderico E. Tabal
Basilan State College, Philippines

ABSTRACT

The character of caring for the environment is an important part of efforts to realize a sustainable environment so it needs to be passed on to the next generation. School is one of the means of internalizing important values in shaping the character of caring for the environment in the younger generation, especially students. The process of internalizing the character of caring for the environment today still focuses on subjects in schools related to the environment. Therefore, schools have an important role in the implementation of internalization of environmentally caring character. One implementation of the character of caring for the environment is to carry out waste-based management, namely reducing, reusing, replacing, separating, recycling, and composting. The purpose of this activity is to increase students' awareness of the environment (environmental care character) and improve students' insight and skills in carrying out waste management in the school environment. This activity is carried out for 6 months. This activity is carried out in a botton-up manner using counseling, mentoring, training and evaluation methods. This activity consists of six stages of activities: (1) socialization of the character of environmental care and school waste management; (2) Demonstration of waste selection; (3) Composting demonstration; (4) Compost monitoring assistance; (5) Compost harvesting; and (6) Evaluation of activities. The result of this activity is that participants understand about the character of caring for the environment, implementing waste management, separating waste and making compost.

Keywords: Character Internalization; Care for the Environment; Compost; Waste Management.

INTRODUCTION

The character of caring for the environment is an attitude that arises from the learning process which is then internalized into a person. Character is fundamental in humans so that it distinguishes it from other creatures (Nasucha, 2020). Environmental care character education

Community Service Akseprin Journal (CSAJ)
Website : https://jurnal.akseprin.org/index.php/CSAJ/index
e-mail : sac@akseprin.org
PUBLISHER: Akademi Sertifikasi Profesi Internasional (AKSEPRIN
ISSN 3025-0110 (Online)
Pages 24-30, Vol. 01, No. 1, 2023

Received: 2022-10-09 Revised: 2022-11-11 Accepted: 2023-02-21 Published: 2023-04-04

that is integrated with the learning process is interpreted as an introduction to values, awareness of the importance of caring for the environment. The integration of this value in the behavior of the younger generation can be done through learning at school.

Therefore, education about the character of caring for the environment can be internalized and integrated in teaching and learning activities in the school environment so that the formation of student behavior with the character of caring for the environment (Martha, 2020). The process of internalizing the character of caring for the environment is a quality that arises from the learning process which then undergoes the internalization process through a series of learning activities at school. Today, the process of internalizing the character of caring for the environment for students only relies on certain sub-subjects so that it has an impact on the lack of awareness of students towards environmental problems (Purnami, 2016).

Waste is one of the environmental problems that requires the right solution in solving it, especially in the school environment. Every day the school is a producer of waste, namely organic waste and non-organic waste. Organic waste in the school environment consists of leaves, twigs, freshly cut grass and food waste in the canteen. While inorganic waste usually comes from plastic wrapping food, paper and others. The school is one of the upper middle schools in the city which has a relatively large number of students (>250 people).

This condition shows that in the school there is a chance for garbage accumulation. One of the efforts to control landfill is to carry out school-level waste management. Various methods that can be used in carrying out the implementation of waste management in schools, one of which is waste-based management, namely reducing, reusing, replacing, separating, recycling, and composting. Related to these problems, the first step and addressing these problems requires the cultivation of knowledge that character education cares for the environment in students through waste-based management. The purpose of this activity is to increase students' awareness of the environment (environmental care character) and improve students' insight and skills in carrying out waste management in the school environment.

RESEARCH ELABORATIONS

This activity was carried out at the school in September 2020 – July 2021. All participants of this activity were 25 students. The materials used in this activity are school waste (organic and organic), EM4 and brown sugar. While the tools used are: trash cans, buckets and plastic drums (composters). This community service activity is divided into several stages of activities, namely:

a. Preparation and planning of activities. Activities carried out at this stage include permits and field orientation surveys. The implementation team coordinates with the school represented by the Deputy Head of the School for Curriculum to determine the implementation schedule, participants and technical implementation of activities;

b. The implementation of PPM activities is divided into several activities, namely: (1) socialization of environmental care character and school waste management; (2) Demonstration of waste selection; (3) Composting demonstration; (4) Compost monitoring

Community Service Akseprin Journal (CSAJ)
Website : https://jurnal.akseprin.org/index.php/CSAJ/index
e-mail : sac@akseprin.org
PUBLISHER: Akademi Sertifikasi Profesi Internasional (AKSEPRIN
ISSN 3025-0110 (Online)
Pages 24-30, Vol. 01, No. 1, 2023
Received: 2022-10-09 Revised: 2022-11-11 Accepted: 2023-02-21 Published: 2023-04-04

assistance; (5) Compost harvesting. The methods used are socialization, demonstration and skill training.

c. Evaluation and Monitoring of activities. The evaluation process is carried out by questionnaire method. Meanwhile, monitoring activities is carried out 6 months after the activity is completed.

RESULTS AND DISCUSSIONS

Before socialization, participants (students / students) are asked to fill out questionnaires related to the material that will be delivered at the socialization activity. Socialization of environmentally caring character provides students with an understanding of the importance of caring for the environment. Neolaka (2008) environmental concern is the awakening of the soul to the environment and where individuals understand the basic interaction of living things with their environment, protecting the environment from damage. One of them is in carrying out waste management. Currently, there are many waste management methods that have been developed in Indonesia, one of the waste management methods conveyed at this socialization activity is the 6R method, namely Reduce, Reuse, Recyle, Repair, Refuse, and Rethink.

The next material is the waste bank. In this socialization activity, the team introduced the concept and application of the school waste bank. The purpose of this activity is to provide insight to students about the concept of waste banks and a more detailed explanation of the standardization of waste bank management systems, working mechanisms and financial management of waste banks in schools. Dianita (2018) the concept of waste banks is almost the same as the concept of bank management in general. In addition to playing a role in handling waste in schools, waste banks can be a learning tool for students to save and empower the younger generation to care more about the environment. After conducting socialization, followed by a question and answer session with the participants. Some of the questions raised by participants were dominated by questions about the use of samaph into fertilizer and waste bank management in schools.

Waste selection activities aim to increase the participation of students when sorting organic waste and inorganic waste in the process of settlement, participation in the processing process and the desire to reduce the use of non-biodegradable items (Yolarita, 2011; Widiyaningrum et al., 2015). In this activity, the team simulated waste sorting which was divided into 3 parts of sorted trash cans. Referring to the waste type separation program for waste banks, waste sorting is an important stage in waste management and processing. Waste management efforts will be hampered if the waste is still mixed between organic waste that can be recycled with inorganic waste that cannot be recycled (Kurniaty et al., 2016). Thus, through

Community Service Akseprin Journal (CSAJ)
Website : https://jurnal.akseprin.org/index.php/CSAJ/index
e-mail : sac@akseprin.org
PUBLISHER: Akademi Sertifikasi Profesi Internasional (AKSEPRIN
ISSN 3025-0110 (Online)
Pages 24-30, Vol. 01, No. 1, 2023
Received: 2022-10-09 Revised: 2022-11-11 Accepted: 2023-02-21 Published: 2023-04-04

this activity, students are expected to first sort the waste before throwing / or placing the waste into the trash can.

This activity is carried out with scenarios: providing examples of several types of waste (fruit skin waste, food packaging, batteries and others) to practice sorting waste based on the type of waste and its grouping. Based on observations during the waste sorting activity, 89.50% of the participants were able to sort waste according to each type of waste given. this condition showed that most students had understood the material presented in the previous socialization session.

Before students make compost, they are first provided with material about the basic concepts of composting, composting methods and work steps for making compost. Composting activities are carried out using the demonstration method. The selection of this method aims to show students directly the process of making compost directly so that students are expected to understand the process and stages of composting faster (Kusminah, 2018). The compost made in this activity comes from household waste and school waste in the form of grass, dry leaves, food waste and household organic waste such as the remains of forage vegetables mixed with manure and sawdust. The first step in composting is to make an EM4 activator solution. EM4 is a bio-activator that helps speed up the process of making organic fertilizer and improve compost quality. EM4 is also able to improve the physical properties of the soil and supply nutrients needed by plants (Nur et al., 2016). The activity is then continued to chop large forage / organic waste into small sizes to make it easier for the organic waste / forage to decompose in the decomposition process. The smaller the size of the material used to make compost, the faster the material disintegrates into compost (Soeryoko, 2011).

The composting process in this activity takes place by aerobic composting method. Aerobic composting is a process of decomposition of organic matter that utilizes the free oxygen present so that the decomposition of organic matter is only carried out by microorganisms available in the organic material (Kanwal et al, 2011; Luthfi el al., 2019). Another material used for making this compost is chicken manure. The ratio between forage material and chicken manure is 3:1. The compost materials are then arranged into plastic drums layer by layer which are doused with EM4 solution alternately until the plastic drum is fully filled. After the drum is fully filled then tightly closed and during the decomposition process takes place. Preparation of compost material into drums. Compost Monitoring Assistance The problem that often occurs in making compost is the level of maturity that is not uniform and perfect. This condition can be caused by unstable temperature and humidity in the composting process (Supriatna, 2017).

In order for the quality of the compost made to have good quality, the composting process needs to be maintained temperature and humidity. At the time of the ongoing decomposition

Community Service Akseprin Journal (CSAJ)
Website : https://jurnal.akseprin.org/index.php/CSAJ/index
e-mail : sac@akseprin.org
PUBLISHER: Akademi Sertifikasi Profesi Internasional (AKSEPRIN
ISSN 3025-0110 (Online)
Pages 24-30, Vol. 01, No. 1, 2023
Received: 2022-10-09 Revised: 2022-11-11 Accepted: 2023-02-21 Published: 2023-04-04

process, the material should not be too dry or too moist. If it is too dry, the bacteria and microbes in the decomposition process will die and have an impact on the decomposition process that lasts longer (Diantoro, 2020). With regard to these conditions, assistance was carried out in this activity for monitoring compost during the decomposition process. This activity aims to provide students with an understanding of the decomposition process that takes place. This activity lasts for 10 weeks. Compost observations in this activity are carried out by students for once a week. Each iswa was made a picket schedule to monitor their compost. The compost monitoring activities carried out are turning over the compost, measuring the temperature of the compost and observing physical changes that occur in the compost±.

The next stage of activity is compost harvesting. Compost that is ready to be harvested is mature compost and in accordance with the criteria of the Standard on Compost Specifications from domestic organic waste. namely: blackish color and texture like soil, odorless, has a temperature in accordance with the temperature of groundwater and C/N – ratio (10-20):1. Based on observations in the field, from the composting process there is a shrinkage in volume and biomass as much as 2/3 part of the initial volume. Compost harvesting activities are only attended by accompanying teachers because at that time students are taking semester exams. When harvesting compost, the team explained the criteria for good compost and how to apply compost to plants.

The final stage of this activity is evaluation. Evaluation activities in this activity aim to measure the extent of students' understanding of the material presented. The evaluation method used in this activity is the questionnaire method. Evaluation activities by distributing questionnaires to students before and after the activity made in digital format (google form) sent through accompanying teachers to be delivered to participants. The initial perception of students is still not understanding about the character of caring for the environment, waste management and distinguishing well between organic and inorganic waste. The results of the initial questionnaire showed that only 48.65% understood the importance of caring for the environment and 54.05% only understood waste management in the school environment.

The results of students' perceptions after participating in this series of activities show a change in understanding, thinking and attitudes in internalizing the character of caring for the environment through waste management at school. From the results of the questionnaire, it showed that 83.78% of students already understood the concept of environmentally caring character and 86.49% understood the implementation of waste management in schools. This shows that the implementation of internalization of environmental care character in schools through waste management is good enough.

Community Service Akseprin Journal (CSAJ)
Website : https://jurnal.akseprin.org/index.php/CSAJ/index
e-mail : sac@akseprin.org
PUBLISHER: Akademi Sertifikasi Profesi Internasional (AKSEPRIN

ISSN 3025-0110 (Online)
Pages 24-30, Vol. 01, No. 1, 2023

Received: 2022-10-09 Revised: 2022-11-11 Accepted: 2023-02-21 Published: 2023-04-04

CONCLUSIONS

Based on the implementation of activities, it can be concluded as follows:

1. This activity went well and received a positive response from partner partners. This activity provides insight and skills of students in carrying out waste management in the school environment as well as being able to foster environmentally caring character in students.

2. The detention of students after the implementation of internalization of environmentally caring characters through waste management has increased, therefore there is a need for further action to increase students' understanding in environmental management both through curriculum content and environmental education in related subjects.

ACKNOWLEDGEMENTS

Please acknowledge collaborators or anyone who has helped with the paper at the end of the text.

REFERENCES

Dianita, S. (2018). Waste Bank Program to Instill Environmental Love Character in ECCE. In National Seminar on Program Design for the Application of Konep Trilogy + 1 Learner to Create a Humanist Education Process through Increasing the Role and Function of Education Stakeholders in Malang City (pp. 51-58). Malang, Indonesia.

Lutfi, M., Nugroho, W. A., & de Elda Ayumi, I. (2019). Effectiveness of Composting Type (Conventional, Aeration, and Triangular Shelving) on the physical and chemical properties of compost from biogas sludge and sawdust. Journal of Tropical Agricultural Engineering and Biosystems, 5(3), 265-272.

Kanwal, S., Iram, S., Khan, M., & Ahmad, I. (2011). Aerobic composting of water lettuce for preparation of phosphorus enriched organic manure. African Journal of Microbiology Research, 5(14), 1784-1793.

Kusminah, I. L. (2018). 4R counseling (Reduce, Reuse, Recycle, Replace) and the use of waste banks as a step to create a clean and economical environment in Mojowuku Village, Gresik Regency. JPM17: Journal of Community Service, 3(01), 22-28.

Kurniaty, Y., Nararaya, W. H. B., Turawan, R. N., & Nurmuhamad, F. (2016). Streamlining the separation of waste types as an integrated waste management effort in Magelang City. Varia Justicia, 12(1), 135-150.

Community Service Akseprin Journal (CSAJ)
Website : https://jurnal.akseprin.org/index.php/CSAJ/index
e-mail : sac@akseprin.org
PUBLISHER: Akademi Sertifikasi Profesi Internasional (AKSEPRIN

ISSN 3025-0110 (Online)
Pages 24-30, Vol. 01, No. 1, 2023

Received: 2022-10-09 Revised: 2022-11-11 Accepted: 2023-02-21 Published: 2023-04-04

Martha, M. S., & Mahanani, P. (2020). Learning Environmental Care Character Education through the Adiwiyata Program at SDN Bunulrejo 2 Malang City. Journal of Basic Education Nusantara, 6(1), 84-102.

Nasucha, Y., Rahmawati, L. E., Silviana, Y., Udin, R., Atitah, S., Astuti, W., ... & Arfiah, S. (2020). Strengthening Environmental Care Character through Environmental Love Program at MIM Kranggan, Sukoharjo. Education KKN Bulletin, 2(2), 95- 99.

Neolaka, A. 2008. Environmental Awareness. Rineka Cipta. Jakarta. Nur, T., Noor, A. R., &; Elma, M. (2016). Making liquid organic fertilizer from household organic waste with EM4 bioactivator (Effective microorganisms). Conversion, 5(2), 44-51.

Purnami, W., Utama, W. G., & Madu, F. J. (2016). Internalization of Ecological Awareness through Waste Management in the Elementary School Environment. In Proceedings of SNPS (National Seminar on Science Education). Vol. 3, pp. 487- 491.Surakarta.

Supriatna, A. S., Putri, R. I., & Nanik, H. (2017). Temperature and humidity detector in the process of making organic fertilizer. ELTEK JOURNAL, 13(1), 1-10.

Soeryoko, H. (2011). Smart Tips for Producing Compost with a Homemade Decomposer. Yogyakarta: Lily Publisher. Widiyaningrum, P., Lisdiana, L., &; Purwantoyo, E. (2016). Evaluation of student participation in waste management to support the Adiwiyata School program. Indonesian Journal of Conservation, 4(1), 74-82