

CHANGING THE ENVIRONMENTAL PARADIGM THROUGH 3R (Reuse, Reduce, Recycle) EDUCATION: Student Devotion to Plastic Waste Management and Sustainable Creativity with Economical Value

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ABSTRACT

The environment is home to all forms of life, especially humans, and protecting it is an absolute obligation. Environmental quality greatly affects human life. Even though there are many ways to protect the environment, careless waste handling is still a troubling problem. Piles of garbage on the streets and especially plastic waste, which is difficult to decompose, are increasingly widespread and have an increasingly serious impact. To respond to this, we as academic members feel the need to contribute in the form of Student Community Service, which we do at the Al Kamilah Foundation, Jl. Raya No. 3, Serua, Bojongsari District, Depok City, West Java. Our main goal is to increase awareness of the dangers of plastic waste and teach them how to process it into valuable and economically valuable goods. We apply the 3R (Reuse, Reduce, Recycle) training method with a focus on making piggy banks from plastic bottles. The results of this activity indicated the enthusiasm of the participants in learning and being creative with plastic waste. The resulting creations are not only useful as a place to store pocket money, but also have the potential to be used as business products. Through this activity, we hope to be able to provide valuable learning to the participants and open the door for ongoing training to improve their ability to manage plastic waste in an innovative and sustainable way.

Keywords: Environmental Education, 3R Idea (Reuse, Reduce, Recycle), Sustainable Creativity, Economic Value

INTRODUCTION

Environmental problems, especially related to the management of plastic waste, have become an urgent issue throughout the world (Ningrum & Dewi, 2022). A clean and healthy environment has a positive impact on the quality of human life and contributes to the sustainability of the global ecosystem (Dwicahyani, et al., 2022). In Indonesia, the problem of managing plastic waste is increasingly worrying due to the increase in plastic consumption and the lack of public awareness in managing waste properly (Diana, et al., 2017).

Plastic waste, in particular, is a serious threat to ecosystems and human health (Syaiful & Hayati, 2021). The slow decomposition process and the resulting pollution from plastic have a negative impact on environmental sustainability (Mandataris, et al., 2023). Communities still lack an understanding of this hazard and lack skills in managing plastic waste effectively (Gunanti, et al., 2021).

In this context, the role of students as agents of change is very important. Students have access to knowledge, resources and energy that they can channel to make a positive impact on society. Student service to the community is an ideal platform for providing education, training, and concrete solutions related to plastic waste management (Setyawati & Siswanto, 2020).

In this service, we focus on managing plastic waste through the 3R (Reuse, Reduce, Recycle) creative approach. This method promotes the reuse of materials, reduces waste production, and recycles materials (Paeno, et al., 2020; Asrul, et al., 2023). We believe that this approach will not only help overcome the problem of plastic waste, but can also create economic opportunities through the creation of useful products from processed plastic waste.

Through this service activity, we hope to increase public awareness about the importance of managing plastic waste and teach them practical skills to process plastic waste into valuable goods. In addition, we want to encourage the formation of a sustainable culture that involves the active participation of the community in efforts to keep the environment clean. By combining aspects of waste management, creativity and economic potential, this service has a long-term goal of creating a sustainable positive impact on the environment and surrounding communities (Iskandar & Armansyah, 2019).

The concept of "Plastic Waste Management with Economic Value" is an approach that combines efforts to manage plastic waste with the utilization of the economic potential that can be generated from this process (Rosdiana & Wibowo, 2021). The main goal of this concept is to reduce the negative impact of plastic waste on the environment while creating new sustainable economic opportunities. Here is a further explanation of this concept:

1. Reduction and Utilization of Plastic Waste. This concept includes various strategies to reduce the amount of plastic waste dumped into the environment. This reduction can be achieved through education and environmental awareness campaigns,

reducing the use of single-use plastics, and promoting 3R (Reuse, Reduce, Recycle) practices in everyday life.

2. **Recycling and Creativity.** As part of this concept, collected plastic can be processed through a recycling process to produce new products. In addition, a creative approach is also included by designing useful products from processed plastic waste, such as handicrafts, accessories, furniture, or other products that have functional and aesthetic value.
3. **Sustainable Approach.** This approach includes a sustainable aspect in the sense that managing plastic waste not only reduces environmental impact, but also creates long-term economic opportunities. By integrating economic value into waste management, the public and business people can see the potential benefits of processing plastic waste.
4. **Education and training.** Education about the benefits of sustainable and economically valuable plastic waste management is important in this concept. Education can be carried out through various media, seminars, workshops and practical training to encourage the participation of local communities and entrepreneurs in plastic waste management initiatives.
5. **Local Economic Development.** One of the objectives of this concept is to support local economic development. By processing plastic waste into valuable products, this concept can create new jobs, support micro, small and medium enterprises, and encourage innovation in the recycling industry and creativity.
6. **Community empowerment.** This concept encourages community empowerment by imparting new skills in plastic waste management and waste treatment. By providing communities with training to make valuable products from plastic waste, they can have a new, sustainable source of income.
7. **Mainstreaming Environment and Economy.** This concept teaches that a healthy environment and a sustainable economy do not have to be in conflict. Instead, the two aspects can support each other and provide long-term benefits to society and our planet.

By applying the concept of "Plastic Waste Management with Economic Value," we can change our view of plastic waste from just waste to a resource that has economic value and makes a positive contribution to the environment and the local economy.

METHOD

This Student Community Service Activity is located at the Al Kamilah Foundation, Jl. Raya No. 3, Serua, Bojongsari District, Depok City, West Java. This activity was carried out on January 29, 2023, which took place at 08.00-Finished. With the theme "CHANGING THE ENVIRONMENTAL PARADIGM THROUGH 3R EDUCATION: Student Devotion to Management of Plastic Waste and Sustainable Creativity with Economic Value", the authors named the children of the Al Kamilah Foundation as service participants with an age range of 13-15 years.

The method applied in this service is in the form of training on the process of recycling plastic waste into new items and has economic value. Participants can use the results of this training as a place to save money or as products to be traded. This training activity was preceded by a material delivery session. At this stage participants are given an understanding regarding the importance of the 3R method (*Reuse, Reduce, Recycle*) so that participants can manage and handle plastic waste properly, and are aware of the dangers of plastic waste for the environment. The material was delivered by one of the students concerned. After delivering the material, a creation session was held. At this stage participants are taught to practice recycling methods through making piggy banks from used bottles with the tools and materials provided, namely: mineral water bottles, *cutter*, wrapping paper, cardboard, *double tape*, and scissors. The practice is accompanied by the student/(i) concerned.

DISCUSSION

On Sunday, January 29 2023, a training activity entitled "Student Devotion to Plastic Waste Management and Sustainable Creativity with Economic Value" was held at the Al Kamilah Foundation, Depok City. This training involved a total of 12 implementers, including 10 students and 2 lecturers who acted as assistants.

The stages of implementing these activities are as follows:

1. Opening by the Associate Lecturer. The event began with remarks from one of the accompanying lecturers. In his remarks, the lecturer explained the purpose and benefits of this training, as well as inspired the participants to take an active part in the activities.

2. **Providing Training.** The training begins with a presentation session by the lecturers and students involved. The material presented included an introduction to the 3R concept (Reuse, Reduce, Recycle) in the management of plastic waste, the process of recycling plastic waste, and creativity in turning plastic waste into products of economic value. The training includes an explanation on how to make a piggy bank from plastic waste.
3. **Discussion Sessions, Watching Videos, Providing Motivation, and Sharing Prizes.** After the training, an interactive discussion session was held where participants could ask questions and share their thoughts on the material they had learned. A video viewing session about the negative impact of plastic waste on the environment was also conducted to deepen participants' understanding. In addition, there is also motivation regarding the importance of the individual's role in protecting the environment. This activity ended with giving prizes to participants who actively participated.
4. **Number of Participants and Age.** This activity was attended by 30 participants, with the age of the participants ranging from 13 to 15 years. Participants come from diverse backgrounds and have an interest in the environment and creativity.
5. **Participant Enthusiasm.** During the training, participants showed high enthusiasm in following each session. They enthusiastically took part in the practice of making products from plastic waste and participated in discussions and interactions with accompanying lecturers and students.

By going through a series of structured and interactive implementation stages, this training succeeded in achieving its goal of providing participants with an understanding of plastic waste management and sustainable creativity with economic value. It is hoped that this activity can encourage participants' active participation in managing plastic waste more wisely and creating a positive impact on the environment around them.

Material 1

Participants have a growing ability to understand and enthusiasm to learn about environmental issues and creativity. Therefore, in explaining the material from recycling plastic into piggy banks to participants of this age, we use an interactive, visual and easy-to-understand approach. Here's how to explain this material to participants:

1. Introduction to Recycling and the Environment. We provide an introduction to what recycling is and why it is important for the environment. We use concrete examples, such as mentioning how much plastic waste can damage the environment if not treated properly.
2. Explanation of 3R (Reuse, Reduce, Recycle). We explain the 3R concept in simple terms. We told the participants that 3R is a way to manage plastic waste by reducing single-use plastic use, reusing plastic, and recycling plastic into new items.
3. Introduction to Plastic Recycling. We provide an overview of how plastic can be recycled into materials that can be reused, using illustrations or real examples, such as plastic bottles being turned into materials for making piggy banks.
4. Steps to Make a Piggy Bank from a Plastic Bottle.
 - a. Shows used plastic bottles that are clean and dry as a base material.
 - b. Explains how to properly clean plastic bottles before starting to make a piggy bank.
 - c. Demonstrates how to cut the top of the bottle to form the hole that will later be used to insert the money.
 - d. Guide participants step by step in decorating plastic bottles. Give examples of how to paint, paste colored paper, or use other decorations.
 - e. Teaches participants how to store money in a plastic bottle and close it securely.
5. The Importance of Creativity and Expediency. We conveyed to the participants that the process of decorating plastic bottles not only creates attractive piggy banks, but also teaches them to use used items into something useful. We explained, that they can use this piggy bank to save pocket money or even sell it as a creative product.
6. Discussions and Questions. We provide opportunities for participants to ask questions or share ideas on how they can apply the concept of recycling and creativity in everyday life.
7. Practical Activity. After the explanation, we gave the participants some time to try to make their own piggy banks out of plastic bottles. We provide guidance as they carry out the steps described.

Material 2

Teaching participants how to sell piggy banks made from recycled plastic waste is a step that can provide valuable experience in entrepreneurship and apply their creativity. Following are the steps explained to the participants:

1. Planning. Teach participants to plan their sales carefully. This includes determining how many piggy banks you want to sell, the selling price per piggy bank, and the location and time of the sale.
2. Target Market Identification. Discuss with participants about who the target market they want to reach. Maybe classmates, friends around, or even parents and relatives. They can also sell piggy banks at school events or creativity fairs.
3. Competitive Price. Directing participants to understand the importance of determining competitive prices. Namely discussing the factors they should consider, such as the cost of raw materials and the time and effort spent in making piggy banks.
4. Attractive Product Presentation. Teaches participants to design attractive displays for their products. This can include neat and attractive placement, as well as clear price tags. They can also make simple posters or flyers to promote their piggy bank.
5. Creative Promotion. Teaches creative ways to promote piggy banks, such as sharing stories on social media, making piggy bank demonstrations, or selling in crowded locations by putting up attractive banners.
6. Customer service. Teaches the importance of providing good customer service. Teach them how to communicate with potential buyers, answer questions, and provide information about products honestly.
7. Transactions and Payments. Teach participants about different ways of accepting payments, such as cash or payments via digital apps if needed. Teach them how to manage money and give change properly.
8. Evaluation and Improvement. After the sale takes place, teach participants to evaluate the results.
9. The Importance of Consistency and Creativity. Teaches the importance of consistency in selling piggy banks and innovating in developing products and ways of promotion. This will help them thrive in their creative business.
10. Share Success Inspiration. Telling stories about successful entrepreneurs who start from small things, such as selling products in their surroundings, and how they managed to achieve success.

CONCLUSION

Implementation of community service activities for the Al Kamilah Foundation on Sunday, January 29, 2023, with the theme "CHANGING ENVIRONMENTAL PARADIGM THROUGH 3R (Reuse, Reduce, Recycle) EDUCATION: Student Service for Plastic Waste Management and Sustainable Creativity with Economic Value" yielded results positive and valuable. This activity has had a significant impact in educating, motivating and empowering children in the context of plastic waste management and sustainable creativity. Based on this implementation, we reached several important conclusions:

1. Environmental Awareness Raising. This activity succeeded in increasing children's awareness of the importance of protecting the environment and managing plastic waste wisely. They understand the negative impact of plastic waste on the ecosystem and are ready to contribute to a more positive change.
2. Strengthening the 3R Concept. The children succeeded in understanding and internalizing the 3R concept (Reuse, Reduce, Recycle) as an effective approach in reducing the environmental impact of plastic waste. They are able to identify practices that can be applied in everyday life.
3. Creativity Development. Through continuous creativity training, children learn to turn plastic waste into products of economic value. They demonstrate enthusiasm and the ability to apply creative ideas to produce useful products.
4. The Importance of Environmental Education. This activity shows how important environmental education is from an early age. Children show an interest in and ability to understand environmental issues and play an active role in solving problems.
5. Introduction to Entrepreneurship. Through the practice of making and selling piggy banks from plastic waste, children are introduced to the basic concept of entrepreneurship. They understand how to produce a product, promote it and sell it well.
6. Potential Long Term Impact. These activities have the potential to create long-term impacts by shaping children's mindsets and attitudes towards the environment. Children who are educated from an early age can become agents of change in society in an effort to preserve the environment.

Overall, this service activity has succeeded in achieving the goal of changing the environmental paradigm through 3R education. Al Kamilah Foundation's children have received understanding and skills that can help them face environmental challenges in a more positive and sustainable way. We hope that the enthusiasm and knowledge gained by the children from this activity will continue to grow and become a basis for further changes in plastic waste management and environmental preservation in the future.

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