

Overcoming Environmental Dilemmas with Innovation and Education at the Vita Dulcedo Orphanage

Maria Sihotang¹, Anna Mariani², Desvinna³, Fiber Yun Almanda Ginting⁴

^{1, 2, 3, 4} Universitas Katolik Santo Thomas, Medan, Indonesia

mariasihotang2004@gmail.com, annamariani23520@gmail.com,
despinnaaja@gmail.com, fiberginting1988@gmail.com

Abstract

Inorganic waste, especially bottles and plastic, is a significant environmental problem. On April 26-27 2024, we implemented an innovative and educational program at the Vita Dulcedo Orphanage to overcome this challenge. This study evaluates the effectiveness of the approach applied in reducing the impact of waste on the environment and increasing awareness of orphanage residents regarding non-organic waste management. The results show that the combination of innovation and educational programs has succeeded in changing residents' behavior in managing non-organic waste. This activity also shows how simple technology can be applied in a small community environment with the right support. Awareness of children and orphanage staff regarding the importance of recycling and waste segregation has increased significantly, reflecting the success of an approach that combines hands-on practice with interactive education.

Keywords

Environmental Dilemmas; Innovation and Education

Introduction

The problem of non-organic waste, especially bottles and plastic, is a comprehensive concern because of its detrimental impact on the environment. Bottles and plastic take hundreds of years to decompose, causing land and water pollution which is dangerous for human and animal life. Orphanages as small communities are not free from these challenges. The Vita Dulcedo Orphanage is the subject of a study to identify effective ways to overcome this problem through an innovative and educational approach which will be carried out on April 26-27 2024.

Vita Dulcedo Orphanage is committed to educating its foster children about the importance of protecting the environment through good waste management. The aim of this activity is to increase environmental awareness and promote effective recycling practices among children and orphanage staff. The program will encompass several activities designed to engage the children and staff in practical and informative sessions about environmental stewardship. These

activities include workshops and seminars where experts in environmental science and waste management will conduct interactive sessions. These will cover topics such as the environmental impact of plastic waste, the principles of recycling, and sustainable living practices.

Children will participate in hands-on projects where they will learn to sort, clean, and recycle various types of plastic waste. This practical approach will help them understand the recycling process and the importance of reducing waste. Art and craft sessions using recyclable materials will be organized to inspire creativity and demonstrate how waste materials can be transformed into useful and decorative items.

Engaging and fun games will be organized to reinforce the lessons learned during the workshops. Competitions such as 'Best Recycled Art' and 'Most Creative Reuse Idea' will encourage children to apply their knowledge creatively. As part of the program, a community clean-up drive will be conducted around the orphanage premises. This will not only help in cleaning the local environment but also instill a sense of responsibility and teamwork among the participants.

To further emphasize the importance of a green environment, a tree planting and gardening session will be included. Children will plant trees and learn about their role in reducing carbon footprints and enhancing biodiversity. The expected outcomes of this initiative are multifaceted. Firstly, the children and staff at Vita Dulcedo Orphanage will gain a deeper understanding of environmental issues and the significance of waste management. Secondly, the hands-on experience and creative activities will foster a culture of recycling and sustainability within the orphanage. Lastly, the community clean-up drive and tree planting activities will have a direct positive impact on the local environment, setting an example for the surrounding community to follow.

Beyond the immediate educational program, Vita Dulcedo Orphanage aims to implement a sustainable waste management system. This includes setting up designated recycling bins, establishing partnerships with local recycling facilities, and integrating environmental education into the orphanage's daily routine. By doing so, Vita Dulcedo Orphanage hopes to create a model that can be replicated by other orphanages and small communities, contributing to a broader effort to address the global issue of plastic waste. This initiative reflects the orphanage's dedication to not only providing a nurturing environment for its children but also preparing them to be conscientious and responsible citizens who will play a part in safeguarding our planet for future generations.

Methodology

This research uses a qualitative method with a case study approach. Data was collected through direct observation, in-depth interviews with orphanage managers, staff and foster children. Innovative and educational programs implemented in orphanages were identified and evaluated for their effectiveness during the two-day period. Observations were made during the activity to monitor children's participation and the effectiveness of the methods used. Interviews with home administrators and staff provide insight into the challenges and successes experienced during the implementation of these activities. Documents related to the program, such as

training proposals and activity reports, are also analyzed to further understand the structure and content of the educational program being implemented.

Findings

The Vita Dulcedo Orphanage introduced several innovative strategies to manage non-organic waste, focusing on environmental education, a waste bank system, and craft-making activities. These initiatives were aimed at increasing environmental awareness, reducing unmanaged waste, and promoting sustainable practices among the children and staff.

Environmental Education Program

The program featured workshops, interactive games, and creative activities designed to engage children and enhance their waste management skills. The educational materials were tailored to be engaging and informative, successfully capturing the children's interest and encouraging active participation. As a result, children gained a thorough understanding of the importance of waste sorting and recycling.

Waste Bank System

The introduction of the waste bank system allowed children to exchange plastic waste for points, which could be redeemed for prizes or school supplies. This system provided a tangible incentive for children to collect and properly sort plastic waste. It also highlighted the economic value of recycled waste, teaching children that waste can have monetary worth when managed correctly.

Craft Making Activities

Children were taught to create various crafts using available bottle and plastic waste. Activities included making flowers and door decorations from recycled materials. This not only improved the children's practical skills but also fostered a deeper understanding of the potential reuse of waste materials.

Research Outcomes

After the implementation of the program, several positive outcomes were observed:

1. **Increased Environmental Awareness:** There was a notable increase in environmental awareness among both the children and staff. The educational activities successfully imparted knowledge about the importance of waste management and the negative impacts of non-organic waste on the environment.
2. **Reduction in Unmanaged Waste:** The volume of unmanaged plastic waste decreased significantly. The structured approach to waste sorting and recycling led to more efficient waste management within the orphanage.
3. **Enhanced Recycling Efforts:** There was a marked increase in the amount of waste being recycled. Children became more proactive in collecting and sorting waste, and staff showed a greater commitment to sustainable waste management practices.

Case Study: Implementation at the Vita Dulcedo Orphanage

Day One: April 26, 2024

The program began with an opening session attended by all residents and staff. This session included an explanation of waste types, the importance of waste management, and the environmental impact of non-organic waste. A question-and-answer session followed, allowing children to engage actively and clarify their understanding of waste-related issues. Children were then divided into small groups to facilitate interactive learning. Each group received instruction on waste sorting and the benefits of recycling through fun and educational games and creative tasks.



Figure 1. Craft Making Activities

Day Two: April 27, 2024

The focus shifted to the implementation of the waste bank system. Children were taught to collect and sort plastic waste accurately. Following the waste bank activity, children participated in craft-making sessions, creating flowers and door decorations from recycled materials. These activities not only enhanced their practical skills but also deepened their understanding of the value of well-managed waste. Environmental cleaning activities were also conducted around the orphanage, involving children and staff in a collaborative effort to clean

the surroundings of non-organic waste. This activity reinforced a sense of responsibility towards maintaining a clean and healthy environment.



Figure 2. Presenting Result

Discussion

The implementation of environmental education, a waste bank system, and craft-making activities at Vita Dulcedo Orphanage has yielded significant insights into effective non-organic waste management within small communities. The positive outcomes observed suggest that a comprehensive, hands-on approach can substantially increase environmental awareness and reduce unmanaged waste.

Impact of Environmental Education

The workshops and interactive sessions effectively engaged the children, making them more aware of the environmental impacts of plastic waste. The use of fun and informative activities ensured that the learning process was not only educational but also enjoyable. This approach facilitated a deeper understanding and retention of waste management principles. The active participation of children during these sessions highlights the importance of tailoring educational materials to the audience's interests and cognitive levels.

Efficacy of the Waste Bank System

The waste bank system proved to be an effective motivational tool. By providing tangible rewards for waste collection and sorting, the system incentivized children to participate actively in waste management. This not only reduced the volume of unmanaged plastic waste but also introduced the concept of the economic value of waste. The children learned that recycling can be financially rewarding, which may encourage long-term engagement with sustainable practices. This system also provided a practical framework for other similar institutions to replicate, suggesting a scalable model for community-based waste management.

Benefits of Craft-Making Activities

The craft-making sessions served dual purposes: they developed practical skills and fostered creativity while reinforcing the principles of recycling and waste management. By transforming waste into useful or decorative items, children gained a hands-on appreciation for the reuse of materials. This activity demonstrated that waste can be repurposed, thereby reducing the perceived necessity to discard plastic items. The success of these activities indicates that incorporating creative elements into waste management education can enhance the learning experience and make the concepts more relatable to children.

Reduction in Unmanaged Waste

The significant decrease in unmanaged plastic waste indicates the overall success of the program. This reduction can be attributed to the comprehensive approach that combined education, incentives, and practical application. The structured waste sorting and recycling efforts ensured that waste was managed more effectively. This outcome underscores the importance of a multifaceted strategy in addressing waste management issues.

Commitment to Sustainable Practices

The increased commitment among the staff to sustainable waste management practices is a notable outcome of the program. This change suggests that educational initiatives can have a ripple effect, influencing not only the immediate participants but also the broader community. The involvement of staff in the program helped establish a culture of sustainability within the orphanage, which is crucial for the long-term success of waste management efforts.

Community Engagement and Environmental Responsibility

The environmental cleaning activities and the collaborative effort in maintaining a clean surrounding area further reinforced the sense of community and environmental responsibility among the children and staff. These activities not only improved the immediate environment but also instilled a sense of ownership and stewardship towards the local surroundings. This aspect of the program highlights the potential for such initiatives to foster a broader community spirit and environmental consciousness.

Challenges and Areas for Improvement

While the program was largely successful, several challenges were identified. Ensuring consistent participation and maintaining high levels of motivation among children can be challenging over extended periods. Future programs could explore additional or varied

incentives and more frequent engagement activities to sustain interest. Additionally, expanding the program to include more advanced recycling techniques and waste reduction strategies could further enhance its effectiveness.

Scalability and Replication

The success of the program at Vita Dulcedo Orphanage suggests that similar strategies could be effectively implemented in other orphanages and small communities. The combination of education, incentives, and creative activities provides a scalable model that can be adapted to different contexts. Further research could explore the adaptation of this model in diverse settings to validate its broader applicability.

Conclusion

The study at Vita Dulcedo Orphanage highlights the success of a comprehensive approach in managing non-organic waste and enhancing environmental awareness among children and staff. The introduction of educational programs, a waste bank system, and creative reuse activities led to significant improvements in waste management practices and environmental consciousness. The environmental education program, which included workshops, interactive games, and creative activities, effectively increased the children's knowledge and skills in waste management. By making the learning process engaging and interactive, the program motivated children to actively participate and understand the importance of waste sorting and recycling.

The waste bank system provided practical incentives for children to collect and sort plastic waste. Offering tangible rewards for waste collection not only encouraged participation but also emphasized the economic value of recycled materials. This system significantly reduced the volume of unmanaged plastic waste and presents a scalable model for other communities. Craft-making activities using recycled materials further reinforced recycling principles. These hands-on activities demonstrated the potential for repurposing waste, fostering both creativity and practical skills among the children. The success of these activities shows that incorporating creative elements into environmental education can enhance the learning experience and make sustainable practices more relatable.

The program resulted in a notable decrease in unmanaged plastic waste and an increase in recycling efforts. The children's active involvement in waste collection and sorting, along with the staff's commitment to sustainable practices, underscored the program's effectiveness. Collaborative environmental cleaning activities and community engagement efforts also strengthened the children's sense of responsibility towards their environment. Despite the program's success, maintaining consistent participation and motivation among children remains a challenge. Future initiatives could explore varied incentives and more frequent engagement activities to sustain interest. Expanding the program to include advanced recycling techniques and waste reduction strategies could further enhance its impact.

The positive outcomes at Vita Dulcedo Orphanage suggest that similar strategies can be effectively implemented in other orphanages and small communities. The combination of education, incentives, and creative activities provides a replicable and adaptable model for addressing the global issue of plastic waste. Further research and adaptation of this model in diverse settings could validate its broader applicability and contribute to widespread environmental sustainability efforts. In conclusion, the comprehensive approach to non-organic waste management at Vita Dulcedo Orphanage has demonstrated that educational programs, incentive systems, and creative reuse activities can significantly improve waste management practices and environmental awareness. This initiative not only addresses the immediate challenges of plastic waste but also prepares children to be conscientious and responsible citizens. The successful implementation of these innovations offers a promising framework for broader community-based solutions to global waste management challenges, paving the way for a more sustainable future.

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