

Optimizing Literacy Classes as Educational Media on Waste Types and Recycling to Increase Environmental Awareness

Aurellia Utami¹, Jelang Abdi Setyo², Muhammad Fatkhun Akbari³, Annisa Nur Muthmainnah⁴, Rafhi Febryan Putera⁵

¹²³⁴⁵ Universitas Bengkulu, Indonesia

Corresponding Author e-mail: aureliautami10@gmail.com, jelangabdisetyo@gmail.com, mfatkhun16@gmail.com, nisanuracc26@gmail.com

Article History:

Received: 13-08-2026

Revised: 24-09-2026

Accepted: 24-09-2026

Keywords: literacy class, environmental education, waste classification, waste segregation, environmental awareness, children.

Abstract: Low environmental awareness among children, particularly regarding waste management, remains a challenge in creating a clean and sustainable environment at the village level. Therefore, this community service activity aims to optimize the literacy class as an educational medium to improve children's knowledge and environmental awareness in Lubuk Gung Village through learning activities about waste classification and waste segregation. The target participants were elementary school-aged children who attended the village literacy class. The results of the activity indicated an improvement in participants' understanding of waste classification, the importance of maintaining environmental cleanliness, and appropriate waste segregation practices. In addition, the participants demonstrated high enthusiasm throughout the learning process and began to develop the habit of disposing of and sorting waste according to its type. The optimization of the literacy class not only served as a means of improving children's literacy skills but also proved to be an effective medium for instilling environmental awareness and responsible waste management behavior from an early age. Thus, this activity is expected to foster sustainable environmentally friendly behavior and support the development of a community that is more concerned with proper waste management.

Introduction

The waste problem remains a very pressing environmental issue in Indonesia. Based on data from the Ministry of Environment and Forestry's National Waste Management Information System (SIPSN), national waste generation in 2024 reached approximately 33.79 million tons, with household waste being the largest source, accounting for 50.8 percent. [1] However, there is still a portion of waste that is not properly managed, thus potentially polluting both terrestrial and aquatic environments. [5]

Low public awareness in sorting waste is one of the main causes of the recurrence of this problem.[4] The habit of throwing away waste without sorting it into organic, inorganic, and recyclable materials is still common, including in rural areas where waste management facilities are limited. In

conditions like this, most household waste is still thrown away, buried, or burned without any prior sorting process.[3]

On the other hand, children as the next generation need to gain an understanding from an early age about the types of waste, the impact of waste on the environment, and simple ways to sort and recycle waste in everyday life.[2] A number of studies show that waste sorting education for elementary school students can improve knowledge, attitudes, and behaviors of caring for the environment through interactive methods, simulations, and environmental literacy programs integrated with learning activities.[6]

Based on this description, optimizing literacy classes as a medium for educating about waste types and recycling in Lubuk Gung Village is a strategic necessity. Through this approach, literacy classes not only serve to improve children's literacy skills but also serve as a space for developing environmental awareness from an early age in an integrated and sustainable manner.[7]

Method

This community service activity was carried out in Lubuk Gung Village, Semidang Gumay District, Kaur Regency, Bengkulu Province, primarily targeting children participating in village literacy classes. The method used was a participatory learning approach, a learning method that actively involves participants through material delivery, discussions, educational games, and simple practices. This approach was chosen so that the children not only gain theoretical knowledge but also have direct experience in recognizing and sorting waste according to its type.

The implementation of the activity consists of three stages as follows.

1. Preparation Stage

The preparation phase was carried out through coordination with village officials and the village community to develop an implementation plan. During this phase, the KKN 177 group prepared educational materials on the types of waste, the importance of waste sorting, and the impact of waste on the environment. Additionally, learning materials were prepared, including posters, illustrations, examples of organic and inorganic waste, and illustrations of labeled trash bins, which will be used as learning and practice tools during the activity.

2. Implementation Stage

The activity was implemented through optimizing literacy classes by integrating material on waste management into learning activities. The material was delivered using an interactive presentation method tailored to the age of the participants, followed by a discussion and question-and-answer session to help children understand the material. To increase participant engagement, the activity was combined with an educational game in the form of a simple quiz on types of waste.

After the presentation, participants practiced waste sorting by grouping various types of waste (we made them in the form of attractive stickers representing different types of waste) into organic and inorganic categories. This activity aims to train children's ability to recognize each type of waste and to cultivate waste sorting behavior from an early age. The practice was conducted in groups so that participants could discuss and collaborate with each other in determining the correct waste classification.

3. Evaluation Stage

An evaluation was conducted at the end of the activity to determine participants' understanding of the material presented. The evaluation method used was a direct question-and-answer session between the implementation team and the participants. Children were asked several simple questions related to the material, such as the differences between organic and inorganic waste, examples of each type, and the importance of sorting waste before disposal. Participants were also asked to demonstrate their ability to group waste samples into the correct categories.

The success of the activity was demonstrated by the children's ability to answer questions correctly, identify waste types accurately, and demonstrate enthusiasm and active participation throughout the activity. Through this evaluation, implementers could determine the extent to which the material had been understood and ensure that the educational goal of increasing participants' environmental knowledge and awareness had been achieved.

Results and Discussion

The community service program through the optimization of literacy classes as a medium for educating children about types of waste and recycling is one concrete effort to increase environmental awareness among children in Lubuk Gung Village, Semidang Gumay District, Kaur Regency. The main problem faced is the children's low understanding of the types of waste and the lack of waste sorting habits from an early age, while waste management facilities in the village are still limited. Through the optimization of literacy classes, children gain additional learning space that integrates literacy skills with environmental insight, so that the process of reading and writing is no longer a stand-alone process, but rather contributes to the formation of waste-conscious behavior from an early age.



Picture1Literacy Class

The optimization of this literacy class received a positive response from both participants and village officials. This was evident in the children's enthusiasm in participating in all activities, from material presentations and discussions to educational games and waste sorting practices. The high level of participation demonstrated that the participatory learning approach used was able to create a fun and meaningful learning environment, making environmental material more easily understood by elementary school-aged children.

Implementation of Literacy Classes as an Educational Medium on Types of Waste and Recycling

The main outcome of this activity was the integration of waste management materials into village literacy classes. During the presentation, participants were introduced to the classification of organic and inorganic waste through an interactive presentation featuring posters and illustrations, followed by a discussion and question-and-answer session. To reinforce understanding, the activity included a simple quiz on waste types, which was met with enthusiasm by participants, as evidenced by the large number of children actively answering and asking questions.



Picture2Delivery of waste education materials

During the practical phase, participants engaged in group waste sorting activities using stickers depicting different types of waste. This medium was chosen because it is visual and interactive, making it easier for children to identify real-world examples of organic and inorganic waste. Throughout the practical session, participants actively engaged in discussions with their group mates to determine the appropriate waste categories, demonstrating the effectiveness of the play-based learning approach in building collaborative conceptual understanding.



Picture3Waste sorting practice

The evaluation results, conducted through a direct Q&A session, demonstrated an increase in participants' understanding of the differences between organic and inorganic waste, examples of each type, and the importance of sorting waste before disposal. Most participants were able to answer the questions correctly and demonstrated the ability to group waste samples into the correct categories. In addition to cognitive aspects, the evaluation also revealed a change in attitudes, as evidenced by the increasing habit of disposing of waste properly and sorting it according to type, both during and after the activity.

These findings indicate that optimizing literacy classes as a medium for environmental education has a dual impact: improving literacy skills while strengthening children's environmental awareness from an early age. A participatory approach that combines material delivery, educational games, and hands-on practice has proven more effective than conventional lecture methods, as children gain not only theoretical knowledge but also hands-on experience in recognizing and sorting waste. Therefore, optimizing literacy classes has the potential to become a model for sustainable environmental education at the village level, while also supporting the formation of a younger generation that is more concerned about waste management in their environment.

Conclusion and Suggestions

The optimization of literacy classes as an educational medium for introducing types of waste and recycling in Lubuk Gung Village successfully increased the environmental knowledge and awareness of the children who participated in this activity. The participatory approach, which combined interactive presentations, discussions, educational games, and sorting practices using stickers, also made it easier for children to understand the difference between organic and inorganic waste and practiced waste sorting skills. The high enthusiasm and participation demonstrated that the learning-by-play method was effective for elementary school age groups, and the final evaluation showed increased understanding as well as initial changes in attitudes, such as disposing of waste in its place and carrying out simple waste sorting. Overall, the optimization of literacy classes has the potential to be a model for sustainable environmental education that integrates literacy improvement with the formation of waste-conscious behavior in the younger generation, especially children.

Thank-you note

We would like to thank the Head of Lubuk Gung Village, village officials, parents, and all residents who supported the implementation of this literacy class. Special thanks go to the participating

children for their enthusiasm and high level of participation. We also extend our deepest gratitude to our colleagues on the KKN 177 team for planning and implementing this activity, and to those who lent us learning materials and facilities. We hope this activity proves beneficial and can be continued and developed to increase environmental awareness in Lubuk Gung Village.

Bibliography

- [1] GoodStats. (2025, April 18). *Sampah rumah tangga dominasi komposisi sampah nasional 2024*.
<https://data.goodstats.id/statistic/sampah-rumah-tangga-dominasi-komposisi-sampah-nasional-2024-sQCwq>
- [2] Hafidoh, N., Nabila, S., & Oktaviani, A. M. (2025). Integrasi edukasi pemilahan sampah organik dan non-organik dengan program anak peduli lingkungan di sekolah dasar. *Didaktik: Jurnal Ilmiah PGSD FKIP Universitas Mandiri*.
<https://journal.stkipsubang.ac.id/index.php/didaktik/article/download/11332/6709>
- [3] Idrus, S., Sarapung, R. R., Kusman, M. R., Nurdin, H., Fanani, F. A., Pina, U. K., & Ramdani, R. (2025). Literasi lingkungan (pengelolaan sampah) dengan metode ambil, pilah, dan kurangi (APIK) pada jenjang pendidikan dasar di Pulau Morotai. *Jurnal Abdi Insani*, 12(2), 455–462.
<https://doi.org/10.29303/abdiinsani.v12i2.2165>
- [4] Kementerian Lingkungan Hidup dan Kehutanan. (2024). *Sistem informasi pengelolaan sampah nasional (SIPSN): Capaian kinerja pengelolaan sampah tahun 2024*.
<https://sipsn.menlhk.go.id/sipsn/public>
- [5] Kementerian Lingkungan Hidup dan Kehutanan. (n.d.). *Sistem informasi pengelolaan sampah nasional (SIPSN)*. <https://sampahnasional.kemenvh.go.id/>
- [6] Maryati, S., Batjoli, M. F., Tahir, R., & Limonu, R. (2024). Praktek pemilahan sampah untuk meningkatkan kepedulian lingkungan bagi siswa sekolah dasar di Desa Molotabu, Kabupaten Bone Bolango. *Damhil: Jurnal Pengabdian Pada Masyarakat*, 3(1), 47–54.
<https://ejurnal.ung.ac.id/index.php/damhil/article/download/28763/9655>
- [7] Putra, I. N. S., & Widhi Antrari, N. P. B. (2025). Membentuk generasi peduli lingkungan: Strategi edukasi pemilahan sampah di sekolah dasar 27 Pemecutan. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 6(2), 2238–2243. <https://doi.org/10.55338/jpkmn.v6i2.5822>

Sumber Penulisan Artikel Jurnal

Mulyadi, M. (2011). Penelitian Kuantitatif Dan Kualitatif Serta Pemikiran Dasar Menggabungkannya Mohammad Mulyadi. *Jurnal Studi Komunikasi Dan Media*, 15(1), 127–138

Sumber Penulisan dari buku

Siyoto, et al. (2015). *Dasar Metodologi Penelitian*. Yogyakarta: Literasi Media Publishing

