



Increasing Students' Creativity and Environmental Awareness Through Recycling Craft Training at Tanjungjaya Village Elementary School

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Abstract

The problem of plastic waste is an urgent environmental issue that requires early handling through an educational approach. This study aims to evaluate the effectiveness of recycling craft training in improving creativity and environmental awareness of elementary school students in Tanjungjaya Village, Panimbang District, Pandeglang Regency. The method used is descriptive qualitative with a participatory approach, involving students, teachers, and the community in the entire activity process. Data were collected through participatory observation, structured interviews, visual documentation, and pre- and post-activity questionnaires. The results of the study indicate that this training is able to develop students' creativity in processing household waste into useful craft products such as flower pots, photo frames, and educational toys. In addition, there was a significant increase in students' environmental awareness, which was reflected in the behavior of sorting waste and utilizing used goods. This activity also builds cooperation between students and strengthens the relationship between schools and the community. These findings support the importance of contextual and real-life experience-based learning in fostering environmental care characters from an early age. Therefore, recycling craft training is recommended as part of environmental-based educational innovations in elementary schools, especially in rural areas, in order to form a creative, responsible, and environmentally aware generation.

Keywords: Recycled crafts, environmental awareness, student creativity, elementary education, participatory learning

1. Introduction

Environmental issues are a pressing global concern, especially related to the management of increasing plastic waste. In Indonesia, plastic waste production reaches more than 64 million tons per year, with most of it not being managed optimally (Arumdani, 2021). This situation requires early educational efforts to build awareness and concern for the environment among the younger generation.

Elementary schools have a strategic role in shaping students' character and habits. Through a creative and contextual learning approach, students can be invited to understand and be directly involved in environmental conservation efforts. One effective method is through recycling craft training, which not only teaches practical skills but also instills values of concern for the environment (Altassan, 2023).

The Adiwiyata program launched by the Ministry of Environment and Forestry (KLHK) together with the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) is an initiative to encourage schools to implement environmentally friendly principles (Rahma et al., 2023). In 2024, 720 schools in Indonesia will receive the Adiwiyata award for their commitment to implementing environmental-based education programs (Pahleviannur, 2024).

Tanjungjaya Village, Panimbang District, Pandeglang Regency, Banten, is an area with great potential in developing environmental education. With a rich cultural background and active community, this village is an ideal location for implementing a community service program that focuses on recycling craft training for elementary school students (Sihvonen, 2024; Jayawarsa et al., 2024).

Recycling craft training not only aims to reduce the amount of plastic waste, but also to increase students' creativity in utilizing used materials into valuable products (Supardi, 2023). This activity is in line with the Merdeka Curriculum which provides flexibility for schools to innovate in learning methods, including in teaching environmental awareness to students (Herman and Nur, 2024).

The implementation of this training involves collaboration between schools, parents, and local communities. With a participatory approach, students are invited to bring plastic waste from home, which is then processed into handicrafts such as plant pots, pencil cases, and educational toys (Ison and Bramwell-Lalor, 2023; Tadesse and Melesse, 2022). This activity not only improves students' motor skills and creativity but also strengthens the relationship between school and community (Sayekti et al., 2024).

Previous studies have shown that recycling training in elementary schools can improve students' environmental awareness and creative skills. For example, at SDN Kauman 1 Malang, (2024) waste recycling training succeeded in honing students' creativity in processing waste into high-value items.

However, there are still limitations in documentation and research regarding the effectiveness of recycling training programs in rural areas such as Tanjungjaya Village. This study aims to fill this gap by evaluating the impact of recycling craft training on increasing creativity and environmental awareness of elementary school students in the village. Thus, this study not only provides academic insight into the effectiveness of recycling craft training but also contributes to environmental conservation efforts through early childhood education. It is hoped that the training model developed can be replicated in other schools to create a generation that is more concerned and responsible for the environment.

2. Methods

This study uses a descriptive qualitative approach with a participatory method, which emphasizes direct interaction between researchers, teachers, students, and the community in every stage of the activity. This method was chosen to explore in depth the recycling craft training process and its impact on students' creativity and environmental awareness. The participatory approach allows for the creation of a space for dialogue and reflection, and strengthens the educational value in community service-based activities. The steps in this study can be seen in Figure 1.

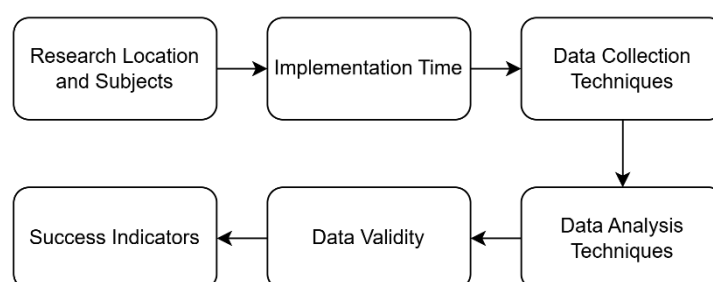


Figure 1: research flow

2.1. Research location and subjects

The research was conducted at a State Elementary School located in Tanjungjaya Village, Panimbang District, Pandeglang Regency, Banten Province. The selection of this location was carried out purposively based on contextual considerations, namely the challenges of managing plastic waste in the environment around the school and the need to develop student creativity through an applicable educational approach. The research subjects consisted of 42 students in grades IV to VI who were actively involved in the entire activity process. The determination of subjects was based on availability, willingness to participate, and support from the school, especially from the class teacher and principal.

2.2. Implementation time

The activity lasted for four weeks, divided into four main stages: socialization and coordination, recycled craft training, exhibition of works, and evaluation and reflection. In the first week, socialization was carried out to the school, schedule preparation, and collection of recycled materials. The second and third weeks focused on training and direct practice, where students were guided to make various crafts from plastic and paper waste. The peak of the activity was carried out in the fourth week through an exhibition of student works involving school residents and parents, followed by an evaluation of the impact of the activity through reflection with teachers and students.

2.3. Data collection techniques

Data collection was carried out through four main techniques. First, participatory observation was used to directly record the process of student involvement, group dynamics, and creativity in processing recycled materials. Second, structured interviews were conducted with accompanying teachers and some students to obtain information about their perceptions of the training, obstacles faced, and changes in attitudes after the training. Third, visual documentation in the form of photos and videos of activities and student works were used as supporting data that showed the process and output of the activity. Fourth, written questionnaires were distributed before and after the training to measure changes in students' knowledge and attitudes towards environmental issues and recycling.

2.4. Data analysis techniques

The data were analyzed using the qualitative approach of the Miles and Huberman (1984) model which includes three stages: data reduction, data presentation, and drawing conclusions. In the data reduction stage, information is selected and grouped based on categories such as student creativity, environmental awareness, and active participation. Data presentation is done in the form of descriptive narratives, interview quotes, and tables and visual documentation that enrich understanding of the activity process. The last stage is drawing conclusions, where the main findings are interpreted to measure the effectiveness of the training in shaping student attitudes and skills.

2.5. Data Validity

To ensure data validity, this study uses source and method triangulation techniques. Data from observations are compared with interview data, documentation, and questionnaires to obtain a complete and accurate picture. Validity is also strengthened through a reflection forum involving teachers and students after the activity is completed. This forum is a space to verify and reflect on the achievements of the activity and provide direct feedback on the implementation of the training.

2.6. Success indicators

The success of the training activity is measured through three main indicators. First, there is an increase in student creativity in producing unique, functional, and waste-based craft products. Second, positive changes in students' environmental awareness, reflected in the behavior of sorting waste, reusing used goods, and understanding the importance of environmental conservation. Third, active student participation and teacher support in the entire series of activities, which shows a sense of ownership and commitment to the training process as part of contextual learning.

3. Results and Discussion

The training on handicrafts from used goods held at SD Negeri Tanjungjaya, Panimbang, Pandeglang, aims to develop students' creativity while instilling awareness of the importance of protecting the environment through the principle of recycling. This activity was carried out using a descriptive qualitative approach, with data collection methods through direct observation, interviews, and documentation. The following are the results and discussions obtained from the implementation process of this activity.

3.1. Student creativity in processing waste

Based on the results of observation and documentation, students showed a very high level of creativity in processing household waste into useful works of art. Various types of works were produced, such as miniature houses made from used cardboard and ice cream sticks, photo frames decorated with colored paper and used straws, flower pots from plastic bottles, wall clocks from plastic plate lids, to collages in the form of clothes from pieces of food packaging. In the process of making them, students not only imitate the examples given, but also develop ideas independently. This shows that training activities can be a medium for developing imagination and critical thinking skills. This activity also becomes a space for self-actualization for students who may not have been facilitated in formal lessons. Various results of student crafts from used goods can be seen in Figure 2.



Figure 2: various results of student crafts from used goods

3.2. Increasing environmental awareness and concern

This activity also had a positive impact in increasing environmental awareness among students. From the results of the interview, most students admitted that they were previously unaware that used goods at home could be reprocessed into something useful. After participating in the training, they became more selective in disposing of waste and began collecting used goods to be used as craft materials. The teacher also noted changes in student behavior, especially in terms of maintaining the cleanliness of the classroom environment and being active in waste sorting activities. In other words, this activity has changed students' mindsets, from seeing waste as waste to a resource that is useful if managed properly.

3.3. Student participation and enthusiasm

In terms of participation, this activity received a very positive response from all students. This can be seen from the documentation (Figure 3) which shows all participants following the activity until the end with high enthusiasm and enthusiasm. In the training process, students work in groups, which also trains them in collaboration, teamwork, and mutual respect for friends' ideas. The classroom atmosphere became more lively and communicative. The presentation session of the results of the work also built self-confidence and pride for students. The teacher said that activities like this are very appropriate to be implemented periodically because they not only hone fine motor skills, but also form caring, creative, and responsible characters.



Figure 3: documentation of all participants

3.4. Student and teacher interview results

A summary of the results of interviews with several students and class teachers involved in the activity can be seen in table 1.

Table 1: Results of student and teacher interviews

No	Resource Person	Questions	Short Answer
1	Student 1	What do you think about this activity?	Fun! I learned that bottles can be used as flower pots.
2	Student 2	Do you care more about the environment?	Yes, now I don't throw away the trash directly, but collect it first.
3	Student 3	What challenges do you feel?	Sometimes it's hard to stick cardboard, but it's fun because you can work with friends.
4	Teacher 1	What impacts are visible from this activity?	The children become more active and creative, and also start to care about the cleanliness of the classroom.
5	Teacher 2	Will this activity be continued?	Yes, we want to create a routine program from trash to artwork every month.

Table 1 illustrates that the recycling craft training activity has a positive impact on students and teachers. The students felt that this activity was fun and useful because they learned to utilize waste into useful items, such as flower pots and educational toys. Several students also showed changes in attitude, such as starting to sort waste before throwing it away and being more concerned about cleanliness. Meanwhile, teachers assessed that this activity was able to increase students' creativity and activeness in the learning process. In addition, teachers saw the potential for this activity to be continued in the form of a routine program at school, in order to instill environmental awareness sustainably from an early age.

4. Conclusion

Participatory recycling craft training conducted at Tanjungjaya State Elementary School, Panimbang, Pandeglang, has proven effective in increasing creativity and environmental awareness of elementary school students. Based on the results of observations, interviews, documentation, and questionnaires, it can be seen that students are able to create various functional craft products from plastic and paper waste with a high level of creativity. In addition, there was a significant change in student behavior in terms of sorting waste, utilizing used goods, and maintaining the cleanliness of the school environment.

The active involvement of students, teachers, and the community in all stages of the activity shows that a collaborative approach can strengthen a sense of ownership of the learning process and foster environmental awareness in a sustainable manner. This activity also strengthens students' social skills through group collaboration and presentation of work results. This finding is in line with the principles of the Merdeka Curriculum which encourages contextual and real-life experience-based learning.

From the results of this study, it is concluded that recycling craft training can be used as an applicable and replicable learning model in environmental education at the elementary school level, especially in rural areas. For further development, it is recommended that the program be integrated sustainably into the school curriculum, as well as broader involvement of local stakeholders to strengthen the environmentally-aware education ecosystem.

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