

Environmental Socialization and Paper Waste Creation Practice for Students of SMP Negeri 16 Surabaya

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ABSTRACT

Background. Paper waste is a significant issue in schools, as it accumulates from daily use for student assignments, material duplication, and administration. The lack of an effective waste management system leads to excessive waste, which contributes to environmental degradation.

Purpose. This initiative employs a service learning (SL) approach that combines students' academic learning with community service. It allows students to apply theoretical knowledge while developing social skills, empathy, and responsibility. At SMP Negeri 16 Surabaya, students engage in projects that promote environmental awareness and creative practices in managing paper waste.

Method. The activity follows structured stages of the SL approach, including problem identification and planning, classroom preparation, learning, service implementation, reflection, demonstration, evaluation, and sustainable development.

Results. The program involved 25 students from SMP Negeri 16 Surabaya, supported by the Surabaya City Environmental Agency and guided by PPG students from the State University of Surabaya. The main output was a creative product: a three-dimensional map of Indonesian islands made from recycled paper.

Conclusion. The activities were successfully conducted, as evidenced by the enthusiastic participation of the students. The planned objectives were met, and the students produced innovative, environmentally-friendly products, demonstrating the effectiveness of the SL approach in raising environmental awareness and promoting practical skills.

KEYWORDS

Environmental Socialization, Paper Waste Creation Practice, Service Activities, State First Public School 16 Surabaya

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INTRODUCTION

Education the environment has a very important role in shaping the values of environmental care from an early age in the younger generation, one of which is students. The school as one of the institutions in the field of education, which has a great responsibility in integrating values about the environment in the curriculum and also daily life (Maghfur, 2010; Putri & Setyowati, 2023).

This is in line with Law Number 32 of 2009 related to Environmental Protection and Management which mandates that every individual has the right to a good and healthy environment and is obliged to be able to maintain it (Mulyadi, n.d; Rochmani, 2015).



In the context of this statement, environmental socialization activities and the practice of paper waste creation in the school environment, one of which is at SMP Negeri 16 Surabaya, is very important to be carried out properly and optimally.

The implementation of this environmental socialization activity aims to increase students' awareness of the importance of protecting the environment and provide a deeper understanding of the latest environmental problems. The form of students' involvement in practical activities related to the environment can increase their ecological awareness and commitment to be able to take real action in preserving the environment (Muhaimin, 2015; Widyaningrum, 2016). This environmental socialization includes learning about the negative impacts of consumable waste, changes in nature and the environment, and also the importance of recycling and conserving natural resources as a form of environmental conservation (Manik, 2018).



Figure 1. Percentage of World Paper Waste

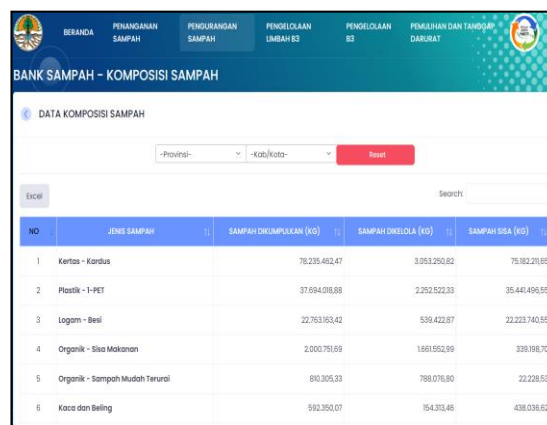


Figure 2. Amount of Paper Waste in Indonesia

Paper waste is one of the most common types of consumables found and most produced by schools or institutions in the field of education. According to data from the World Counts, about 26% of the total waste in the world, one of which is paper waste (Anonymous, 2024). As for data from the Ministry of Environment and Forestry, Indonesia has contributed more than 78 million tons. Based on data from the Ministry of Environment and Forestry (MoEF), the paper waste contributes a significant part of the composition of waste in Indonesia itself (Directorate General of PSLB3 MoEF, 2022). It is estimated that every year, about 200 million tons of paper are produced globally or universally. Most of this paper ends up being waste, either in the form of waste paper, cardboard, cardboard, newspapers, magazine sheets, or wrapping paper. Although paper waste can decompose in the soil, the decomposition process takes a considerable amount of time between 3 to 6 months, depending on the existing soil conditions (Karuniastuti, 2013; Prasetyo et al, 2023).

Paper waste creation practice activities are strategic steps to reduce the amount of waste and teach students about the simple basic principles of the sustainable waste management process (Monte et al, 2009). By recycling paper into useful products that have aesthetic value, students not only learn about the importance of waste recycling, but are also able to develop their creativity and skills to become a better and useful generation (Basyari; Nurmalasari, & Mardikaningsih, 2022).

The implementation of this activity is also strongly supported by the Regulation of the Minister of Environment of the Republic of Indonesia Number 05 of 2013 concerning the Implementation of the Adiwiyata Program, which integrates environmental education into the educational curriculum (Anonymous, 2013; Anonymous, 2021). This regulation emphasizes the importance of environmental education as part of the formation of students' character values that care for the environment in schools. Environmental socialization activities and the practice of paper waste creation in schools are in line with this goal, which is to be able to form students who have a high concern for the environment and also apply the principle of sustainability in daily life through

simple waste treatment. The importance of shaping residents' waste management practices from various perspectives, both individually and in groups (Giusti, 2009); Nguyen et al, 2023).

Overall, environmental socialization activities and also the practice of paper waste creation are expected to have a wider positive impact (Abubakar et al, 2022; Hajam et al, 2023). For students, this activity can increase their knowledge, awareness, and skills in the environmental management (Noverita et al, 2022; Maesaroh et al, 2023). For schools, this program will also support the creation of a cleaner, greener, and healthier school environment and support the achievement of the Adiwiyata Program, which aims to create a school with an environmental culture or adiwiyata (Dasrita et al, 2015; Wardani, 2020).

In addition, the value of environmental care instilled through this activity is in accordance with the goal of the Ministry of National Education to form a young generation with character, creativity, and responsibility for environmental sustainability. With the support of various parties, this activity is expected to run successfully and sustainably, as well as make a real contribution to better environmental conservation in the future in order to protect our beloved earth from destruction due to environmental problems (Imam, 2023; Jannah et al, 2024). Because given the continuous growth of the human population has led to an increase in waste production, which significantly contributes to environmental damage (Keles, 2012; Kumar et al, 2023).

RESEARCH METHODOLOGY

Service activities with a service learning (SL) approach which integrates academic learning with direct service to the community, creating a more in-depth and useful learning experience (Wade, 2008; Felten & Clayton, 2021). This approach not only allows students to apply the theories learned in lectures in real-world contexts, but also strengthens their social and responsibility skills. By engaging in activities that contribute directly to society, students can understand the positive impact of their actions, while also improving their understanding of the academic material studied (Eyler et al, 1997; Astin et al, 2000).

At SMP Negeri 16 Surabaya, environmental socialization activities and the practice of paper waste creation using the SL approach are carried out through several structured stages. This process begins with problem identification and planning, where students and related parties analyze the needs of the community and design an activity plan that includes the objectives of the activity, the method of the activity, as well as the resources needed in the activity (Phelps, 2012). A well-thought-out plan ensures that the activities carried out are in accordance with real needs and have clear goals (Handoyo & Suparno, 2018).

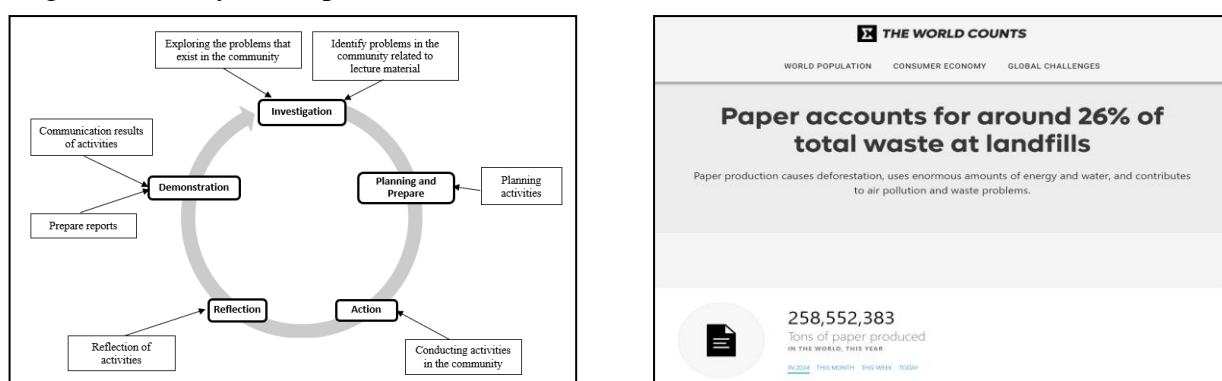


Figure 3. Stages of Implementation of Activities with the Service Learning (SL) Approach

After planning, this activity is followed by the preparation and training of students together with the community, where they gain the knowledge and skills necessary for the implementation of

tasks. Students as part of the participants are then involved in the implementation of activities, such as being involved in socialization about paper waste management and making creative products from the waste. This stage is followed by reflection to evaluate the experience and impact of the activity, as well as evaluation and dissemination of results to inform the achievements and benefits of the activity to all parties involved. With this approach, it is hoped that service activities will not only provide short-term benefits but also produce a sustainable positive impact on the community at large and comprehensively. This service learning (SL) approach combines academic learning with efforts through community service to create an in-depth and beneficial learning experience for the community. This approach aims to facilitate the integration between theory and practice by making a direct contribution to society (Mooney & Edwards, 2001; Zaman et al, 2023).

Environmental socialization activities and paper waste creation practices at SMP Negeri 16 Surabaya through the service learning (SL) approach include several stages that are structured to ensure the effectiveness and impact of the activity project. This approach is designed to integrate student learning experiences with direct service to the community, thereby supporting deeper and more relevant learning and providing tangible benefits to society (Howard, 2001; Cipolle, 2010). This service activity is carried out in the form of socialization carried out offline to disseminate information, introduce programs, or new changes to certain communities or groups so as to provide basic understanding, increase awareness, and encourage participation or support for an initiative (White, 2010). This activity presented 1 (one) resource person who is an expert in the field of environment as the government of the Surabaya City Environmental Agency and assisted by the organizing committee, namely students from the State University of Surabaya as many as 9 people.

This activity involves short lectures, group discussions, live demonstrations, or other participatory activities that will discuss environmental issues and also carry out hands-on practice of processing paper waste that is often found around the school environment and processed into meaningful handicrafts for state education such as country maps along with the boundaries of Indonesia's territory, as well as other creativity. The Environmental Socialization and Paper Waste Creation Practice at SMP Negeri 16 Surabaya has several objectives as follows: 1) to increase environmental awareness in students, students will be taught the importance of maintaining and caring for the environment, as well as how their daily behavior can affect the surrounding ecosystem; 2) to instill the value of caring for the environment, where by instilling values, such as a sense of responsibility, self-awareness, and active involvement in environmental conservation; 3) to teach recycling and waste management practices, students will practice how to recycle waste paper into more useful products and also have artistic and economic value; 4) to develop students' creativity and skills, students are encouraged to use their creativity in making various products from paper waste, such as handicrafts and educational media; and 5) to support the Adiwiyata school program (environmental culture), students are invited to be able to create a cleaner, greener, and healthier environment, which supports a comfortable teaching and learning process.

RESULT AND DISCUSSION

Environmental Socialization and Paper Waste Creation Practice at SMP Negeri 16 Surabaya with the theme, namely: "Utilization of Paper Waste to Maximize Environmental Resources to Protect Our Earth". The implementation of Environmental Socialization and Paper Waste Creation Practice activities at SMP Negeri 16 Surabaya with the intention of being able to increase students' awareness and knowledge about crucial environmental problems. By providing comprehensive information about the impact of waste, natural changes, and the importance of natural resource conservation, students are also expected to understand the negative impact of environmentally

unfriendly actions and the importance of positive actions in preserving nature. The implementation of the Environmental Socialization and Paper Waste Creation Practice at SMP Negeri 16 Surabaya is based on: 1) Pancasila and the Constitution of the Republic of Indonesia in 1945; 2) Law Number 32 of 2009 concerning Environmental Protection and Management; 3) Regulation of the Minister of Environment of the Republic of Indonesia Number 05 of 2013 concerning Guidelines for the Implementation of the Adiwiyata Program; and 4) Adiwiyata Program SMP Negeri 16 Surabaya.



Figure 4. Problem Search and Discovery of Solutions related to Paper Waste in Schools

The first stage of this activity is problem identification and planning, where the project team works closely with schools, students, and the community to identify issues related to paper waste management. This process involves surveys and discussions to understand the challenges schools and communities face related to paper waste management. Based on the results of the identification, the team formulates an activity plan that includes specific objectives, implementation methods, and necessary resources. This plan aims to ensure that the activities carried out are relevant to the needs of the community and can achieve the desired results. A thorough planning process also includes scheduling activities to ensure that all stages can be carried out properly. The Environmental Socialization and Paper Waste Creation Practice at SMP Negeri 16 Surabaya will be planned to be held on Friday, July 19, 2024 at the Hall of SMP Negeri 16 Surabaya which is located on Jl. Bogangin I No. 1, Kedurus, Karangpilang District, Surabaya, East Java 60222.



Figure 5. Preparation Process for Waste Paper Treatment

Once the plan is prepared, the next stage is preparation and training. In this phase, students who will be involved in activities carry out a preparatory process on various aspects of paper waste management and creative techniques. Preparation includes searching for information about the environmental impact of waste paper, waste collection and processing techniques, and how to make creative products such as handicrafts from waste paper. In addition, students also prepare

themselves in communication and ethics skills to interact with the community effectively. This preparation ensures that students have the knowledge and skills necessary to carry out activities successfully and make meaningful contributions.



Figure 6 & 7. Environmental Socialization Activities and Waste Treatment Practices in Schools

The implementation stage of the activity is the time when the plan that has been prepared is implemented in the field. Students began by socializing to student community members from the Adiwiyata team about the importance of paper waste management and the negative impact of waste that is not managed properly. In addition to socialization, students are also involved in practical activities, such as collecting paper waste from various sources at school, processing it, and turning it into creative products. This process involves ongoing monitoring to ensure that activities are running as planned and providing additional support if needed. This activity not only educates students about waste management but also provides direct benefits to the community through the products produced. The party who became a resource person in the Environmental Socialization and Paper Waste Creation activity at SMP Negeri 16 Surabaya, was Mrs. Sayuti as an Officer of the Surabaya City Environmental Service by delivering the material "The Importance of Protecting the Environment by Maximizing Natural Resources through the Utilization of Paper Waste". The implementer of the Environmental Socialization and Paper Waste Creation Practice at SMP Negeri 16 Surabaya which is fully managed by a group of Universitas Negeri Surabaya Students as many as 9 people consisting of 1) Pandu Rudy Widyatama; 2) Qurrotul Uyun; 3) Annisa Nurul Jannah; 4) Alvionita Wahyu Dinda; 5) Patrisia Karmenita Ngene; 6) Elsa Amalia; 7) Elok Kinanti; 8) Lailatul Hilmiyah; and 9) Ita Dwi Lestari. The target of the activity was 25 students of SMP Negeri 16 Surabaya, consisting of students who were members of the school's Adiwiyata team.



Figure 8. Reflection and Evaluation related to Activities That Have Been Carried Out

After the implementation activities are completed, the reflection and evaluation stage is carried out to evaluate the student experience and the impact of the activity. Students and the project team held a reflection session to discuss what they had learned, how these activities

connected theory to practice, and how the activities had an impact on them and the community. This reflection is carried out through group discussions, journal writing, or individual presentations. This process helps students reflect on their experiences, identify key learnings, and understand how these activities have met the goals that have been set. This reflection also provides insight into the successes and challenges faced during the implementation of the activity. The project team assesses the results of the activities that have been carried out. This evaluation involves gathering feedback from students, the community, and other relevant parties to assess the extent to which the objectives of the activity are achieved and the impact it produces. Data to get a comprehensive picture of the success of the activity. The results of the evaluation are used to assess the effectiveness of activities and identify areas that need improvement. This evaluation is an important step to ensure that activities can be improved and improved in the future.

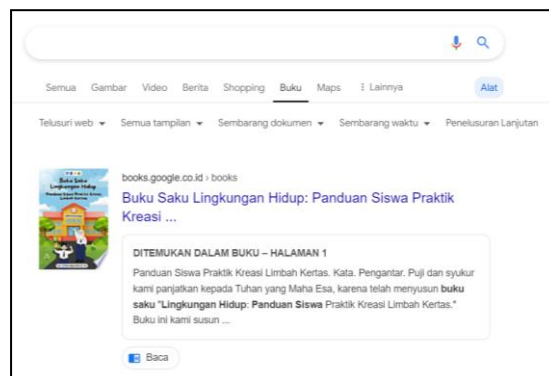


Figure 9 & 10. Portrait of the Results of Activities and Publications of the Products Produced

After the evaluation, the dissemination stage of the results is carried out to share the achievements and benefits of the activity to all parties involved and stakeholders. The results of the activity are presented through reports, presentations, or publications to be able to inform about the achievements, benefits, and impacts produced. This dissemination process aims to share about experiences and best practices with the wider community and raise awareness about the importance of paper waste management. By sharing the results of the activity, the project team can inspire similar actions elsewhere and expand the positive impact of the activity.

The implementation of this activity aims to increase students' awareness of the importance of protecting the environment and inspire creativity in utilizing paper waste. Because considering the changes in nature and environmental damage that are increasingly real which require attention and real action from all levels of society. We realize that efforts to protect the environment are not only the responsibility of the government, but also our shared responsibility. Through environmental socialization activities, we really hope to provide a deep understanding of environmental problems and also encourage the active participation of students as part of the community in maintaining and caring for the surrounding environment (Widyatama, 2023).

Through the practical activities of paper waste creation that we organize which aims to educate and invite students to see paper waste not as useless waste, but as a resource that can be processed into items of artistic and economic value. Thus, we hope to be able to make a positive contribution in an effort to reduce paper waste while improving students' creativity and skills.

CONCLUSION

The Environmental Socialization and Paper Waste Creation Practice at SMP Negeri 16 Surabaya is an initiative designed to raise students' awareness and knowledge about crucial environmental issues. By educating students on the impact of waste, natural changes, and the importance of conserving natural resources, the program aims to instill an understanding of the

negative effects of environmentally harmful actions and the need for positive measures to preserve nature. The program is based on key legal and educational frameworks, including Pancasila, the Constitution of the Republic of Indonesia, and the Adiwiyata Program.

The project involves various stages, including problem identification, planning, preparation, implementation, reflection, and dissemination. Students are actively engaged in activities such as waste collection, creative recycling, and environmental education, which not only benefit the community but also enhance their creativity and practical skills. Through reflection and evaluation, the program assesses its impact and effectiveness, aiming to continuously improve. The initiative emphasizes the shared responsibility of protecting the environment and inspires students to view waste as a valuable resource, contributing positively to environmental conservation.

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We would like to express our deepest gratitude to SMP Negeri 16 Surabaya for its extraordinary support and cooperation in the implementation of environmental socialization activities and paper waste creation practices. Without the facilities, assistance, and active participation of all parties in this school, this activity would not be able to run smoothly and successfully. We greatly appreciate the commitment and dedication that has been given in supporting this research and activities, which not only benefit the students but also the community as a whole. Thank you for the opportunity to work together, as well as for the contribution and cooperation that has realized our goals. The activities carried out were carried out well by the appearance of enthusiastic students in participating in activities, showing the presence of students according to the planned invitation and producing products in the form of 3-dimensional maps, and books about the environment for students, and the dissemination of information on news portals.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Writing.

Author 2: Data Processing; Data Curation.

Author 3: Investigation; Documentation.

Author 4: Formal Analysis; Methodology.

Author 5: Visualization.

Author 6: Conceptualization.

Author 7: Project Administration.

Author 8: Review; Editing.

Author 9: Documentation.

Author 10: Supervision.

Author 11: Supervision; Validation.

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