



Reducing Plastic Waste: Utilization of Plastic Bottles as Decorative Plant Containers

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Article Info	ABSTRACT
<p>Corresponding Author: Khalimatus Syarivah E-mail: khalimatussyarivah15@gmail.com</p>	<p>Plastic waste is waste that is difficult to decompose and takes tens or even hundreds of years to disintegrate or decompose. The public's lack of concern for the condition of the surrounding environment and lack of understanding of how to process plastic waste properly, results in waste having a negative impact on the environment, including pollution of land, water and air and creating a slum environment. Therefore, plastic bottle waste needs to be recycled into creative products that are attractive and can be useful, such as flower pots or other plants. To reduce the accumulation of plastic bottle waste, we carry out recycling education with the local community and with good management, the negative impact on the environment can be minimized.</p> <p>Keywords: Plastic Bottle Waste, Creative Products.</p>

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INTRODUCTION

Waste is the remains of daily human activities or natural processes in solid or semi-solid form in the form of organic or inorganic substances that can be decomposed or cannot be decomposed. The amount of waste that is wasted in vain can actually be used to make things that are more useful in life. Several types of waste in the surrounding environment are organic and inorganic waste. Organic waste can be re-decomposed through natural processes, for example leaves, tree twigs and vegetable waste. Inorganic waste cannot be broken down again through natural processes, for example plastic waste. Plastic waste has become a part of everyday life in the surrounding environment, almost all products use plastic as their packaging or as raw material.

Plastic waste is a type of waste that is difficult to decompose. Plastic waste takes tens or even hundreds of years to disintegrate or decompose. The public's lack of concern for the condition of the surrounding environment and lack of understanding of how to process plastic waste properly, results in waste having a negative impact on the environment, including pollution of land, water and air and creating a slum environment. Waste threatens the environment and human health, therefore, good plastic waste management is needed to prevent its negative impacts. Apart from that, discarded plastic waste can be reprocessed into unique and artistic handicrafts. Waste management involves three main stages: transportation, collection, and processing or final disposal by various physical, chemical, and



biological processes. With good management, negative impacts on the environment can be minimized.

Community empowerment in an effort to make society independent by actualizing its potential. Apart from being active in producing waste every day, the community takes part in these activities and plays an important role in them. It is also hoped that community awareness, skills and independence can grow as a result of the community empowerment strategy, so that this activity can take place smoothly and sustainably. Changing behavior regarding the use of items that have the potential to become waste can be the first step towards community involvement. These items can be minimized (reduce), reused (recycle), or recycled into new products (recycle). Using creativity to turn used goods into handicrafts is an effective solution for recycling used drink bottles. Apart from having sales value, these products can also be turned into useful aesthetic items. Developing one's creativity can be done through making handicrafts, including turning used drink bottle waste into various products such as small trash cans for study rooms, pencil cases, plant pots as school decorations, and so on.

METHODS

STEAM stages

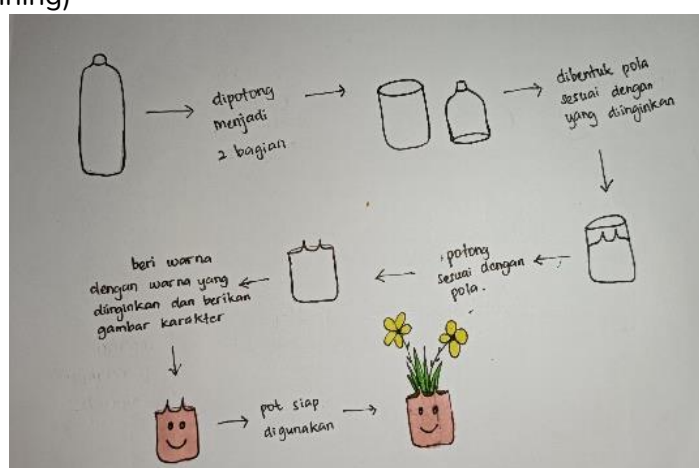
a. Ask

The increasing piles of rubbish around us cause environmental pollution such as soil, air and water pollution. Plastic waste is waste that is difficult to decompose, so if plastic waste is buried in the ground it will make the soil structure unstable and interfere with decomposition activities by bacteria, fungi and other decomposers, but if plastic waste is burned it will result in air pollution and can also cause problems. Human respiratory health. Plastic waste also causes water pollution, rivers that were once clear are now filled with plastic waste which can also cause flooding because the water does not flow properly. This problem is not just an annoying visual, but also implies a deeper impact. Public health is threatened by deteriorating air quality and the sustainability of ecosystems is becoming increasingly threatened. By recycling used plastic bottles into plant pots, you will be able to minimize the pile of rubbish in the surrounding environment.

b. Imagine (Imagine the product)

Used bottle waste can be used and recycled into functional, unique and aesthetic crafts, one of which is used as a plant pot.

c. Plan (Product Planning)



d. Create (Create a Product)

Tools The tools and materials needed to make plant pots from used bottles include:

- 1) Scissors
- 2) Cutters
- 3) Ruler
- 4) Match
- 5) Paintbrush
- 6) Candle
- 7) Used 1.5 liter bottles
- 8) Whiteboard marker
- 9) Paint

Steps for making plant pots from used bottles, namely:

- 1) Prepare a 1.5 liter used bottle.
- 2) Make sure the used bottles that will be used have been washed clean and dry.
- 3) Measure the bottle to a height of 10 cm and draw a pattern on the used bottle using a marker as desired.
- 4) Cut off the parts that are not needed, then trim them using scissors according to the pattern you have made.
- 5) Light a fire to heat the nail that will be used to make a hole in the pot.
- 6) Make a hole in the bottom of the used bottle with scissors for drainage like in a plant pot.
- 7) Then color it with the paint color according to your taste and wait until the paint dries
- 8) After the paint dries, the plant pot that has been made is ready to be used for planting flowers or other plants

STEAM aspect

- | | | |
|----------------|---|--|
| a. Science | : | Recycle used bottles |
| b. Technology | : | Media for the process of making plant pots |
| c. Engineering | : | Plant pot shape design |
| d. Art | : | Plant pot coloring |
| e. Mathematis | : | The height of the plant pot |

RESULTS AND DISCUSSION

Plastic bottle waste can be recycled into interesting and useful creative products, including flower pots or other plants. To reduce the accumulation of plastic bottle waste, we carry out recycling education with the local community. Thanks to this project, the problems faced by the community due to the accumulation of plastic bottle waste can gradually be overcome by utilizing the plastic bottle waste into more useful flower pots to decorate parks and gardens in the area. Apart from that, flower pots made from plastic bottle waste can be promoted and socialized through sales via social media.

CONCLUSION

Involving local communities in STEAM-based projects such as turning used bottles into flower pots is an effective way to teach them about the importance of recycling and protecting the environment. This project will not only reduce plastic waste, but can also help develop people's practical skills and creativity. Additionally, using recycled materials in gardening has

economic and environmental benefits. Teaching people about protecting the environment by recycling used bottles can help them become a caring and creative generation.

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