

## CAN TRASH BANKS BE IMPLEMENTED IN KINDERGARTENS? A CASE STUDY ON EARLY CHILDHOOD

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### ABSTRACT

This research is a case study regarding the implementation of trash banks in kindergartens. The Markissa Trash Bank is a school innovation or superior program developed through collaboration with the school committee. The Markissa Trash Bank teaches children to care about the environment by keeping it healthy, neat, and clean. This research is a qualitative case study conducted at Al-Farabi Kindergarten with the subjects being all school members. Data were collected using interviews, observation, and documentation. Triangulation of data collection techniques and sources was used to ensure the validity of the data. The resulting data were analyzed using the Miles and Huberman analysis flow, namely data collection, data display, data reduction, and conclusion drawing/verification. The results obtained data that the trash bank program can be applied in kindergarten. The trash bank program at Al Farabi Kindergarten is carried out by collecting, sorting, and steaming non-organic trash for later sale and processing organic trash into compost to fertilize plants in the school yard; Utilizing non-organic trash as a medium in learning; The proceeds from the sale of trash banks are used as income for the class.

**Keywords:** trash bank, environmental care, kindergarten

### 1.0 INTRODUCTION

Trash is the remainder of human activities in the form of certain materials that cannot be used anymore and must be thrown away and destroyed. Improper trash disposal and management cause negative impacts on the survival of today and future generations (Mangizvo et al., 2024). Careless disposal of rubbish and improper trash management can cause environmental pollution of water, air, and land. Plastic trash occupies a very large area of land and poses a major threat to public health and marine life, causing the death of many marine animals due to ingestion and entanglement. The plastic, which breaks down into small particles, will enter the food chain and cause negative impacts on human health (So & Chow, 2019). Apart from damaging and polluting the environment, it can also cause various diseases that hurt health (paxel, 2023). Solving trash management problems requires cooperation from various parties and must be carried out in a comprehensive and integrated manner, from upstream to downstream, based on a circular economy approach by the central, regional, and community governments, to provide economic, health, and environmental benefits (JDIH Kemenko Bidang Kemaritiman dan Investasi, 2021). Public awareness of the importance of good and correct trash management must be increased by not littering, sorting trash, and minimizing the use of disposable products by replacing them with reusable products (egsaugm, 2019). Trash

management can be carried out synergistically through the trash banks (JDIH Kemenko Bidang Kemaritiman dan Investasi, 2021).

One place that produces high-potential trash in school. School is a place where teaching and learning activities take place. Schools, as educational institutions, must be able to instill environmentally friendly behavior from an early age (Hong & Thuy, 2022) by developing effective methods for implementing trash management programs. Currently, trash management programs can be found in several schools, including kindergarten schools. The government is working with schools to establish trash banks. Children are taught to throw trash in the trash bin. The existing trash cans are designed attractively so that children are interested, and over time they get used to throwing away rubbish by categorizing organic and inorganic trash. Unfortunately, a study examining children's understanding of trash management found that most children believe that trash disposal and recycling are the responsibility of other people (garbage men or recycling people) (Iliopoulou, 2018). Identifying types of trash and sorting them is an important learning outcome to increase children's awareness and change children's behavior to reduce trash, especially plastic trash (So, Cheng, Chow, & Zhan, 2016).

The trash bank is a place to store and act as a bank to help empower people to care about cleanliness (Triwardani, 2013). Many schools have not implemented trash banks, even though having a trash bank at school has great benefits for the sustainability of the school, such as increasing income and making the school environment clean and healthy. This program is one of the practices for managing and disposing of trash in the school environment, as a form of developing the character of protecting the environment, so that children care more about and love nature through one simple action, namely not throwing rubbish carelessly and using trash to make it economically valuable (Herliyati, 2018).

Awareness of the importance of trash management is either raised from an early age or through educational programs in kindergarten or preschool. Cultivating character from an early age can become a strong foundation for an environmentally caring character. Early childhood is an important period for the development of knowledge, awareness, and conscious behavior patterns that care about the environment because this will influence the development of subsequent environmental education (So & Chow, 2019). Unfortunately, schools, which are places where the character of loving and caring for the environment is cultivated through trash management, are less aware of the benefits and impacts of existing trash. Therefore, this research examines whether trash banks can be implemented in kindergartens as a form of love and care for the environment.

## **2.0 RESEARCH METHOD**

### **2.1 Research Approach**

This research uses a qualitative research approach and a descriptive method. Qualitative research is research to understand phenomena experienced by research subjects, for example, behavior, perceptions, motivation, actions, and so on, holistically and using descriptions in the form of words and language, in a special natural context by utilizing various scientific methods (Moleong, 2013). The use of a qualitative research approach with descriptive methods based on consideration of the Makissa trash bank program at Al-Farabi Kindergarten contains aspects that need to be considered more deeply and complexly to describe whether the implementation

of the trash bank program can be carried out in kindergarten schools, especially at Al-Farabi Kindergarten. This research was conducted during pre- and implementation of the program.

## **2.2 Research Place**

This research was conducted at Al-Farabi Kindergarten, which is in the Perum Graha Prima Sejahtera C 2 Complex, Tamantirto, Kasihan, Bantul, 55183. The selection of Al-Farabi Kindergarten as the research location was based on several studies, including that Al-Farabi Kindergarten is a kindergarten that represents healthy schools at the national level, has unique and distinctive programs such as trash banks, and has facilities and infrastructure that support research.

## **2.3 Data Source**

This research is divided into two data sources, namely primary data, and secondary data. Primary data is data related to the research focus and results collected by researchers at the research site. Primary data is the main analytical material used in the research, namely the results of interviews and observations at the Marissa trash bank program at Al-Farabi Kindergarten.

Secondary data is additional material obtained from written sources and used as supporting information in analyzing primary data. Secondary data can be in the form of letters, presidential instructions, regional regulations, newspapers, articles, and other data related to the implementation of the Marissa trash bank program at Al-Farabi Kindergarten.

## **2.4 Method of Collecting Data**

This research uses data collection methods with interviews, observation, and documentation regarding the Marissa Al-Farabi Kindergarten trash bank program. Data collection is carried out naturally at the data source. Through interviews, researchers asked questions to obtain in-depth information from school principals, teachers, employees, and parents. Observations in this research were carried out directly by researchers regarding the implementation of the Marissa trash bank program. Documentation is carried out to obtain data, in the form of facility documents, program implementation, and archives, such as books about trash bank agendas, trash bank sales results, and trash bank AD/ART Marissa Al-Farabi Kindergarten.

## **2.5 Data Collecting**

Interviews, documentation and observation techniques were used to collect data on trash bank implementation. Structured interviews were conducted with the subjects directly. Interviews were conducted with informants consisting of the principal, curriculum section, and teachers at Al-Farabi Kindergarten. The interview guide was used to guide the direction of the questions to focus on the research problem. The length of the interview depends on the teacher's insight in implementing the trash bank program, between 1-2 hours. Further data collection was carried out using observation techniques referring to the observation guidelines that had been made previously. The last technique used in data collection is documentation in the form of documents and photographs owned by the school in accordance with the research focus. The document study was conducted so that the data from interviews and observations would be

stronger. This research departs from the question “How is the implementation of the trash bank program at Al-Farabi Kindergarten?”

**2.6 Data Validity**

Data triangulation is done to verify the validity of the data or use something else outside the data as evidence or comparative material. Researchers tested the findings by comparing data from interviews, observations, and documentation. Researchers also cross-checked data from school informants, curriculum sections, and teachers.

**2.7 Data Analysis**

The data analysis of this research refers the Miles and Huberman model, namely data collection, data display, data reduction, and conclusion drawing/verification. Data were collected using three techniques, interviews, observation, and documentation. The collected data was presented previously processed with coding techniques. The results of coding data are reduced to fit the focus of the research. The data display and data reduction stages can be rotated in the flow. The last analysis stage is to make conclusions or verify the data to match the research focus.

**3.0 RESULTS AND DISCUSSION**

The results of this study refer to the question “How is the implementation of the trash bank program at Al-Farabi Kindergarten?”. The detailed results are described as follows.

TK Al-Farabi's trash bank program was established in 2003 under the name Markissa or a term from “Mari Bersedekah Sampah” which means Let's Give Alms to Trash. Initially, this implementation was carried out to teach children to give alms through trash and get used to throwing trash in its place. The principal and teachers got the idea to sort the trash and sell it to trash collectors. By sorting trash, you can increase the utilization value and economic value of trash. For example, organic trash management produces compost which has economic value. On the other hand, inorganic trash such as plastic and paper can be recycled, resulting in economic value. Carrying out the process of sorting trash, handing over trash to the trash bank, weighing trash, recording, and depositing the proceeds from trash sales into the school cash book, which is very beneficial for the school, especially for children's health.

The implementation of the trash bank program as outlined in the following table.

Implementation of the Trash Bank Program	:	- The stage of awareness and habituation of environmental care behavior - Transformation of ability stage - Enhancement of ability stage
Trash management	:	- Empowerment of waste bank activities - 3R activity program

**3.1 Implementation of the Trash Bank Program**

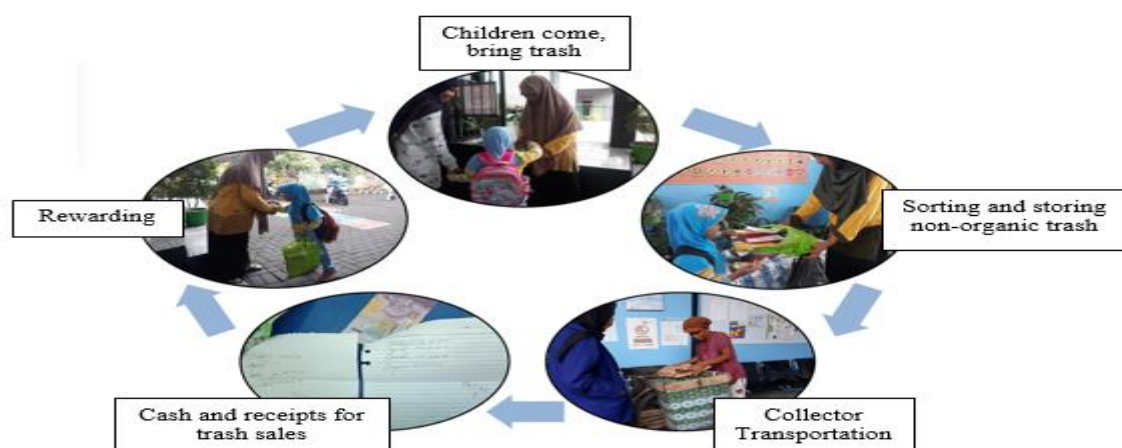
1. Stage of Awareness and Formation of Environmental Care Behavior

At this stage, Al-Farabi Kindergarten carries out parenting activities that are supported by a beautiful school environment and adequate school facilities. Parenting activities are carried out to convey to parents the need to form and instill environmentally friendly behavior from an early age so that children care about the environment through giving alms at the trash bank. According to HPLI, children are more likely to be encouraged to be environmentally aware than adults (Yulianti, 2014). Student character growth can be carried out in the school environment which is integrated into a character education program (Jayanti, 2017). One aspect of character education that can be instilled is the character of caring for the environment (Yulianti, 2014). Schools carry out parenting activities to collaborate with students' parents to communicate environmental care.

## 2. Transformation of ability stage

At this stage, Al-Farabi Kindergarten carries out seminars and training activities. A seminar was held regarding trash management through sorting which was attended by Al-Farabi Kindergarten teachers. Apart from that, seminars for parents are held through parenting regarding trash management and sorting. From the results of the seminar, the school implemented a trash sorting system by providing 3 different types of bins, red is plastic trash, yellow is paper trash, and green is leaf or easily decomposed trash.

Al-Farabi Kindergarten has implemented a management system for carrying out trash management so that the system developed can increase awareness of environmental care among all Al-Farabi Kindergarten residents who are customers. The Markissa trash bank has prepared an administration book, in the form of a financial book, management list, and picket schedule for the Markissa trash bank management. Al-Farabi Kindergarten's trash-saving stages are: (1) Every Friday morning, trash bank customers are required to bring non-organic trash; (2) Students who bring in trash will get a star sticker as a reward; (3) The trash brought is collected by picket officers and separated into bags according to type. In the process of sorting students will be directed and assisted by the teacher; (4) After the collection and sorting is complete, the trash will be picked up by the trash collector during the day at 14.00 WIB. Collectors weigh the non-organic trash collected and reimburse the costs according to the type of trash; and (5) The school will receive the proceeds from the sale of trash along with nora from collectors which will be used for students' health needs. Stages of the trash storage procedure are as follows.





### 3. Enhancement of ability stage

At this stage, Al-Farabi Kindergarten provides assistance and monitoring. Teachers and school committees support and monitor the Markissa Trash bank program by planning, implementing, and evaluating the program. In the evaluation stage of program results, an assessment is carried out for continuous improvement which is deliberately designed and implemented in such a way that the child's character as a student is realized as an indicator that the character acculturation and empowerment process is successful. This process usually involves rewarding and punishing children in the form of praise, gifts, or moral sanctions.

### 3.2 Trash Management

#### 1. Empowerment of Trash bank Activities

Empowerment of the trash bank at Al-Farabi Kindergarten is carried out through parenting outreach activities. It is hoped that this program can create a healthy environment in accordance with the school's vision and mission. The school informed parents that students are required to bring non-organic trash to the Markissa trash bank which is held every Friday. By strengthening the socialization of parenting activities, students understand the importance of managing trash which is sorted according to type, collected, and sold. Parents can guide and accompany students in managing and collecting trash at home, then bring it to school as a form of trash charity.

#### 2. 3R Activity Program (Reduce, Reuse, and Recycle)

3R activities are an activity program to make trash management more effective. The 3R are reduce, reuse, and recover. The restrictions carried out by schools are mainly by trying to produce as little trash as possible, both organic and non-organic. Organic trash is put into the biopore holes which will make the soil fertile. The leaves are processed into compost and sprayed on the school plants. Meanwhile, inorganic trash is limited by reducing the use of plastic. That way, the school environment will be healthy, clean, neat, and comfortable, and can eliminate excessive accumulation of rubbish.

Reuse is carried out by schools by reusing the trash directly. The organic trash that is reused is leaves as a learning medium, which can teach children that natural materials can be used as educational items. The use of organic materials is adapted to the learning center for natural materials. While non-organic materials are plastic bags as containers for organic trash left over from kitchen materials. Schools recycle non-organic trash that is not sold to trash collectors. Non-organic trash that is recycled includes cardboard, plastic bottles, and bottle caps which are used as learning media. Learning media is designed creatively and cleverly by teachers to attract and stimulate children's development. Reused Trash Products as shown below.



### Reused Trash Products

#### a. Trash Storage Service

Trash Storage is an implementation of the Markissa trash bank program which is held every Friday. The inorganic trash that has been brought will be separated into containers. After collection, the trash collector will pick up and weigh and then buy the trash based on its type and weight. Apart from that, Al-Farabi Kindergarten also collaborates with the online trash bank Rakyat Cares for the Environment (Rapel). Rapel is an application that allows trash owners to use the application to sell inorganic trash that has sales value and is separated by type. Rapel has product criteria that are sold at different prices and can change depending on market prices.

### 3.3 Impact of Empowerment Through Trash Banks

The impact of trash empowerment through trash banks on school residents is to make them aware of the importance of environmental cleanliness, especially trash management and recycling. The Markissa Trash bank program has many benefits, including the opportunity to give to charity, keep the environment clean, and make a profit from selling trash (Okibe & O, 2021). Every year, the school empowers the school committee through a parenting program by socializing a comprehensive program called the Markissa Trash bank. As a school that has succeeded in achieving the title of "Champion Healthy School" at the district level, Al-Farabi Kindergarten places great importance on environmental cleanliness, balanced by developing students' religious character through being around rubbish.

### 4.0 CONCLUSIONS

This study describes implementation of the Markissa trash bank program is carried out in 3 stages, including the stage of awareness and habituation of environmental care behavior, then the transformation of ability stage, and then the enhancement of ability stage. Further implementation is carried out with trash management which consists of empowerment of trash bank activities and 3R activity programs.

The results of this study can be used as an effort to maintain a healthy, clean, neat and comfortable school environment. In addition, it can be used as a means to educate care for the environment from an early age. However, this study has not measured how much influence this trash bank has on children's environmental awareness, so further researchers can conduct research on this influence.

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