

Star up Ecopreneur for Students with Special Needs Through Waste Bank Based on Digital Record

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Abstract: The Corona virus pandemic has forced the Indonesian people to adapt their lifestyle by conducting online transactions. Changes in people's lifestyles have an impact on increasing the use of plastic waste, so as not to cause pollution due to the burning of plastic waste that causes carcinogens, must find a solution by managing it from the source. The objective of Community Service activities is To increase knowledge and skills of children with special needs in sorting waste, determining selling prices, recording customer data, transactions with waste collector, recording in savings borrowing and saving mechanisms in the implementation of waste banks based. This activity was carried out using the one shoot case study method, respondents were given an intervention to know computers, recognize selling waste, record transactions digitally, then given a test. The results of the activity show that children with hearing impairments are able to follow and recognize computers, only recording using the excel program still requires further assistance. Knowledge related to types and selling prices to waste collector requires mentoring from teachers. The conclusion is that the waste bank is an alternative to build ecopreneurs and environmental awareness for children with special needs.

Keywords: Waste Bank, Digital, Students with special needs, COVID-19

INTRODUCTION

Waste is still a very interesting topic to study, both as a business capital that is worth selling or as a disaster that leaves suffering. The Covid-19 pandemic has not ended even though the vaccine has started to launched, but the trend of positive exposure is still quite high, including increasing waste generation, especially single-use plastic waste and medical waste including mask. Indonesia waste production per day reaches 175,000 tons and according to the minister of environment and forestry in 2020, waste generation reaches 67.8 million tons (detik.com, MICH 23, 2021). Surabaya city produces waste per day reaching 1500 tons and waste generation per year reaches 1,854.200m³ (ciptakarya. pu.go.id/plop/simpersampahan). This condition is a serious threat to environmental conservation if we do not immediately manage it properly from the source. Referring to the Government Regulation of the Minister of Environment Number 14 of 2021 concerning 3R (reduce, reuse, recycle) waste management through waste banks. Waste bank is one of the solutions to achieve the government's target to achieve a reduction of 30% at the source by 2030. Waste bank is an opportunity to start a business with waste modality by thinking about environmental sustainability as a challenge for ecopreneur with disabilities. The opportunities to turn waste into a business in special schools have been initiated but have not shown serious management and have not been implemented properly. In schools, students still find throw away plastic glass and paper waste that is worth

selling and they still don't understand about waste bank. Referring to the data from the National Waste Management Information System, the achievement of waste management performance in 2020 which consists of 276 regencies/cities throughout Indonesia, the waste generation reaches 33,186,583.20 (tons/year); waste reduction of 4,469,355.23 (tons/year); waste handling reached 15,240,533.06 (tons/year); managed waste is 19,709,908.30 (tons/year) and unmanaged waste is 13,476,674.90 (tons/year) with the composition of salable waste of plastic 17.1% and paper/cardboard 11.9% (The Minister of Environment and Forestry, 2020). this condition illustrates the potential of waste as raw material and business capital, but it has not become a very interesting for schools to develop, including special needs schools. Waste bank data found according to Google Map data@2021, INEGI in Indonesia reached 7046 and in East Java there were 2364 waste banks. There are quite a lot of data on waste bank actors as reference model for learning to manage waste banks in East Java, but they have not been used properly by special schools as means of building the entrepreneur character of students with special needs. The Covid-19 pandemic is not over yet, forcing and accelerating digitization in all aspects of life, including the management of waste bank, must shift from manual recording to digital. Community service activities Agustina developed an electronic financial application to process transactions carried out by the Krejengan waste bank recorded using a computer connected to the internet (Agustina, Winarno, Habibi, Basuki, & Permata, 2020).

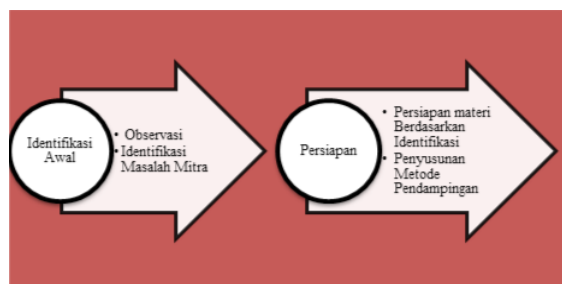


Figure 1. Preparation stage

Table 1. List of Organic Waste Processing Tasks

Jobdecs	Person Responsible
The process of sweeping the school area	RA; RN; BP
Garbage sorting	RA; RN; RB; IW
Dry leaf grinding process	BP; DP; RB; FI
The process of mixing the ground leaves with animal dung	QH; FI; BP RB; FI
Fermentation process	DP; RB; IS; RN
Fertilizer turning process	DP; RB; IS; RN
Sieving process	BP; QH; RB
Packing process	SW; FI ;BP; RA
Miketing	

Table 2. List of Plastic and Paper Waste Processing Tasks

Jobdecs	Person Responsible
The process of sweeping the school area	DP; RB; IS; RN
Garbage sorting	RA; SW ; BP; QH; RN; IS
Plastic waste sorting process	BP; DP; RB; FI; SW; QH
Paper and cardboard waste sorting process	QH; FI; BP; RB; IS
Sales process to collectors	SW; RN; BP; DP; FI

The application of the digital reconciliation process in universities shows that report data is safe so that management can report in real time and accurately (Rahardja, Aini, & Hardini, 2018). The same thing was found that digital financial administration management applications reduce the chance of recording errors (Zeinora, 2020). Observing the various advantages and benefits of waste as business capital and digitalization, a computerized program for managing waste bank which is currently still conventional manual in SLBN National C Lawang is carried out by providing assistance to deaf students in tenth, eleventh, and twelfth grades as an effort to improve skilled competence to operate a computer in recording through the excel program and fostering entrepreneur character through managing waste.

METHOD

Experimental researchers test and idea (or practice or procedure) to determine its effect on an outcome (Creswell, 2009). These activities used one-shot case study design usually involved two steps is giving the experimental treatment to the subject's students with hearing impairment and administering a posttest measuring. The procedures of pre-experimental design used one-shot case study in these activities, they are:

Treatment in teaching waste bank By assistance in operating a computer and recognizing selling waste to the subject in the tenth, eleventh, twelfth grades students at SLBN National C Lawang.

Administering a post-test after treatment with a purpose measuring the students' skill achievement in the tenth, eleventh, and twelfth grades students at SLBN National C Lawang.

The results of the performance skills test carried out descriptive analysis

Subject and Object

The subject of this activities are tenth grade is 1 student with mild hearing impairment, eleventh grade is 6 students with hearing impairment, and twelfth grades is 7 students with hearing impairment of SLBN National C Lawang. While the object of this activities is use computer and plastic and paper/cardboard waste.

RESULTS

The results of the activities carried out at SLBN Nasional C Lawang according to the one-shot case study design are divided into three stages, preparation, treatment, and performance test results.

Preparation

In the preparation stage, identification and mapping of existing waste bank managers is generated. The management of the waste bank is controlled by the cleaning service manager who employs cleaning service for alumni of SLBN National C Lawang with mild intellectual disability and hearing impairments. The data from the identification and mapping of the division of tasks for managing organic waste, plastic waste, and cardboard/paper are presented in Tables 1 and 2. During the preparation stage, discussions were also held with the school for the continuation of the treatment, an agreement was obtained that the chosen with the aim of improving skills and character were deaf students in grades 10, 11, and 12 who were already familiar with computers.

Treatment

The treatment is carried out by providing assistance to the introduction of computers and the introduction of salable waste with a price tag obtained from the survey results to the palapak.

Table 3 List of Treatment Material Courses about Computer

Material Courses	Students with Hearing Impairment	Post-test
Shows parts of computer equipment	ZA	80
	DK	90
Introducing Monitor	FF	90
Introducing CPU	IRP	80
Introducing the Keyboard	IK	80
Introducing the mouse	EFN	80
Turn on the computer	MI	80
Turn off the computer	MAR	90
Shut down by pressing	FW	80
Together Alt-F4	MRA	80
	DOP	80
	MA	80
	AF	80
	GG	80

Table 4 List of Treatment Material Courses about Waste

Material Courses	Students with Hearing Impairment	Post-test
Recognizing selling	ZA	85
trash Plastic bottles	DK	90
Plastic cups	FF	90
hvs paper	IRP	85
Books/magazines	IK	85
cardboard box	EFN	85
Sorting and Collect-	MI	85
ing Price tag Weigh-	MAR	90
ing and taking notes	FW	80
Deposit and sell to	MRA	80
seller	DOP	85
	MA	80
	AF	85
	GG	80

The data on the results of assistance with the introduction of computers and selling waste are presented in Tables 3 and 4. Students with mild hearing impairment, a total of 14 students were accompanied by educators and students offline for a limited duration because they were still in a period of study restriction, i.e. each mentoring was 60 minutes. The results of the performance test after treatment for the introduction of computers are complete both in theory and practice in operating computers. The students with hearing impairment also can show plastic waste and put a price label.

DISCUSSION

At the beginning of the treatment, students with hearing impairments were still confused with the terms

elements in the computer, such as keyboard, CPU and mouse. After being accompanied and shown pictures and goods, they begin to recognize and describe their functions. Participation as an outcome has two components is attendance and involvement (Imms et al., 2016). There is cyclical relationship between participation, context and mechanism. According Vygotsky (Wijastuti, Masitoh, Ainin, & Ardianingsih, 2020) Zone of Proximal Development and scaffolding. According to the view of social constructivism, that knowledge is obtained individually by constructing its own knowledge from the process of interaction with the objects it faces and social experience. The shift in recording waste bank transactions from manual to digital has become a necessity in today's era to avoid misunderstandings

because it was wrong. Implementation of students with special needs takes time to reach a skilled level in operating the excel program. The development of financial system applications that have complete features (Wijayanto, Riyantomo, & Budiyo, 2018). The introduction of sellable waste and how to process the sorting up to deposit and sale to palapa can be well controlled even though the transaction process is still accompanied by the cleaning service manager. An understanding of waste and its price builds entrepreneurial character in students with hearing impairments who are directly involved in the process Improving consumer and societal welfare through service becomes the focus of transformative service research (Indrianti, 2016). Anderson defined of transformative service research as service research that center on creating uplifting change and improvement in the well being of individuals (consumers and employee), families, social, networks, communities, cities, nations, collective and ecosystem (Anderson, Ostrom, & Bitner, 2011). There is several research results show that there is a relationship between special knowledge about recycling and recycling behavior. Wright in his research shows the results that there is the strongest correlation among other variables between knowledge about how to recycle properly and recycling behavior

CONCLUSION

Star up ecopreneur for students with special need through waste bank based on digital records requires identification and mapping of types of disability, mastery of operating a computer, understanding of the excel program in the process of recording transactions, skilled in sorting out saleable waste and labeling prices according to prevailing prices. The waste banks also build the entrepreneur character of students with hearing impairments as a provision of work skills. Digital era in waste bank management shift from traditional to digital at SLBN National C Lawang.

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