

Zero Waste: Introduction to Pro-Environmental Behavior to Minimize Waste in the South Kalimantan Teaching and Trip Community

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ABSTRACT

The Teaching and Trip Community is a community in the fields of education, literacy, and service. The problem is the inability to adapt to the pandemic situation so that community activities decline. Environmental issues in the form of high waste production and the characteristics of the community who want to follow the trend can be a momentum for the sustainability of the community. The community needs external parties to collaborate to run it. Therefore, researchers want to conduct zero waste training to improve pro-environmental behavior while driving community activities. The training consisted of providing material on community adaptation during a pandemic, pro-environmental behavior, and zero waste. The training consisted of 3 meetings with a duration of 100-120 minutes for each meeting. The success of this program will be measured quantitatively through comparison of pre-test and post-test scores and qualitatively through observation and interviews. The participants are 18 members of the community. Based on the comparison of pre-test and post-test results, 14 of 18 participants experienced an increase in their results. Participants experienced an increase in knowledge after being given training and became more aware of the concept and implementation of zero waste for the community and society.

Keywords: Community, pro environmental, zero waste

INTRODUCTION

At the beginning of 2022, the world was shocked by a new disease originating from a virus named Corona Virus Disease 2019 (Covid-19). The disease that first appeared in the city of Wuhan, China has spread throughout the world, and Indonesia is no exception. Its ability to spread so quickly and take many victims has brought the world and including Indonesia to period of pandemics. The Covid-19 pandemic is a new thing and has made various changes in the order of life. It is not only affected the crisis in the health sector, but it also touched on the realm of the world of work and the economic crisis that had a significant impact on society.¹ One of the reasons for this is the limited mobility of the community to move the wheels of life for the sake of enforcing health protocols.

The Covid-19 pandemic has made people's mobility very limited.² Limited mobility will certainly affect the reduction in the activities carried out, as happened in the Teaching and Trip (TnT) Community. The TnT community is a community that focuses on education, literacy, and service. Activities that are usually carried

out are opening reading stalls on car free day, conducting book discussions in young people's relaxing places, to doing service to schools to encourage children to like reading. Dominantly, community activities are carried out offline. However, with the Covid-19 pandemic, it requires the community to adapt by carrying out activities online. Online activities that have been done such as discussions with public figures and holding writing classes. The last activity carried out by the TnT community can be seen from the post on TnT's Instagram (@teaching_and_trip) dated on 20th of March 2020, which is an online discussion (Figure 1). After that, it was acknowledged by one of the activists that TnT began to not carry out many activities again because of the various challenges faced by each community member related to this pandemic, making it impossible to focus on running the community.

The TnT community has programs that benefit the community. When this community does not work, it will certainly have an impact in the form of decreasing community development efforts, especially in terms of book literacy education which has been the dominant

community work. Society education is one of the important factors in the formation of good attitudes and behaviour of society in accordance with the rules and norms.



Figure 1. The Last Updated of The Activity of Teaching and Trip Community During Pandemic

One of the people's behavior that currently requires attention is related to environmental problems. Limited mobility due to the pandemic has not reduced waste production. On the other hand, there is an increase in waste because the shopping process can still be done online. Rakhmawati's findings show that there was an increase in online shopping (e-commerce) users in the first quarter of 2020 and continued to increase in the second quarter by 38%.³ Kurt Lewin's theory emphasizes that the existence of society and the environment has a reciprocal status, or in the sense that it will influence each other.⁴

It is known that Indonesia is the second largest plastic waste contributor in the world.⁵ Including in the Banjarbaru area, where the TnT community is located, there are 130 tons of waste produced by residents in a day.⁶ The Head of Waste at the Banjarbaru Environmental Service (Kabid Persampahan Dinas Lingkungan Hidup Banjarbaru) admitted that public awareness is still low regarding the waste problem. Hasanah recognizes this complex waste problem as the impact of unsupportive community behavior in disposing of waste.⁷ Therefore it is necessary to intervene to improve the condition of the earth and avoid long-term impacts which of course will again harm the environment and humans themselves who are in it.

The zero waste program is one of the campaigns initiated by earth lovers nowadays. Zero waste is one of the new flagship programs

in the field of environmental management.⁸ Zaman also confirmed that zero waste is a visionary concept in handling waste problems.⁹ This concept covers aspects of environmentally friendly production and consumption relations, optimization of recycling, and responsible management of resources. Karnadi and Esfandi define campaigns as activities carried out to make changes through cognitive (knowledge), affective (feeling) and behavioral (behavior) effects.⁵ Therefore, a campaign to minimize waste production can be a small action that in the long term will have a significant impact on the environment.

The campaign can also be said to be practical, easy, and inexpensive, but of course, it requires a high commitment and consistency from each individual. This campaign needs to be carried out continuously considering its significant impact if many people can be involved to follow it. In addition, the minimalist lifestyle which is currently a trend in society is also a momentum that can be used to associate it with zero-waste. This minimalist concept which is synonymous with simplicity expresses the idea of freedom and the essence of living life. This understanding is increasingly being applied in everyday life.¹⁰

The urgency of implementing zero waste, a practical campaign process, and in accordance with current conditions can be utilized by the TnT community to become a medium for reviving the community. In addition to supporting the expansion of the variety of community activities, this program is a medium of service in accordance with the problems that are currently occurring in the area where the TnT community itself exists, namely the Banjarbaru community who need to increase awareness of environmental problems. The TnT community is expected to be a role model which in turn can be a driving force for the society to grow pro-environmental behavior.

Based on the findings of the situation analysis above, the service team wants to partner with the TnT community to conduct zero waste training, namely introducing a minimum waste lifestyle as an effort to improve pro-environmental behavior in the society. In addition, collaborative efforts are an important part of efforts to advance the community. Berawi et al. revealed that the government, the private sector, academics, professionals, and every community, need to be involved and play their respective roles to build public resilience through the Covid-19 pandemic.¹¹

METHOD

The method that will be implemented to overcome the problem of decreased activity of

the Teaching and Trip community and the low pro-environmental behavior in the society, is to provide zero waste training to introduce a minimal waste lifestyle that is in accordance with the latest trend in the form of a minimalist lifestyle. The method used is through lectures, discussions, film screenings, simulations, and role plays. This training consists of 3 meetings with a duration of 120 minutes for each meeting. The training is held online through zoom meeting.

Zero waste training is a psychological intervention approach in the form of education to embody pro-environmental behavior in the society. The educational process is an important part that connects knowledge and behavior. The training is aimed at the TnT community because it focuses on education and serving the society which can increase the effectiveness of the training objectives. The training objectives are build the awareness of environmental issues, motivate participants to have zero waste as lifestyle and become role model, and re-activate TnT Community through cooperation in this project also the objective of the training.

The materials that will be delivered in this training are as follows:

1. Giving a short video as an introduction to the material.
2. Group dynamics.
3. Providing material on community role adaptation in a pandemic situation, pro-environmental behavior, and zero waste.
4. Providing material regarding the steps of the community adaptation process in a pandemic situation, efforts to foster pro-environmental behavior, and steps for implementing a zero waste lifestyle.
5. Providing material on strategies to increase community activity and benefit through zero waste campaigns to the society.

The training process is equipped with facilities that will be provided to TnT community for the success of service goals. The facilities that will be provided include:

1. All training materials will be sent via email and can be accessed in full on Google Drive.
2. Zero waste module and its implementation simulator so that TnT Community can become the next zero waste agent through duplication of activities to the community. The modules and their devices will be delivered in the form of packages via post or other online delivery addressed to the TnT Community.
3. Door prizes or rewards to active participants during the training. The door prizes or

rewards are in the form of zero waste item such as cloth bags, drinking bottles or tumblers, and stainless straws.

4. Bookshelves and books related to zero waste will be given to the TnT Community considering that most of their dedication is in the literacy field.
5. The TnT Community will be able to borrow a zoom pro account when they conduct an online zero waste campaign.
6. Availability of expert psychologist for ongoing assistance as an effort to activate the community as a zero waste agent.

The training participants are members of the Teaching and Trip Community. The total number of community members who can take part in the training is 18 people. The homebase of Teaching and Trip Community is in Banjarbaru. Training is held online due to pandemic. The detail activity of the training can be seen in Table 1.

The treatment method in this service uses a quasi-experimental design with the one group pretest and posttest design.¹² The evaluation method is through the results of observations during the training, interviews with participants, and statistical data analysis tests which are carried out on the results of the participants' pretest and posttest. The test uses Zero Waste Questionnaire in Indonesian language by researcher (Table 2).

RESULT AND DISCUSSION

This study aims to increase the knowledge and ability of TnT community members in developing a minimal waste lifestyle as an effort to increase pro-environmental behavior in the society.

Based on the results of observations during the training (see Figure 2), the overall activity went smoothly, some of the participants actively asked questions, but there were some other participants who experienced internet network disturbances that were less stable so that it became an obstacle to the implementation of this training. Based on the results of interviews with several participants, it was found that they were quite satisfied with the material provided by the speaker but tended to be shy in responding during the training because they lacked in confidence and were not familiar with the online training process. However, several participant representatives stated that the training process was very interesting in terms of material and the speaker. Several participant representatives were able to explain their knowledge of the definition of a minimal waste lifestyle, pro-environmental behavior, provide examples of the activities they have

done so far to reduce plastic waste in their daily life, realize the importance of starting and practicing a minimal waste lifestyle and the importance of inviting the wider community to participate in starting and practicing the minimal

waste lifestyle. Furthermore, the results of the pretest and posttest were measured through a zero-waste training questionnaire that had been prepared by the committee in the form of a google form.

Table 1. The Schedule of Zero Waste Training

Step	Time	Activity	Method
Meeting 1	100s	<ol style="list-style-type: none"> 1. Introduction 2. Pre-test 3. Showing short video about productive activities during pandemic 4. Lecturing about Covid-19 pandemic, the role of the community, and environmental issues 5. Group dynamics 	Lecture and Discussion Watching video
Meeting 2	100s	<ol style="list-style-type: none"> 1. Lecturing about adaptation of community roles in pandemic situations, pro-environmental behavior and zero waste 2. Lecturing about the steps of the community adaptation process in a pandemic situation, efforts to foster pro-environmental behavior, and steps for implementing a zero waste lifestyle 3. Lecturing about the strategies to increase community activity and the benefit through zero waste campaigns to the community 	Lecture and Discussion
Meeting 3	100s	<ol style="list-style-type: none"> 1. Practice and role play of zero waste behavior 2. Giving feedback 3. Evaluation 4. Post-test 	Role-play, Simulation, Feedback, Evaluation

Table 2. Zero Waste Questionnaire

No	Statement	Agree	Disagree
1.	Living with zero waste is just a trend		
2.	Garbage can not kill life		
3.	Living with zero waste is expensive		
4.	Living with zero waste is difficult		
5.	Zero waste is an anti-plastic life, it is impossible to do		
6.	Living with zero waste is not just a trend but a necessity		
7.	Garbage is not a big problem		
8.	Garbage can still be used		
9.	Indonesia is one of the largest food waste-producing countries in the world		
10.	Giving impact on the environment must start with the government		
11.	It is difficult for young people to start a zero-waste lifestyle		
12.	Small plastic waste has little impact on the environment		
13.	Garbage can cause flooding		
14.	Dispose of garbage in its place is enough to impact the environmental		
15.	I can start managing waste at home		

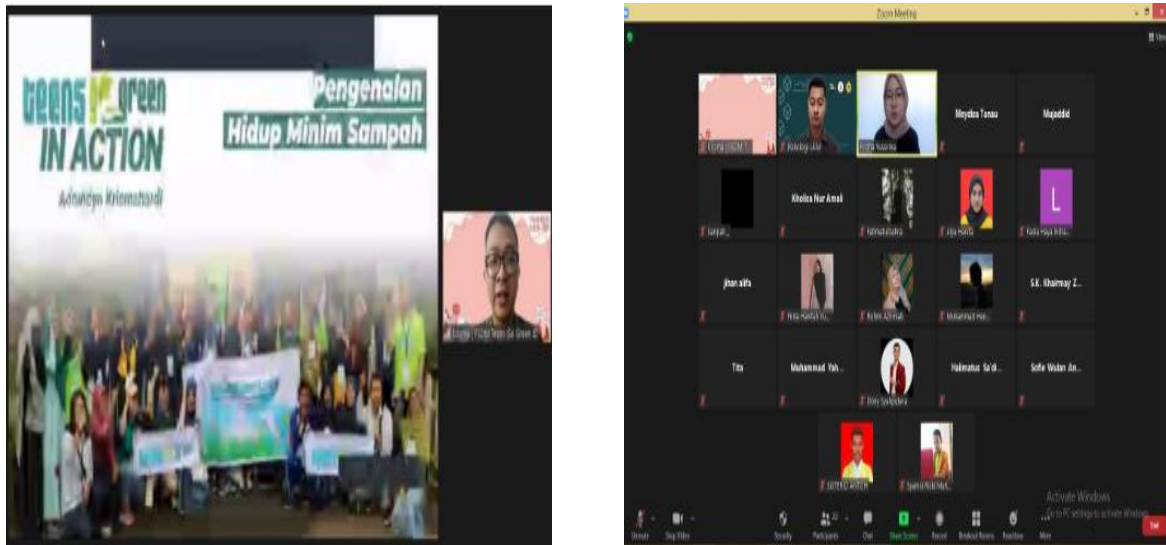


Figure 2. The Process of Zero Waste Training

Demography data of the participants can be seen in table 3. It is shown that participants are of youth age, mostly of Banjar ethnic, and mostly they are ongoing in university as a student.

The data analysis process uses the Shapiro-Wilk technique, which is a small sample testing technique (less than 50) because there are only 18 participants (see table 2). Based on the output results in Table 3, the significance value of Shapiro-Wilk in the pretest (0.022) and posttest (0.000) is known. The significance value is less than 0.05 so it can be concluded that the data is not normally distributed. The testing process to see the

effect of training on participants was carried out by analyzing the difference between the pretest and posttest scores. The results of the initial assumption test showed that the data was not normally distributed so that the hypothesis testing analysis was carried out using a non-parametric statistical method, namely the Wilcoxon test as a substitute for the paired sample t test. Based on the data in Table 3, it is known that Asymp. Sig. (2-tailed) is worth 0.002. Because the value of 0.002 is smaller than 0.05, it can be concluded that there is a difference between the pretest and posttest scores.

Table 3. Demography Data of Participants

Data	Total
Age	
18-20	12
21-26	6
Ethnic	
Banjar	15
Jawa	2
Bugis	1
Education	
Senior High School	15
Bachelor	3
Profession	
Student	16
Entrepreneur	2

Table 4. Shapiro-Wilk Normality Test Result

Test	Statistic	df	S
Pretest	0.875	18	0.022
Posttest	0.751	18	0.000

Table 5. Pretest and Posttest Difference Test Result

	Posttest-Pretest
Z	-3.140
Asymp. Sig. (2-tailed)	0.002

The results of observations and interviews showed that the knowledge of the participants increased after receiving the training of "Zero Waste: Introduction to Minimum Waste Life as the Embodiment of Pro-Environmental Behavior". Same as the result of this study, Sijbrandij et al also found an increase in psychological first aid (PFA) knowledge and understanding at the post-PFA training on participants.¹³ Knowledge is an important part to shape the behavior.¹⁴

Based on the results of observations, the training process can run well even though it is constrained by the internet network and the inactivity of some participants during the training process due to a lack of confidence from the participants and the participants admit that they are not used to participating in online training.

Based on the results of the interviews, it was found that there had been an increase in the participants' knowledge after receiving the training. The results of the statistical test above can be concluded that the Zero Waste: Introduction to Minimized Waste Life as an Embodiment of Pro-Environmental Behavior was effectively carried out to the Banjarbaru TnT Community but not too significant. The results of the analysis of the participants' pretest and posttest scores showed an increase in the knowledge and understanding of community participants regarding pro-environmental and zero-waste behavior, but the increase was not too significant.

In this community service, the results show that training is less effective, which can be caused by several factors. Weak supervision of participants, lack of strong signal in this area of service, and quota fees are challenges in online learning.¹⁵ In addition, the habitual pattern of participants with classroom learning and the lack of adaptation to the online learning process can make online learning or training methods less effective.¹⁶ Gross et al also found that in-person training higher gains knowledge than virtual training.¹⁷ Giving treatment using the online method for 3 days with an evaluation that targets behaviour, carried out in a matter of days as was done in this training was not enough to change behavior, but was only limited to the cognitive domain so it was necessary to follow up on the effects of treatment in the future.^{18,19}

Based on these findings, this community

service has several limitations, namely, the lack of supervision of the participants so that the participants' willingness during the training process is less than optimal, the participants are not accustomed to doing online training, the internet network is hampered on some participants, the quota fee given at the end of the session can be the reason for the participants' low motivation is due to internet quota fees. By the age of the participants, most of them (aged between 16-21) can be called as generation Z (Gen Z).²⁰ Pratiwi et al conduct research about the determinants factor of zero waste lifestyle among Gen Z. One of the finding of the study is social media influence Gen Z to reduce, reuse, and recycle behavior (pro-environmental behavior).²¹

CONCLUSION

From the training activity of Zero Waste: Introduction to Minimum Waste Life as the Embodiment of Pro-Environmental Behavior to the Banjarbaru TnT Community, it can be concluded that participant's knowledge had been increase after receiving the training, although the increase is not too high/significant. The result can be influenced by several factors, namely the lack of supervision of the participants, the lack of familiarity of participants in conducting online training, the blockage of the participant's internet network in certain areas, the issue of quota financing at the end of the session, and the short evaluation process.

Participants are advised to apply the training that has been carried out for the development of the TnT community and become ambassadors for zero waste in the society. Participants can continue to work and innovate for the implementation of community service and build relationships or collaborations with related parties so that they can move together and not walk or struggle alone to produce benefits for those around them.

For further researchers who are interested in conducting research or service related to behavioral training, it is hoped that they can expand the reach of other communities that can be empowered for community service. This is because community members basically have a high volunteer spirit and are easy to move to help others. Existing communities can be used to campaign for pro-environmental behavior and other positive behaviors for the sake of harmony and

community welfare.

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