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Improvement of Health Independence through "Dogima" Program

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Abstract— The partner's issues were related to environmental health and digital marketing literacy. This area often experienced floods, lacked organized waste management, and had low awareness and knowledge of domestic waste management. Besides that, the partner had an interest in cultivating ornamental plants with economic value. "Dogima" program was a collaboration between health and digital marketing education. Health education includes training on domestic waste management, especially the separation of organic and inorganic waste, which is then used as raw material for composting. Digital marketing education involves training in creating digital posters as marketing for selling plants. The aim of this activity was to enhance the partner's skills in transforming domestic waste into economical products. The stages of the activity start with planning, socialization, training, mentoring, evaluation. The implementation of "Dogima" program found that there was an 89% increase in knowledge and a 92% improvement in skills in domestic waste management and created a simple poster for digital marketing on social media. This knowledge and skill improvement could improve the quality of environmental health and digital marketing capabilities which will increase the health independence of partners. The partner's response to this activity was very positive and allowed for its continuous implementation.

Keywords—Health Environment, Domestic Waste, Composting, Digital Marketing, Education.

I. INTRODUCTION

Samarinda City served as the capital of East Kalimantan Province. The area of Samarinda City was 718 km² with a population of 827,994 people according to the 2020 census. The population growth rate for the

period of 2010-2020 was 1.26 percent per year. Samarinda City is still in the demographic bonus phase as 70.91% of its population falls within the productive age range (15-64 years old). The percentage of elderly population (65 years and above) in Samarinda City is 3.57%. The male population outnumbered the female population with a sex ratio of 104.26. The population density reached 1,153 people/km² (BPS Samarinda, 2023).

Empirical facts about Samarinda City indicate a continuous increase in population and community activities, which will lead to an increase in community consumption and consequently result in a higher volume of waste (Samarinda City Environmental Agency, 2020). Research findings by Nagong (2020) regarding waste management in Samarinda City showed that there is still a low level of public understanding about waste management starting from waste sources. Many people still dispose of waste improperly due to a lack of field workers, as well as weak supervision and penalties for those who violate regulations. This research is supported by Aryani's (2021) study, which indicates that inhibiting factors in waste handling in Samarinda City include a lack of awareness among the public to separate organic and inorganic waste (Nagong, 2020; Jihan, 2021).

The partner in this event was a mother in RT.14 called "Irmawan Smart". Irmawan Smart means a housewives group of Dharmawan Alley that wants to be smart. They were located at K.H. Wahid Hasyim 1 Street, RT.14, South Sempaja Subdistrict, North Samarinda District, Samarinda City, East Kalimantan Province. They have an interest and expertise in caring for ornamental plants. The partner is a community group with the potential to absorb and apply knowledge about environmental health and technology for health independence improvement.

Regarding on initial observations, in-depth interviews, and Focus Group Discussions conducted it was found that

the main issue faced by RT 14 in South Sempaja Subdistrict is environmental health. This area is prone to floods. The location of the waste disposal site is far, resulting in frequent waste accumulation in front of houses, and there is a low level of knowledge about domestic waste management. Organic and inorganic waste produced by partners are still commonly found. Waste generated from daily activities by residents includes various types of vegetables, bottles, paper, plastic packaging, leftover construction wood, and others.

Until now, there has been no organized waste management. Some residents dispose of waste directly to the TPS, while others use the services of private waste collectors by paying a monthly fee, resulting in additional expenses. Partner RT.14 has never been exposed to education about domestic waste processing, especially how to separate organic and inorganic waste.

However, the partner has the potential and desire to be productive through the sale of ornamental plants. Some ornamental plants owned by the Partner are Adenium, Caladium. Monstera, Sansevieria, Chlorophytum Comosum, and Anthurium. These plants are traditionally cared for by the Partner, sometimes using chemical fertilizers as supplements for ornamental plants. The use of chemical fertilizers can make the soil harder and reduce its porosity because the use of fertilizers increases the acidity level in the soil. On the other hand, the use of compost can increase macro and micronutrients as well as enhance soil microbial activity. Additionally, the use of compost made from organic waste can reduce household expenses (Febriadi, Utilization of Organic and Inorganic Waste to Support the Go Green Concept in Schools, 2019). There has been no training related to the production of compost from household organic waste for Partner RT. 14. Therefore, there is a need for an approach to increase knowledge and skills in domestic waste management and its utilization for Partner RT. 14.

Another issue for Partner RT.14 is the low level of digital marketing literacy to be able to sell ornamental plants. A partner is a group of housewives who are economically unproductive. Considering the education level of the partners, with the majority (75%) being junior high school graduates, their ability to grasp technology can still be improved with intensive training and mentoring. 100% of the partners use smartphones and are proficient in using several social media applications such as Facebook, Instagram, and TikTok. Partners regularly visit these applications and have made several attempts to sell ornamental plants through these platforms but have not yet yielded results. 75% of the partners have a desire to sell ornamental plants. However, they are hindered by the skill of creating promotional media in the form of digital posters for selling ornamental plants. Posters are the most effective medium for marketing products. Knowledge about marketing needs to be learned by entrepreneurs to conduct and improve sales. Having digital marketing skills for the Partner will be able to increase sales and economic abilities. A healthy economic condition will support individuals to think and

act in a healthy manner, which will accelerate health independence in general (Umami & Darma, 2021).

II. METHOD

This activity was carried out for a duration of 8 (eight) months, commencing from the planning phase, socialization, training, and mentoring. The implementation method is outlined in the stages of event execution, as follows:

A. Planning

In the planning stage, a list of activities to address the partner's issues was created. Preparations included:

- 1. Issuing an event implementation permit;
- Creating the "Dogima" Program module, consisting of two parts: health education (for sorting organic and non-organic waste and compost making) and digital marketing module (for creating simple posters);
- 3. Preparing the facilities and infrastructure for the "Dogima" program training;
- 4. Creating pre-test and post-test questions as a form of evaluation for the partner's knowledge and skills;
- Creating partner satisfaction forms as feedback for the event.

B. Socialization

The socialization stage involved discussing the event implementation with Partner RT.14. The sequence of activities included:

- 1. Conducting discussions through Focus Group Discussions (FGD) with partners.
- 2. Explain the objectives of the solutions provided by the proposing team.
- 3. Jointly determining the training schedule.

C. Training

The solution offered to address environmental health issues in RT.14 is the "Dogima" Program. "Dogima" stands for Domestic Waste and Digital Marketing Management. The "Dogima" program is designed to meet the health self-reliance needs of Partner Irmawan Smart through two educational programs: health education and digital marketing education.

Health education focuses on providing education on environmental health management through sorting organic and inorganic waste and utilizing organic waste to make compost, which will be used to substitute the use of chemical fertilizers for the partner's ornamental plants. This education will teach partners how to classify organic waste from inorganic waste. Organic waste is waste originating from living organisms that naturally decomposes without human intervention. Examples of organic waste include vegetable scraps, banana peels, rotting fruits, onion skins, wood scraps, and others. Inorganic waste is waste that is no longer used and is difficult to

decompose. Examples of inorganic waste include metals, plastics, glass, rubber, and cans (Febriadi, Utilization of Organic and Inorganic Waste to Support the Go Green Concept in Schools, 2019) (Yuwana & Adlan, 2021). Additionally, partners will be taught how to make compost using organic waste available in their households. Transforming organic waste into compost can minimize waste disposal to the Temporary Disposal Site, which is relatively far from RT.14. Making compost from organic waste can reduce household waste by 60% and save costs (Wagas, et al., 2023; Sulistyaningrum, Amin, Suryadi, Halim, & Wahid, 2023; Latifatul, Afriezal, Auliya, & Nur, 2018). The finished compost can be used as fertilizer for the ornamental plants owned by Irmawan Smart or can be sold to generate economic value to support the family's income.

Digital marketing education focuses on providing technology-based marketing education through the skill of creating promotional media in the form of digital posters using the Canva application. The combination of health education and digital marketing education is expected to enhance the knowledge and skills of Partner Irmawan Smart to independently manage their environment and gain additional income through the sale of ornamental plants, leading to an increase in health self-reliance capacity. This education explains the role of technology in daily life, marketing principles in product sales, and the creation of simple digital posters using the easily accessible and affordable Canva application. Effective marketing involves research and development of products to ensure that the business's products are always up to date and can meet the changing market needs to increase sales and company profits. Effective marketing has been proven to have a significant impact on product sales (Putri & Sanica, 2022) (Prihatini, 2022). One of the best marketing methods is by creating attention-grabbing promotional media (Efwinda, et al., 2022; Purnomo, Lubis, Rakhmadani, Arum, & Purbaya, 2021). Therefore, the "Dogima" Program's digital marketing education provides education on how to create digital posters using the latest technology application, the Canva application. The Canva application is proven to be the easiest to use by housewives to achieve maximum results with minimal resources. The Canva application provides various features, is easy to use, and meets the partner's needs. The results from this application are suitable for sale on e-commerce platforms or social media (Isnaini, Sulistiyani, & Putri, 2021; Arifin, Ismail, Daud, & Azis, 2021; Admelia, Farhana, Agustiana, Fitri, & Nurmalia, 2022; Jumardi, Widiastuti, & Sari, 2022).

D. Mentoring

Mentoring is the form of contribution and consistency from the event proposing team towards the partner to sustainably utilize the results of event after the implementation. The form of mentoring provided includes field visits every week.

Once the mentoring period is completed, a second posttest is conducted to assess the partner's skills in sorting organic and non-organic waste, making compost, and using the poster-making application.

III. RESULT & DISCUSSION

The activity "PKM Partner in Enhancing Health Independence through the "Dogima" Program" was carried out on Monday, August 7, 2023, from 08:30 to 11:00 AM WITA, located at one of the houses in Gang Dharmawan, RT.14, South Sempaja Subdistrict, North Samarinda District, Samarinda City. A total of 10 partner mothers who had been previously invited attended the event.

The "Dogima" Program activity went smoothly and successfully. The head of RT. 14 expressed that this activity was beneficial for the residents of RT.14 who tended to enjoy flower cultivation. The participants showed enthusiasm for the activity, as seen through the spontaneous questions and lively interactions during the training and demonstrations. Participants actively took part in the demonstration, pouring and mixing materials to make compost.

Figure 1 shows that the documentation of the health education activity, which includes household waste management and composting.



Figure 1. Documentation of the Health Education Activity in the "Dogima" Program.

The Digital Marketing Education activity was delivered by the speaker quite smoothly. Participants gained an understanding of creating attractive posters that can be used in promoting flower sales. Figure 2 shows that documentation of the digital marketing education activity, specifically the poster creation using the Canva application.



Figure 2. Documentation of the Digital Marketing Education Activity in the "Dogima" Program

The assessment of knowledge improvement was evaluated through pretest and posttest activities. The pretest was conducted before the activity began, and the posttest was carried out after the activity was completed. The results of this assessment were as follows:

A. Knowledge Improvement

The "Dogima" Program was conducted in two stages: Stage 1, Health Education, and Stage 2, Digital Marketing Education. The health education provided covered knowledge about organic and nonorganic waste, as well as the process of making compost. There was a total of 10 multiple-choice model questions in both the pretest and posttest for each education. Figure 3 shows the comparison of the results of the pretest and posttest for the partners.

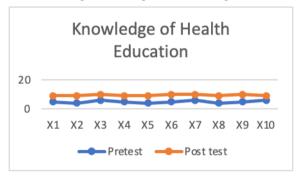


Figure 3. Comparison of Pretest and Posttest in Digital Marketing Education Knowledge

The Digital Marketing Education provided was in the form of knowledge about the role of technology in daily activities and how to create simple posters using the Canva application. The number of pretest and posttest questions was 10 multiple-choice model questions. Figure 4 shows that the comparison of pretest and posttest results for the partners in digital marketing education.

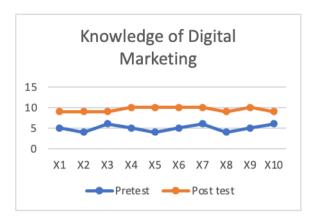


Figure 4. Comparison of Pretest and Posttest in Digital Marketing Education Knowledge

Based on the results in Figure 4 and Figure 5, it can be concluded that the improvement in knowledge for the partner Mitra after the health education was 88%, while in digital marketing education, it was 90%. The percentage increase for both educations with an average value was 89%. Based on these results, it can be concluded that the improvement in partner knowledge in the activity through the "Dogima" program was 89%.

Health education is a way of supporting health programs that can produce changes and increase knowledge in a short time. The concept of health education is a learning process in individuals, group from not knowing about health values to knowing, from not being able to overcome health problems to being able to overcome health problems faced (Hursepuny, Sakinah, & Arvia, 2021). Result study shows that an improvement in people's knowledge about the prevention of covid-19 through effective health education (Indargairi, Nalvita, Sabar, & Fitrianingsih, 2021).

B. Skill Improvement

The assessment of skill improvement was evaluated through observation using checklists for health education and digital marketing education. The assessment of compost and poster-making skills was conducted by the Speaker and the team. The completion of the health education checklist was done over 3 weeks after the training was conducted on August 14, 21, and 28, 2023. The assessment criteria for compost-making skills were:

- 1. The compost color is dark brown.
- 2. Compost has a non-pungent aroma.
- 3. Slightly moist texture.
- 4. Compost is clumped together.

Based on the results of the conducted, Figure 5 shows the score for the assessment of compost-making skills by the partners.

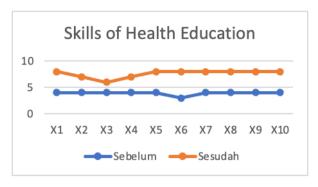


Figure 5. Comparison of Pretest and Posttest in Health Education Skills

The completion of the digital marketing education checklist was done after the training activity was conducted. This assessment was conducted gradually up to 3 weeks after the activity was carried out. The assessment criteria outlined in the digital marketing education checklist were:

- a. Availability of poster objects.
- b. Formulation of concise, clear, concise, and meaningful sentences.
- c. Unique and memorable graphics.
- d. Attractive color combination of the poster.

Figure 6 shows the results of the skill assessment for digital marketing among the partners.

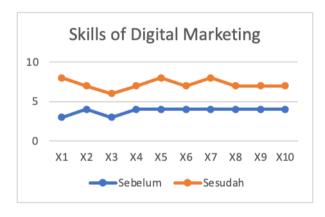


Figure 6. Comparison of Pretest and Posttest in Digital Marketing Education Skills

Based on the results in Figure 5 and Figure 6 above, it can be concluded that the improvement in partner skills after health education in the form of compost-making was 95%, while in digital marketing education, it was 89%. The percentage increase for both educations with an average value was 92%. Based on these results, it can be concluded that the improvement in partner skills in the PKM activity through the "Dogima" program was 92%.

This improvement skill was similar to the resulting study from Umam (2022). It shows that training could improve the skills of teachers in conducting information technology system-based learning (Umam, Indrawati, Ninghardjanti, Subarno,

& Winarno, 2022). Health education can play a role in changing the behavior of individuals, groups and communities in accordance with health values. Behavioral changes are expected to be able to maintain and improve health, prevent the risk of illness, protect themselves from the threat of disease, and actively participate in public health movements so that behavioral changes are the result of Health Education (Hursepuny, Sakinah, & Arvia, 2021). Providing health education is one of the steps to improve community readiness in facing problems of health. This will affect knowledge and attitude, where good knowledge will encourage a positive attitude (Peng, et al., 2021).

This event has given a model to the partner about how to do composting. Modeling action has an effect and increases the average value of the knowledge and skills after being given these actions. Health education with modeling can improve cognition, self-confidence, and skills to form new behaviors, such as providing essential life support (Zurimi, Hariawan, & Bumbungan, 2023). Another research were obtained that most of the health cadres had an increase in good knowledge from 58% to 96% and good attitudes from 90% to 100% after being given education and most of the health cadres had good skills, namely 88% in the implementation of early detection of stunting after being given early detection training stunting (Tampake, Arianty, Mangundap, & Ra'bung, 2022).

The type of education in this event was non-formal education. The goal of non-formal education is to help learners reach their full potential by emphasizing the acquisition of practical information and skills together with the development of professional attitudes and personalities. Non-formal education helps create people with strong moral character and high emotional intelligence in addition to helping students become competent at the cognitive, behavioral, and practical levels. The creation of excellent human resources is one of the most significant roles played by non-formal education in the educational system. High-quality education also influences advancement in several other areas, most notably the area of skills and independence. Based on their learning requirements, non-formal education is a suitable kind of education to help MSME actors become more capable (Mustangin, Winarti, Lukman, Akbar, & Iqbal, 2022; Supsiloani, 2019; Muslim & Suci, 2020; Baniah, Riyadi, & Singal, 2021).



Figure 7. Photo Group of the "Dogima" Program

IV. CONCLUSION

Based on the evaluation results, it can be concluded that the "Dogima" Program was able to improve the skills of partner Irmawan Smart in making compost and simple posters by 92%. This improvement in skills can enhance environmental health quality and digital marketing abilities, which will further enhance the health independence of partner Irmawan Smart in RT. 14, South Sempaja Subdistrict, North Samarinda District, Samarinda City.

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