



Assistance for Student Entrepreneurial Character Development through Compost Fertilizer Production Activities from Household Waste

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Abstract

Socialization activities on composting practices by utilizing household waste as an effort to take advantage of potential and protect the surrounding environment. This activity was carried out at Junior High School 2 Jatinangor with the aim of creating a mindset for productive behavior and an entrepreneurial spirit from the production of compost which has high economic value. The method of implementing community service activities is carried out with training that produces skills, lecture methods, questions and answers, discussions, simulations and mentoring. The results of the activity revealed that the implementation of this composting activity was recognized by some students as an easy, simple, and beneficial practice for greening the environment. Socialization of making compost provides great benefits, namely an increase in students' knowledge about the benefits of organic waste residue as raw material for making compost. With this activity it is hoped that the impact will affect students' desire to always protect the environment and be able to apply it at home and in the environment around where they live in stages.

Keywords: Conservation, Production, Entrepreneurship, Organic Compost Fertilizer

1. Introduction

At present there are many factors that cause environmental degradation, one of the biggest contributing factors to environmental quality degradation is household and industrial waste which emits nitric oxide and methane gas which contribute 20% to the greenhouse effect. So that household waste must be managed in a way that minimizes emissions of harmful gases such as methane gas which causes global warming and is 21 times stronger than carbon dioxide (Jalil, 2010) The formation of character education from an early age is very necessary with the aim of being able to understand the meaning of environmental quality for the preservation of mankind in the future, so that the younger generation like students at this time has the potential for the process of cultivating character to love the environment because they have a tendency to be more curious and easy to learn.

To understand the basic delivery of love for the environment, especially in the environment around the school. A shady, green and shady school environment seems to be the hope of all the school's academic community, meanwhile, garbage from the school environment seems to never be separated from its existence which always causes problems. The current awareness of the academic community is increasingly aware of the green movement which, on the contrary, will cause problems, namely when faced with waste produced by shady plants in the school environment (Ciptono et al., 2022). Character building can be realized through socialization which is carried out with the right target through periodic planting of conservation character values, can increase children's love for the surrounding environment through sensitivity and a sense of caring, and can also be trained from an early age through environmental conservation activities (Purasani et al., 2019).

In addition to the conservation character, the spirit of entrepreneurship is also very important to be instilled in students from an early age. Entrepreneurial character will lead to enthusiasm for work, creativity, discipline, innovation, persistence, work that is not easy to give up which are the characteristics of the superior soul needed. Smith et al. (2016) stated that creativity has a direct and positive influence on entrepreneurial interest. The growth of

entrepreneurial characteristics is largely determined by education from an early age which will form a solid and strong foundation in which this activity aims to provide knowledge, attitudes, and life skills, in terms of decomposing school green waste assisted by earthworms and applying Vermicomposting followed by pre-treatment bioactives to produce premium quality organic fertilizer, so that it can be used to maintain plants around schools to make them greener, more sustainable and at the same time cheaper.

Junior High School 2 Jatinangoris one where students have more attention in the field of adiwiyata, instilling conservation values in students has been implemented in this school since the last few years. The spirit of conservation at Junior High School 2 Jatinangor has the potential to shape students' entrepreneurial character from an early age. Junior High School 2 Jatinangor has the equipment and land for making solid and liquid compost, but in practice, composting only takes place a few weeks before the assessment for participation in the Adiwiyata competition. The activity of making organic compost can actually be used as a technique to develop entrepreneurial character in children (Purasani et al., 2019). Entrepreneurial character building can be done by introducing students to activities that increase the value of an item or are called production activities.

Unused and discarded household waste can be transformed into organic compost which has economic value while helping to reduce waste problems. Compost has excellent benefits for plant fertility with its environmentally friendly use. Making compost can also reduce organic waste that is not widely used. Making compost requires organic materials, namely livestock manure, dry leaves, livestock urine, coarse bran and kitchen ash (Mardewi et al., 2022). The obstacle faced in realizing this activity was the lack of competence of teachers in mastering the technique of making compost from household waste. Therefore, it is necessary to have periodic assistance so that they can instill the character values of conservation and at the same time entrepreneurship to students starting from an early age. Education and training, mentoring and learning from experience are significant building blocks of entrepreneurship learning. This is in accordance with the opinions of several experts regarding entrepreneurial learning (Rae, 2000), process of education and training (Aizuddin et al., 2020) and entrepreneurial learning from experience (Watts et al., 1998).



Figure 1: Map Location Junior High School 2 Jatinangor

Seeing some of the obstacles at Junior High School 2 Jatinangor in developing their entrepreneurial spirit, especially in dealing with environmental damage, the teachers must reactivate composting activities using household waste so that students can do it at home and it has economic value if students have mastered the method of making good compost so that interest in entrepreneurship will grow among students to sell their compost pupus. In this study, compost can overcome environmental damage by reusing household waste that can be decomposed so that making this compost will create a spirit of love for the environment for Junior High School 2 Jatinangor students and will learn, especially entrepreneurship.

2. Materials and Methods

2.1. Materials

This research activity was carried out on January 9, 2023, at SMPN 2 Jatinangor, located at Jl. Letda Lukito No.28, Cisempur, Kec. Jatinangor, Kabupaten Sumedang, Jawa Barat 45363, and the respondents in this research are 36 students who are in Class VIII A.



Figure 2: Junior High School 2 Jatinangor

2.2. Methods

The research was conducted in 2 meetings, namely Monday, 9 January 2023, which was the first meeting to discuss the environment, environmental damage, and the importance of caring for the environment using the lecture method and reminding students to bring some equipment to practice composting. Then on Wednesday, 11 January 2023, the second learning meeting was held outside the classroom by socializing and practicing making compost using household waste that students could find easily then doing group practice for making compost and making creative and unique packaging for storing compost so that students' interest in entrepreneurship will increase.

3. Results and Discussion

This study involved 36 students from class VIII A at Junior High School 2 Jatinangor with economics subjects. The proportion of gender in the class for male was 17 people with a percentage of 53%, and female students with as many as 15 people with a ratio of 47%.

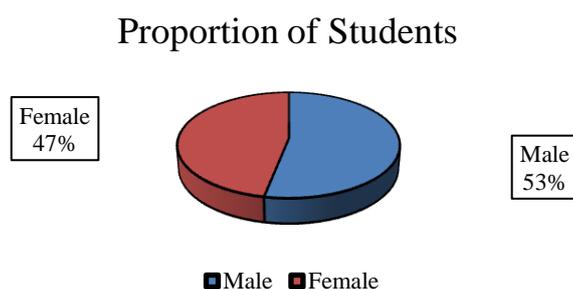


Figure 3: Proportion of Students Junior High School 2 Jatinangor

The teacher will provide work on questions about economics subjects through modules and videos and practice questions, as shown in Figure 4. Before carrying out the practice of making compost, the team will coordinate with the school principal to discuss socialization regarding the practice of making compost using household waste and aims to increase awareness to protect and love the environment and foster interest in entrepreneurship from students. This activity was carried out on Monday, January 9 2023 in the classroom of High School 2 Jatinangor.

This composting training activity aims to increase students' knowledge and insight in composting. In the manufacture of fertilizers using chopped organic waste using a simple chopper such as a knife or the like, but on a large scale, a machine chopper can be used, besides being easy, a machine chopper can speed up the ripening of compost, because the output of the trash chopper is waste. with small sizes so that when mixed with ripe organic fertilizer, the waste can mature within a maximum period of three days. Making compost can be made naturally but this process requires a long time, because there are few decomposing microorganisms, therefore a decomposer is added to speed up the composting process. Decomposers will affect composting in two ways, namely by inoculating strains of microorganisms that are effective in destroying organic matter and increasing nitrogen levels which are additional food for these microorganisms (Gaur, 1983).



Figure 4: Practice of making compost Junior High School 2 Jatinangor

Compost is very instrumental in increasing agricultural production both in quality and quantity, reducing environmental pollution, and improving land quality in a sustainable manner. Compost contains lots of microorganisms, adding compost to the soil will spur the development of microorganisms in the soil, CO₂ gas produced by microorganisms will be used for plant photosynthesis and produce growth hormones. Providing knowledge in making compost can provide great benefits for students by increasing knowledge about the benefits of organic waste residue as raw material for making compost. It is hoped that in the future students will be able to make their own compost from organic materials around them. This is also in order to achieve self-sufficiency of students to take advantage of the potential that exists around them as organic fertilizer raw materials to support realizing awareness to protect the school environment and around their homes.

Overall the service at Junior High School 2 Jatinangor runs smoothly as evidenced by mutual cooperation in planting, sorting waste and making compost. Students are also very active and respond well. The role of service partners is also very helpful in this service process. Therefore, it is hoped that this activity will not only reactivate the learning process of loving the environment but can continue until Junior High School 2 Jatinangor plays an active role in teaching its students about loving the environment.

4. Conclusion

The mentoring program for developing entrepreneurial character includes the practice of composting and making creative packaging which can be carried out regularly so that they can continue to be productive. This routine activity can also make school programs used for student learning media. Routine maintenance programs for seed houses, compost houses and waste sorting houses can be coordinated independently by schools so that they can be carried out in a sustainable manner. The resulting product can be used as fertilizer that is able to meet school needs so that it can save on plant maintenance at school. This liquid fertilizer and compost can be developed and can overcome the problem of waste in schools, especially organic waste. The seed care program in the nursery can be cared for by students and teachers independently. The results of the planted plants can be used for processing and can be consumed. From the results of segregating waste, waste can be managed properly so that it is able to produce organic waste for raw materials for making fertilizer and inorganic waste for recycling into goods that are more functional and have sales value. Thus, periodic mentoring needs to be carried out by the teacher for students to optimize opportunities and care and sustainable use of seed houses, compost houses and waste sorting houses that are starting to be productive again.

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