

WASTE MANAGEMENT EDUCATION THROUGH NATURE SCHOOL APPROACH TO INCREASE CHILDREN ENVIRONMENTAL AWARENESS IN KRAJAN, CEPOKO VILLAGE, NGRAYUN, PONOROGO

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Abstract - Nowadays, environmental issues are increasingly neglected by society. The environment that was originally pristine and preserved began to be polluted by household and industrial waste. The waste problem requires human action to be able to manage it, but in reality literacy and knowledge about waste management are still not massively promoted. Therefore, it is necessary to strive to conduct interactive waste management education, especially for children as the younger generation. This research aims to reveal the effectiveness of a nature school-based approach in learning waste management applied to Krajan children. This research uses an Asset Based Community Development (ABCD) method, which contains five research steps: discovery, dream, design, define and destiny. Based on the results of the study, the nature school activities that have been implemented in Krajan provide a new learning atmosphere for children in Krajan. In addition, this nature school activity was chosen because it can be connected to the material about the environment and waste management to be given. The impact of this nature school activity is that children become more enthusiastic in participating in learning, there is direct implementation through joint practice in recycling waste, and learning is more interesting because the object studied is an environment close to the students.

Keywords: Nature School, Waste Management, Environment

1. INTRODUCTION

In the globalization era, living beings as the main actors cannot be separated from the effects produced by this era, and one of them is environmental issues. The environment is anything that surrounds us, whether it is living (biotic) or nonliving (abiotic). Between biotic and abiotic elements there is a reciprocal relationship, mutual influence, and dependence on each other (Supriatna, 2021).

According to human interaction with the environment and the existence of natural disasters and damage, it is necessary to cultivate in us an attitude of environmental care. It is to avoid the negative impact caused by human actions that damage the environment and cause the surrounding life to change. So it takes a caring attitude towards the environment and knowledge of the impact of an unattended environment (Gunawan & Guslinda, 2019).

Krajan is an area with a lush, tree-lined, and natural environment. However, this is unfortunate if it is not accompanied by the behavior of protecting the environment. Therefore, as a preventive action, it is necessary to educate the community to protect the environment. One form of this is the introduction of waste and the utilization of anorganic waste.

The utilization of anorganic waste into reusable products is needed to reduce the burden of disposal in accommodating anorganic waste. The process of utilizing used goods or waste to produce reusable products has benefits including: (a) reducing the amount of waste disposed of in landfills, (b) reducing the environmental impact of waste accumulation, (c) can increase revenue from recycled products produced.

Particularly among anorganic waste, plastic waste such as coffee wrappers, instant noodle wrappers, detergent wrappers can be utilized for handicraft materials such as bags, wallets, hairpins and various other accessories. One form of inorganic waste management is to utilize inorganic waste such as used soap packaging, plastic bags, aqua cups and detergent packaging into new valuable products. Concern for the environment must be instilled from an early age in order to raise awareness to protect the surrounding environment so that environmental damage can be reduced (Nugroho, 2020). A good way to overcome this problem is to provide learning and education about environmental awareness to children.

Learning process will be more meaningful if children experience what they are going to learn. Therefore, in this case, the idea of making a nature school to be an alternative in creating a new atmosphere in learning that is fun and makes children feel that learning is a necessity and pleasure rather than something boring. The nature is very helpful as a tangible learning medium.

The existence of this nature school develops children's attitudes so that they can respect nature and the surrounding environment, as well as being able to make students think more freely and creatively. In addition, with the existence of this nature school, it is also expected that education in Dukuh Krajan can continue to take place considering the awareness of residents in terms of education is still quite low. This can be seen from the lack of residents who take education to the

upper secondary level. In addition, the existence of this nature school has more or less affected the learning atmosphere which may be considered boring, which gradually reduces the quality of students in understanding every material presented.

Nature school is a kind of school that utilizes nature as a medium for the teaching and learning process. The function of the nature school in Dukuh Krajan emerged as a response to the phenomenon that is happening in Indonesia. The destruction of nature caused by the actions of the Indonesian people themselves has caused losses to the Indonesian nation for several generations to come. Various preventive measures have emerged in response to this problem, one of which is the method of education for children using the natural environment as the main media so that it is hoped that a sense of belonging will arise to protect the surrounding nature.

2. METHOD

This nature school activity uses an Asset Based Community Development (ABCD) approach, which prioritizes the utilization of assets and potentials that are around and owned by youth or communities in Krajan, Cepoko Village, Ngrayun, Ponorogo. One of the main assets in an Asset Based Community service program is to change the way the community views themselves and their environment. Not only focusing on the shortcomings and problems they have, but paying attention to what they have and what they can do. In the ABCD method, there are five key steps to conduct mentoring research, including discovery, dream, design, define and destiny (Fitrianto et.al., 2020). The strategy in this approach begins with observing the place and existing assets to find needs, then looking collectively at the hopes and dreams of the community for existing assets, after that designing an activity to realize the hopes of the community, then determining changes through the formation of programs, after that taking action or implementing programs that have been prepared (Yuawana, 2022).

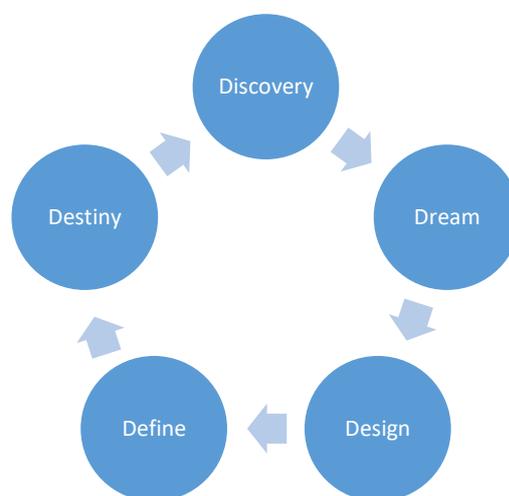


Figure 1. Asset Based Community Development Diagram

This program uses the Asset Based Community Development (ABCD) theory, which prioritizes the use of assets and potentials that are around and owned by the community. To then be used as a material that empowers the community itself. The implementation of this program is in Cepoko Village, Krajan Hamlet. Nature school activities were held on August 20 and attended by 43 children of Krajan .

3. RESULTS AND DISCUSSION

A. Nature School-Based Environmental Education

Schools have long been a place of education that is recognized by various groups. Education is a process that uses certain methods to provide individuals with knowledge, understanding, and behavior that are in accordance with their needs (Maryati, 2012). Education is a guiding process that includes physical and spiritual aspects to form the main character, directing the development of physical and spiritual skills as real actions that provide benefits to society (Syah, 2013). This is what then makes school very necessary. The school environment is also a place where children carry out the humanization process and a means of developing the potential that exists in themselves. Here children will find many new people, such as teachers and friends. An environment designed in order to prepare the golden generation, the next generation of the nation. So the hope is that the existence of a nature-based school can attract students to learn more comfortably and be sensitive to the surrounding environment.

Nature School is a school with the concept of education based on the universe. Looking at nature schools is to see a unique school. From an early age, children are introduced to the real life environment. The children are not allowed to wear uniforms, instead they wear play clothes complete with boots that make them free to explore with their environment. Diversity is seen as something unique in Sekolah Alam, and uniformity is not seen in what they wear, but in their morals, behavior and attitude as well as their spirit of learning and curiosity (Marimba, 1980). Although this is what nature school means, in practice, the KKN UIN Sunan Kalijaga Team modifies nature school which is simpler and more practical according to the environment in Krajan.

The Nature School is only conducted when their formal school is closed. So that a combination of formal school and nature school is created. Nature school enlightens children to do different learning patterns than usual. This nature school is an alternative educational method to improve children's skills in gaining knowledge. In formal schools, children have to wear uniforms and stick to textbooks in classrooms, while children of Sekolah Alam Dusun Krajan simply dress modestly in an open space and bring enough writing utensils. The strategic and natural location of Krajan Hamlet is certainly very supportive of this nature school. Children can directly come into contact with rice fields, rivers, and greenery in accordance with what will be studied. Namely the environment. In this case, the children who attend the nature school are children whose backgrounds every afternoon attend Al - Qur'an education with the KKN UIN Sunan Kalijaga Team.

This is also in line with one of the new paradigms in the quality learning process, namely the change in the learning process from teacher-centered learning to student-centered learning. Thus students will be increasingly encouraged to be actively involved in building knowledge, attitudes and behavior. In this learning process, students get the opportunity and facilities to build their own knowledge so that they will gain a deep understanding (deep learning). The KKN team is only a trigger or fishing rod for them to learn, speak up, and answer some questions firmly and loudly.



Figure 2. Nature School Activity in Dukuh Krajan

The education carried out by the KKN UIN Sunan Kalijaga Team in Krajan is in line with the 6 basic principles of Nature school. Namely (Pinia, 2019):

1. Nature is all parts of the universe that can be captured with the senses.
Nature is not only limited to forests, oceans, plantations, agriculture. In this case, nature can also be all parts of the universe that include creations from God and humans. Such as office buildings, urban public facilities, industries, including shopping malls are also part of nature that can be studied. The entire contents of the universe that can be seen with the eyes, heard using the ears, touched and touched, smelled, and can be tasted by the tongue are learning media;
2. The educational process is not limited by school walls
Simulation of learning through games, role play or movement is a process of interesting learning without having to ignore existing technological developments. Learning activities are stronger related to the function of the senses placed appropriately and play a maximum role that is the main focus of education in natural schools. The learning process is not always compartmentalized by learning models, activities, and rigid classroom barriers but is dynamic, contextual, and applicable.
3. Learners come into contact with learning objects as part of the game.
When explaining about the components in rice fields and rivers, in addition to getting the theory from the KKN UIN Sunan Kalijaga Team, children can directly know the shape directly without having to guess in the imagination;
4. Teachers are facilitators and students are creators.
The teacher, in this case the KKN UIN Sunan Kalijaga Team, plays a role in inviting students to explore the existing environment so that the child then comes into

direct contact with various problems. The teacher only provokes children to think flexibly, creatively, and innovatively

5. Gesture and voice intonation are the teacher's main communication media.

The best communication tools besides the learning objects we visit directly are gestures and voice intonation. The human body has flexibility and varied expressions. Facial expressions, high and low voice, and hand and foot movements in the same direction will greatly help students' understanding of a teacher's explanation.

6. Parent involvement as main teacher

Parents' meetings with the school are mostly filled with providing school reports to parents without any concern for how the role of parents to their children. Although in field practice, the nature school formed by the KKN UIN Sunan Kalijaga Team is still not so optimal in playing parents as main teachers due to their busy work and farming.

B. Implementation of Inorganic Waste Management through Nature School Education

As we know in environmental education there is something called waste, both industrial waste and household waste. The results of the study found that waste that is not properly utilized will be very dangerous, so that at this time what will be discussed is household waste in the form of inorganic waste. Wherever there are human settlements, various types of waste will be generated. Such as garbage, sewage, and liquid waste from various other domestic activities. Solid waste, often known as garbage, is often considered to have no significant economic value. Chemically, this waste consists of organic and inorganic compounds. When there is a certain concentration and volume, the presence of waste can have a negative impact on the environment, especially in terms of human health. Therefore, waste handling is a must. The level of potential poisoning that can be caused by waste is highly dependent on the type and nature of the waste (Marliani, 2014).

Inorganic waste management education with a nature school approach is an important and relevant initiative in the context of efforts to address environmental issues, especially those related to waste management. The philosophy of waste management we are familiar with is that the less and closer waste is managed from the source, the easier and better the management will be, and the less the environment is affected. Therefore, in the management of inorganic waste, the KKN UIN Sunan Kalijaga Team utilizes the nature school as a form of distribution in the practice of inorganic waste management.

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The Nature School contains material about the importance of caring for and preserving the environment. Children are introduced to the pests that disturb and damage the environment and the impact of a polluted environment. One way to care for and preserve the environment is by managing waste. In this case, inorganic waste is chosen. In principle, all forms of simple actions in addressing waste problems lead to 5 major steps called the 5Rs (previously commonly called the 3Rs), namely (Sugiarti et.al., 2015): (1)Reduce: start to reduce the production of waste generated by oneself, in practice such as bringing your own shopping bag to reduce plastic bag waste or bringing a drink bottle instead of buying bottled drinks. (2)Reuse: reusing items that are no longer used, such as using plastic shopping bags for wrapping in the future, using used cans as plant pots, or using used clothes as rags, handicrafts, and others. (3)Recycle: special handling in utilizing technological innovation in processing or recycling certain waste into objects that can be reused, for example paper from used magazines and newspapers, metal from used cans and spoons, glass from used bottles and glasses, and others. (4)Replace: trying to use environmentally friendly items that can be used more than once, for example replacing plastic bags with other shopping bags so that they can be used repeatedly, avoiding Styrofoam packaging with other alternatives. (5)Repair: repairing damaged goods, so that they can be used again. For example, a broken electronic item is repaired with the appropriate components to repair it, but this requires specialized skills.

Therefore, this nature school emphasizes more on the 5Rs material as well as direct field practice in managing inorganic waste. In this case, it is more specific, in the form of used plastic bottles and used snack packaging. Plastic bottle waste and used snack packaging are managed into useful handicrafts for those who are still in elementary school and below. They manage the waste into cute and interesting pencil cases in accordance with the direction of the KKN UIN Sunan Kalijaga Team. Of course, in its application, children are more active because all take part or are involved in learning and managing the waste.



Figure 3. 3R Principles Explanation by KKN UIN Sunan Kalijaga

As explained earlier about the principles of natural schools, the teacher or the UIN Sunan Kalijaga KKN Team is only a facilitator. Giving a little insight is then developed by the children. The enthusiasm of these children is not just created out

of thin air, but there are new factors that have been experienced. They feel that nature school is school in a new way. Moreover, armed only with used trash, they can create pencil cases with themes according to their wishes. Of course, one child is different from another.



Figure 4. Students Recycling Activity

Guided by the KKN UIN Sunan Kalijaga team, children participating in the nature school made pencil case creations from used plastic bottles that were freely decorated according to their respective imaginations. The steps to make the plastic bottle creations are:

1. Cut the plastic bottle into two parts where $\frac{3}{4}$ of the bottle is used.
2. Smooth the end of the bottle that has been cut to make it safe.
3. Measuring the origami paper according to the width of the plastic bottle surface.
4. Attaching the origami paper that has been adjusted to the size of the bottle using double-sided tape.
5. The students decorated the free pencil case into a character according to their creativity with origami paper, markers and colored pencils.



Figure 5. Pencil Case from Plastic Bottle

After the work of the natural school students was completed, the KKN UIN Sunan Kalijaga team and the students reflected on the recycling activities that had

been carried out. Students were given an understanding that used goods that were originally considered worthless and only ended up in the trash can can be turned into an interesting and useful work. The students were then also encouraged and introduced to other recycling works that are possible to try in their own homes. It is hoped that after the students have participated in the nature school activities and learned about the bad impact of waste on the environment and the steps to prevent it, the students can apply the knowledge they have gained and apply the principles of waste management starting from the environment around Dukuh Krajan.

4. CONCLUSION

Based on the discussion above, it can be concluded that nature school learning activities aimed at improving children's waste management knowledge in Krajan, Cepoko Village are targeted to provide understanding to the children of Krajan hamlet as the younger generation to have more awareness in protecting their environment. Through the nature school approach, learning activities carried out by the KKN UIN Sunan Kalijaga team become more interesting and interactive. The students get a new learning experience and are directly in contact with the environment where they live so that they can reflect on the new knowledge they have gained. More than that, students are also given the experience to be creative in making recycled plastic bottle waste into pencil cases with interesting shapes.

Certainly, this nature school activity is still far from perfect and needs improvement, as for suggestions that can be given for further research:

1. Provide educational materials that are more organized and related to children's daily lives.
2. Cooperate with local stakeholders so that nature school activities can run sustainably.
3. Conduct qualitative measurements and follow-up regarding the increase in student understanding before and after the implementation of natural school activities.

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