

DEVELOPMENT OF MORAL MOVEMENT OF BRING YOUR OWN TUMBLER (BYOT) IN JUNIOR HIGH SCHOOL 3 JATINUNGGAL

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Abstract. School is one of the places that always produces waste every day, especially plastic waste. Of course this will have a bad impact on the environment, especially if the waste is not managed properly or recycled. Based on the results of surveys and observations conducted by researchers in November 2022

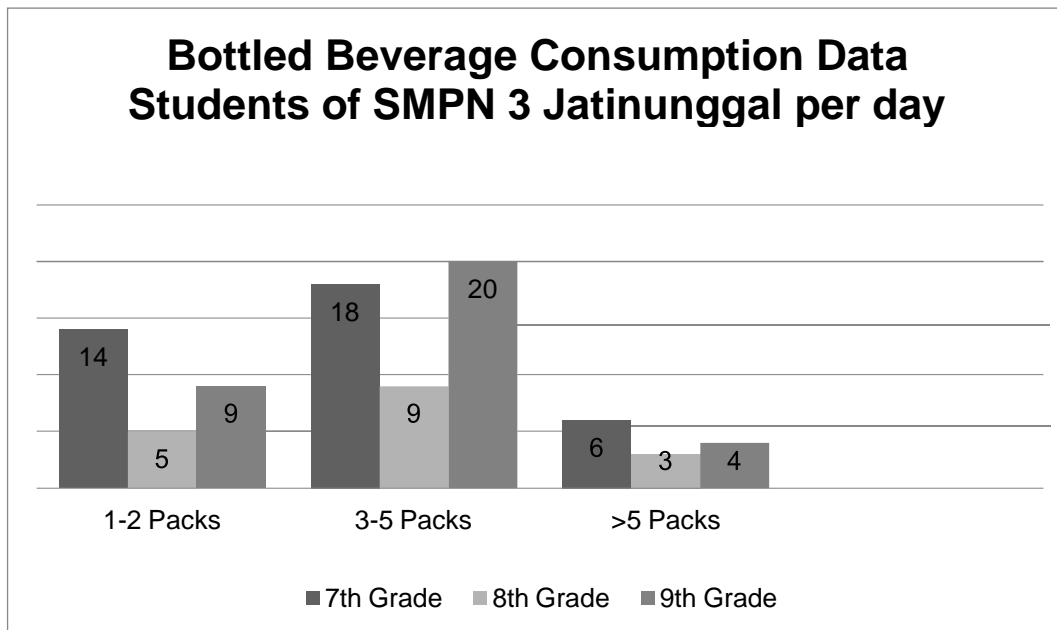
- December 2022, it shows that in one day the students of State Junior High School 3 Jatinunggal produce 311 plastic waste used as beverage packaging not including waste from food. Of course, if this continues to be allowed, besides having an impact on the environment, it will also have an impact on the health of the students themselves. In addition to the accumulation of used beverage packaging waste, the risk of diabetes also lurks in the health of students. Moreover, the Indonesian Pediatric Association (IDAI) released data on February 1, 2023 related to diabetes cases in children which increased 70 times as of January 2023 compared to 2010. This study aims to develop a moral movement Bring Your Own Tumbler (BYOT) at SMPN 3 Jatinunggal and measure its effectiveness in improving student behavior in reducing the use of disposable plastic drinking containers. The research method used was Research and Development (R&D) with six stages of development and implementation. The research subjects were seventh grade students at SMPN 3 Jatinunggal. The results showed that the development of the BYOT movement was successful and effective in increasing students' behavior in bringing tumblers to school and reducing the use of single-use drinking plastics. In addition, the BYOT movement also helped increase students' awareness about the importance of protecting the environment and maintaining cleanliness. This research proves that the BYOT movement can be an effective tool in improving students' environmental behavior and concern for the environment. Therefore, it is recommended to implement the BYOT movement in other schools to increase public awareness and concern for the environment.

Keywords: moral movement, bring your own tumbler, environmental education, student behavior, sustainable lifestyle.

1. INTRODUCTION

Increasingly complex environmental issues, such as plastic pollution and climate change, have raised public awareness of the importance of adopting a sustainable lifestyle. In this context, schools play a very important role in shaping students' understanding and attitude towards environmental issues. Teaching students to care for their own health and develop eco-friendly habits can make a real contribution to protecting the earth and promoting sustainable lifestyles. Excessive use of single-use plastic drinking containers is one of the serious environmental problems, because plastic drinking containers are difficult to be decomposed by nature and can pollute the environment and threaten the survival of living things. In educational institutions such as schools, where plastic waste including plastic drink containers is one of the main sources of waste. If not managed properly or recycled, it will have a negative impact on the environment.

Observations made by researchers at SMP Negeri 3 Jatinunggal revealed that every day the school produces around 311 plastic waste from drinks only, not including plastic waste from food. This data shows that students have great potential in generating plastic waste every day. In addition to having a negative impact on the environment, regular consumption of packaged drinks can also have an adverse impact on students' health. The following is the observation data:



Picture 1. Consumption Data of Packaged Beverages for Students of SMPN 3 Jatinunggal

The data above shows that students have great potential in generating plastic waste every day. In addition to having a bad impact on the environment if students consume packaged drinks every day, it will also have a bad impact on the health of the students themselves. As stated by the Indonesian Pediatric Association (IDAI) released data on February 1, 2023 related to diabetes cases in children which increased 70 times as of January 2023 compared to 2010. According to IDAI records, 1,645 pediatric patients with diabetes are spread across 13 cities, namely Medan, Padang, Palembang, Jakarta, Bandung, Semarang, Jogja, Solo, Surabaya, Malang, Denpasar, Makassar, and Manado. Of the number of children with diabetes, most are children in the age range of 10-14 years as much as 46.23 percent, 31.05 percent are aged 5-9 years, 19 percent are aged 0-4 years, and 3 percent are suffered by children aged more than 14 years. The data released by the Indonesian Pediatric Association (IDAI) shows a significant increase in cases of diabetes in children, which can be related to the consumption of packaged beverages. This reinforces the urgency of the school's role in creating a healthy environment that cares about the health of students and the school environment.

Based on research conducted by Safriani, et al (2022), it shows that one of the problems often faced is garbage scattered in various places, especially inorganic waste that cannot be decomposed which is very dangerous for the environment. The introduction of the dangers of littering and waste reduction efforts can be carried out through socialization activities from elementary, junior high and high schools to the community in the village. Meanwhile, research conducted by Fitriah, H., & Samsia, S. (2020) shows that there are conditions in each school that lack awareness of environmental conservation so that Adiwiyata School was formed which aims to create school residents who care and are cultured towards the environment. Other research from RA Wicaksono (2022) shows that the increasing level of plastic use has caused various problems in many countries. These problems include waste and pollution that negatively affect the earth and our health, as well as threatening oceans and wildlife. Low levels of environmental awareness and fast-paced lifestyles are major factors in the increase of waste, especially single-use plastic drinkware, causing environmental damage. Indonesia even ranks second in the world as a waste-producing country, with a total of 64 million tons per year. Therefore, it is important for us to use plastic as economically as possible. One solution that can be done is to educate the public through a campaign that provides information about the adverse effects of single-use plastic drinking containers on the environment. This campaign aims to encourage people to reduce the use of single-use plastic drinking containers and switch to reusable drinking bottles.

In this context, the researcher sees that it is important for schools to create a healthy school climate. For this reason, the researcher developed the "Bring Your Own Tumbler" (BYOT) moral movement program as an effort to increase student awareness of personal and environmental health. Through this movement, students will be encouraged to bring their own tumblers as an alternative to the use of disposable plastic drinking containers. The goal of this BYOT moral movement is to reduce the use of single-use plastic drinking containers, reduce plastic waste in schools, as well as provide a better understanding of the importance of protecting health and the environment. By combining the concept of a Healthy School Program that involves health and environmental aspects with the BYOT moral movement, schools can create an environment that supports holistic student health. This movement also provides an opportunity for students to actively participate in maintaining their own health and the school environment.

The formulation of the problem is how efforts are made in developing a moral movement to bring their own tumbler (BYOT) at SMP Negeri 3 Jatinunggal. Meanwhile, the objectives of this study are;

1. Increase students' awareness of the importance of using their own tumbler as an alternative to disposable plastic drinking containers.
2. Increase the use of own tumblers among SMPN 3 Jatinunggal students through the implementation of the moral movement program bring your own tumbler (BYOT).
3. Analyze the factors that influence the successful implementation of the moral movement of bring your own tumbler (BYOT) at SMPN 3 Jatinunggal.

2. LITERATURE REVIEW

2.1 Sustainable lifestyles

According to Weenen (1995), Sustainable development is a concept that can meet the needs of the present without reducing the rights or ability of future generations to meet their needs. Meanwhile, Haris, J. et al (2001) stated that sustainable development involves finding a balance between three areas, namely economic development, social justice, and environmental protection. This concept then gave rise to the concept of sustainable lifestyle. Sustainable lifestyle refers to a person's action patterns and consumption patterns, which are used to equalize or differentiate themselves from others. The goal of this lifestyle is to fulfill basic needs, improve quality of life, reduce consumption of natural resources and emissions of waste and pollutants in the life cycle, and not threaten the needs of future generations. Sustainable lifestyles reflect the cultural, natural, economic and social heritage of a society. According to the United Kingdom, a sustainable lifestyle is one that is environmentally conscious and aware of the consequences of choices made, with the aim of generating the least amount of negative impact. It involves caring for people and communities and thinking about health, well-being, education and community development, rather than just focusing on money and possessions.

2.2 Healthy school

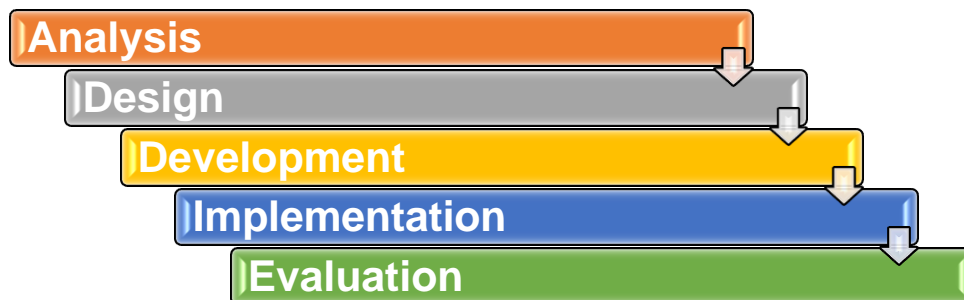
A healthy school is one that has cleanliness, greenery, beauty, and lush trees. In addition, the students are also healthy and fit, and always carry out clean and healthy living behaviors. To achieve healthy schools in Indonesia, schools or madrasahs need to do two things. First, they must run the School Health Effort program which includes three main programs, namely health education, health services, and fostering a healthy school environment. Second, they must make efforts to improve through physical education programs. Reporting from the site ditpsd.kemdikbud.go.id, it is stated that the School Health Effort (UKS) is an effort made by the education unit to teach, develop, and guide members of the school community to be integrated, directed, and responsible for adopting and carrying out the principles of healthy living in everyday life. One of the main programs of UKS is Trias UKS, which includes Health Education, Health Services, and Healthy School Environment Development. The Ministry of Education, Culture, Research and Technology (MoECT) launched the Healthy School Campaign with the aim of realizing healthy, strong, and smart Indonesian children with good character, including health aspects that include good nutrition, physical health, and immunization. To achieve nutritious health, the steps that need to be taken include: 1) Understand the concept of balanced nutrition as contained in My Plate. 2) Getting used to eating and drinking patterns that are nutritionally balanced. 3) Avoiding or limiting the

consumption of fast food, food/drinks containing sweeteners and preservatives, low in fiber, high in sugar, salt, and fat. 4) Encouraging the existence of canteens that provide healthy food.

A healthy school is a concept and approach that integrates aspects of physical, mental and social health in the school environment. It emphasizes the importance of maintaining and improving the overall health of students, teachers, staff and all members of the school community. Healthy schools are not just about physical hygiene, but also involve health education, promotion of healthy lifestyles, a safe and health-supportive environment, and available and affordable health services in schools. Healthy schools strive to create an optimal learning environment where students can grow and develop physically and mentally well. The principles of healthy schools include integrating health education in the curriculum, providing facilities and activities that support physical activity, providing nutritious and healthy food, promoting mental health and emotional well-being, creating policies that support a clean and safe school environment, and integrating the school community with family and community in promoting health. With a healthy school approach, students are expected to have a healthy lifestyle, good habits in maintaining personal and environmental hygiene, and a deep understanding of the importance of health and how to maintain their health holistically.

3. RESEARCH METHODS

The methodology used in this research is Research and Development (R&D) with reference to the ADDIE model. This method is suitable for this study because it refers to the development of a program with the aim of improving the quality and effectiveness of the program. In this case, the development of the BYOT moral movement is considered as a program to increase students' awareness about the importance of using their own tumblers in protecting the environment and health. The ADDIE model was developed by Dick and Carry (1996) which consists of five stages in the ADDIE development model, namely: analysis, design, development, implementation and evaluation. The procedure used in the development of the BYOT school program was adapted from the ADDIE development model according to William Lee (2004). The ADDIE model development procedure can be seen in the following figure.



Picture 2. ADDIE Model Research Stages.

1. Analysis
 - a. Problem identification

Several problems can be identified in the research "Development of Bring Your Own Tumbler (BYOT) Moral Movement at SMP Negeri 3 Jatinunggal". First, the excessive use of single-use plastic beverage containers is a major problem in schools. The large consumption of beverages in plastic causes a permanent buildup of plastic waste in nature, which threatens environmental sustainability. Second, students' awareness of the environment and sustainable lifestyles is still lacking. Students have not fully understood the importance of an environmentally responsible lifestyle and are still unaware of the negative impact of using single-use plastic drink containers. Another problem is the limitations in supporting school programs. A more comprehensive and integrated environmental education program is needed to foster student awareness and participation. In addition, low student participation in environmental initiatives is a barrier to achieving meaningful change. Effective strategies are needed to motivate students to participate in the BYOT moral movement. Finally, limited

resources and infrastructure, such as adequate drinking water refill facilities, pose a challenge to realizing this movement. Being aware of these issues is an important basis for developing effective strategies to develop the BYOT moral movement at SMP Negeri 3 Jatinunggal, which aims to increase students' awareness of the environment and encourage more sustainable behavioral changes.

b. Goals and objectives Research

Goals:

1. Increase students' awareness of the importance of the environment and sustainable lifestyles.
2. Reducing the use of single-use plastic drinking containers at SMP Negeri 3 Jatinunggal.
3. Encourage student behavior change in using personal tumblers and avoiding the use of single-use plastic drink holders.
4. Building an active and sustainable BYOT moral movement in the school environment.

Research Objectives:

1. Grade VII students of SMP Negeri 3 Jatinunggal as the main target in raising awareness and adopting a sustainable lifestyle.
2. Teachers and school staff to support and facilitate the implementation of the BYOT moral movement in the school environment.
3. The school committee and related parties to provide support and cooperation in the development of the BYOT moral movement. A school environment that is friendly to the BYOT moral movement with the availability of supportive facilities and policies.

With these goals and objectives, this research aims to create positive changes in student behavior and the school environment, by reducing the use of single-use plastic drinking containers and encouraging the use of personal tumblers. The developed BYOT moral movement is expected to be sustainable and become part of a school culture that cares for the environment.

2. Planning

The design stage of the research method "Development of the Bring Your Own Tumbler Moral Movement (BYOT) at SMP Negeri 3 Jatinunggal" begins with determining the specific goals and objectives of the program. Furthermore, the program structure design was carried out which included educational activities, campaigns, and promotion of the BYOT moral movement. Learning materials relevant to environmental issues and sustainable lifestyles were also developed using interactive teaching methods. In addition, a BYOT moral movement guide was developed to provide step-by-step instructions in implementing the movement. Campaign materials such as posters, brochures and short videos were also designed to promote the BYOT moral movement in schools.

3. Development

The development stage of the research method "Development of the Bring Your Own Tumbler Moral Movement (BYOT) at SMP Negeri 3 Jatinunggal" involved several important steps. First, research participants were determined, namely seventh grade students of SMP Negeri 3 Jatinunggal. Next, the environmental education program and the BYOT moral movement were implemented by involving students, teachers, school staff, and the school committee. Educational activities were carried out to convey information about environmental issues and the importance of sustainable lifestyles. Campaigns and promotions of the BYOT moral movement were conducted through posters, brochures, and short videos to raise student awareness. During the implementation of the program, data regarding students' participation in the BYOT moral movement and reduction in the use of single-use plastic drink holders were collected. The data was analyzed to evaluate the success of the program and draw conclusions regarding the achievement of the set goals and objectives.

4. Implementation

The implementation stage of the research method "Development of the Bring Your Own Tumbler Moral Movement (BYOT) at SMP Negeri 3 Jatinunggal" involves a series of activities aimed at implementing the environmental education program and the BYOT moral movement in the school environment, namely as follows.

- a. Implementation Preparation is carried out by coordinating with the school to obtain approval and support in implementing the program as well as collecting and compiling environmental education materials that are relevant and in accordance with the program objectives.
- b. Program socialization is conducted by holding meetings with students, teachers, school staff, and school committees to introduce the program and explain its objectives and benefits as well as presenting environmental education materials to students and providing an understanding of environmental issues and the importance of sustainable lifestyles.
- c. The implementation of activities is carried out by organizing educational activities such as seminars, workshops, or group discussions to deepen students' understanding of relevant environmental issues, conducting campaigns and promotion of the BYOT moral movement through the installation of posters, distribution of brochures, and screening of short videos in the school environment, and encouraging students to bring their own tumblers and reduce the use of disposable plastic drinking containers through pilots and awards.

5. Evaluation

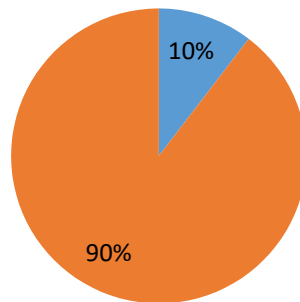
The evaluation stage in the research method "Development of the Bring Your Own Tumbler Moral Movement (BYOT) at SMP Negeri 3 Jatinunggal" involves collecting data to measure the success of the program implementation. Data was collected through surveys, questionnaires, and observations of students' participation in the BYOT moral movement, their level of understanding of environmental issues, and students' satisfaction with the program. In addition, data analysis was conducted using statistical methods and qualitative analysis techniques to interpret the evaluation results. In this stage, the effectiveness of the program, changes in student behavior, and the level of awareness of environmental issues will be evaluated. The results of the evaluation will be used to identify the success of the program and areas that need to be improved or enhanced in the future. The main objective of the evaluation stage is to provide a comprehensive understanding of the implementation of the BYOT moral movement program at SMP Negeri 3 Jatinunggal and produce recommendations that can improve the sustainability and effectiveness of the program.

4. RESULTS AND DISCUSSION

According to research conducted by Saraswati, M. I. N. P., & Anityasari, M. (2012) stated that alarming facts include the decline of natural resources along with the growth of the human population, the increasing amount of hazardous waste from human activities, and global climate change. Therefore, all current human behavior and activities should focus on meeting the needs without compromising the needs of future generations. Given that adolescents and youth have a crucial role in determining the future of a nation and become the backbone of the nation's sustainability, providing a comprehensive understanding of the importance of Sustainable Development (SD) issues and how to implement sustainable lifestyles is very important. The development of the BYOT moral movement at SMPN 3 Jatinunggal is an effort to increase student awareness about the importance of using their own tumblers in protecting the environment and health. This study produced data that the BYOT movement can increase student awareness and reduce the use of bottled beverage containers at school. The results showed that the BYOT moral movement was effective in raising students' awareness about the importance of using their own tumblers and reducing the use of bottled beverage containers at school. This can be seen from the survey results which show that most students, 90%, have used their own tumblers after the BYOT movement was implemented at SMPN 3 Jatinunggal for one semester, from December 2022 - May 2023.

Survey on Bringing Your Own Drinking Bottle to School

■ Before BYOT Movement ■ After BYOT Movement



Picture 3: BYOT Movement Survey

In addition, students also stated that the BYOT movement has increased their awareness about the importance of protecting the environment and health. The use of beverage containers is very harmful to the environment and health. Bottled beverage containers that are thrown away carelessly can cause environmental damage, especially to the water ecosystem. In addition, bottled beverage containers can also contain harmful chemicals that can cause health problems for their users. As reported by the website <https://www.viva.co.id/gaya-hidup/> which states that Global research conducted by the State University of New York at Fredonia and supported by a non-profit media organization in the United States, Orb Media, revealed that drinking water in plastic packaging consumed daily contains harmful microplastics. A total of 259 bottles of drinking water from 11 brands sold in eight countries, including drinking water from leading manufacturers in Indonesia, were tested in the study. The results showed that 93 percent of the drinking water samples contained microplastics. Consuming drinking water containing microplastics can have serious impacts on human health. Toxicologist from the University of Indonesia, Budiawan, explained that microplastic particles that are comparable in size or even smaller than human cells are potentially dangerous. This is because these microplastic particles can be absorbed and enter the human bloodstream. The accumulation of microplastics in the body can also interfere with the function of important organs such as the kidneys and liver. Therefore, the presence of microplastics in drinking water is a serious issue that needs attention.

Thus, there are many benefits gained by creating the BYOT moral movement program. The following is an image of the BYOT moral movement campaign.



Picture 4. BYOT moral movement campaign

By reducing the use of bottled beverage products, BYOT's moral movement is expected to have a positive impact on the environment and health. By reducing the number of bottled beverage containers that are thrown away, it will reduce the amount of plastic waste that pollutes the environment. In addition, by using their own tumblers, students can avoid health risks caused by harmful chemicals in plastic.

As a recommendation, the BYOT moral movement can be implemented in other schools to increase student awareness about the importance of protecting the environment and health. In addition, there needs to be supervision and evaluation of the implementation of the BYOT movement in schools so that it can continue to run well and sustainably. Supervision and evaluation are carried out to ensure that the BYOT movement can run effectively and is not just limited to routine activities carried out by students. In addition, it is necessary to socialize parents to support the BYOT movement at home. Parents can help reduce the use of plastic drinking containers by giving their own tumblers to their children. Thus, the BYOT movement can be more effective and sustainable. In addition, there needs to be cooperation with related parties such as local governments, environmental agencies, and the tumbler industry to increase the effectiveness of the BYOT movement in protecting the environment and health. Local governments can provide support in the form of plastic waste reduction programs, while environmental agencies can provide information about the impact of plastic waste on the environment. The tumbler industry can also assist in providing high-quality tumblers at affordable prices to encourage the use of tumblers themselves.

CONCLUSION

The implementation of the BYOT moral movement at SMPN 3 Jatinunggal can increase student awareness about the importance of using their own tumblers and reduce the use of plastic drinking containers at school. The application of the BYOT moral movement development model which consists of the analysis stage, planning stage, development stage, implementation stage, and evaluation stage can provide guidance for schools or other institutions in starting and running the BYOT moral movement. In implementing the BYOT movement, there needs to be support and cooperation from various parties such as parents, local governments, environmental agencies, and the tumbler industry to make the BYOT movement more effective and sustainable. Thus, the BYOT moral movement can be an effective alternative in reducing the use of plastic drinking containers and promoting the use of tumblers themselves at school and at home. This can have a positive impact on the environment and health if done consistently and sustainably.

Based on the results of the research and discussion that has been carried out, there are several suggestions that can be given for further research, including:

- a. Involve more schools in the study to broaden the scope of the influence of the BYOT moral movement on the neighborhood and surrounding community.
- b. Increase the duration of the study to be longer to monitor the sustainability of the BYOT movement and its effect on the environment.
- c. Conduct follow-up research by measuring the chemical content in drinking water stored in student tumblers, to ensure consumer safety and health.
- d. Further analyze the factors that influence students' acceptance of the BYOT moral movement, such as convenience, ease, and the positive image of using tumblers themselves.
- e. Develop a more effective communication strategy to promote the BYOT movement, both inside and outside the school, by involving various related parties such as environmental agencies and the tumbler industry.

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