

The Effectiveness of Health Education Washing Hands and Choosing Types of Waste at SDN 13 Rambang

Efektivitas Edukasi Kesehatan Cuci Tangan Pakai Sabun dan Pemilihan Jenis Sampah di SDN 13 Rambang

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Abstract:

Health education activities are one of the promotive and preventive efforts in instilling the values of clean and healthy living behavior (CHLB) from an early age. In the context of implementing the community service program, an educational activity with the theme "Ayo Bersih, Ayo Sehat" was carried out at SDN 13 Rambang on May 26, 2025. The target of the activity was 44 students in grades 4 to 6 who were given learning through Participatory Learning and Action approach. The main focus of this activity is the introduction and direct practice of Washing Hands with Soap (HWWS) and sorting types of waste as part of healthy and environmentally friendly behavior. Students are given an explanation of the material using leaflets and demonstrations then invited to practice the six steps of HWWS using a decorative bucket facility specially designed for this activity. The HWWS song is also used to help students remember the stages of washing their hands more easily. In addition, an understanding of the types of waste is conveyed through interactive sticker map media, which makes it easier for students to classify organic, inorganic, and B3 waste. The results of the activity show that creative and interactive educational methods can improve students' knowledge and skills in maintaining personal and environmental hygiene. The high enthusiasm of students and the accuracy in practice indicate that learning involving visual media and direct activities is more effective in forming healthy behavior. Therefore, similar activities can be an applicable health education model in other elementary school environments.

Keywords:

Clean and Healthy Living Behaviors; Handwashing with Soap; Health Education

Abstrak:

Kegiatan edukasi kesehatan merupakan salah satu upaya promotif dan preventif dalam menanamkan nilai-nilai perilaku hidup bersih dan sehat (PHBS) sejak usia dini. Dalam rangka pelaksanaan program pengabdian masyarakat, dilakukan kegiatan edukasi bertema "Ayo Bersih, Ayo Sehat" di SDN 13 Rambang pada tanggal 26 Mei 2025. Sasaran kegiatan adalah 44 siswa kelas 4 hingga 6 yang diberikan pembelajaran melalui pendekatan pembelajaran dan praktik partisipatif (*Participatory Learning and Action*). Fokus utama dari kegiatan ini adalah pengenalan dan praktik langsung mengenai Cuci Tangan Pakai Sabun (CTPS) serta pemilihan jenis sampah sebagai bagian dari perilaku sehat dan ramah lingkungan. Siswa diberikan penjelasan materi dengan media leaflet dan demonstrasi kemudian diajak untuk mempraktikkan enam langkah CTPS menggunakan fasilitas ember hias yang dirancang khusus untuk kegiatan ini. Lagu CTPS turut digunakan untuk membantu siswa mengingat tahapan mencuci tangan dengan lebih mudah. Selain itu, pemahaman mengenai jenis-jenis sampah disampaikan melalui media peta stiker interaktif, yang memudahkan siswa dalam mengklasifikasikan sampah organik, anorganik, dan B3. Hasil kegiatan menunjukkan bahwa metode edukasi yang kreatif dan interaktif mampu meningkatkan pengetahuan serta keterampilan siswa dalam menjaga kebersihan diri dan lingkungan. Antusiasme siswa yang tinggi serta ketepatan dalam praktik menunjukkan bahwa pembelajaran yang melibatkan media visual dan aktivitas langsung lebih efektif dalam membentuk perilaku sehat. Oleh karena itu, kegiatan serupa dapat menjadi model edukasi kesehatan yang aplikatif di lingkungan sekolah dasar lainnya.

Kata Kunci:

Cuci Tangan Pakai Sabun; Edukasi Kesehatan; Perilaku Hidup Bersih dan Sehat

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INTRODUCTION

An elementary school is a formal educational institution that all children in Indonesia must attend for 6 years. Schools need to create a healthy environment for students. A clean, safe, and comfortable school environment has a great influence on the health and well-being of students and teachers. In addition to being places to learn, schools can foster healthy living habits, as students spend more time at school than at home. To help students live healthy lives and improve their health degrees, schools need to provide adequate sanitation facilities. That way, students can get used to having Clean and Healthy Living Behaviors (CHLB) while at school (Lay et al., 2024). Awareness of personal hygiene and the environment is the main problem of health behavior in elementary school-age children. Usually, children at elementary school age do not apply the habit of washing hands with soap and do not throw garbage in its place. The impact of these two habits can trigger dangerous infectious diseases (Nur Afrina A et al., 2023). Other impacts that can arise are digestive disorders such as diarrhea and low immunity (Biisnilla, et al., 2024).

The pattern of implementing clean and healthy living is a form of behavior based on awareness as a form of learning so that individuals can help themselves both in health problems and participate in realizing a healthy society in their environment. Clean and Healthy Living Behavior (CHLB) is a series of actions and habits that aim to change people's behavior from unhealthy to healthy behavior (Sulistiyani, et al., 2020). These healthy behavior changes can reduce the risk of disease and improve quality of life.

CHLB is an important foundation in the education of elementary school-age children. One of the main aspects of CHLB is the practice of Handwashing with Soap (HWWS). In addition, to support environmental health behavior, waste management can be carried out through sorting by type. These two behaviors are preventive and educational, and can shape children's character to care about personal hygiene and the environment. Although the government has encouraged healthy school programs, in reality the implementation of HWWS and waste sorting in many schools is still not optimal, especially in rural areas. This happens because there is still a lack of student knowledge and less supportive facilities in the school environment.

Research by Putri and Kusuma (2022) shows that demonstration-based education methods have a significant influence on improving the knowledge of elementary school students in HWWS practice. Hands-on practice-based learning helps students understand handwashing steps correctly and form new habits through repetition. Action-based education is more effective than just delivering theory. This is in line with the findings of Wulandari and Hidayat (2020), which show an increase in the knowledge and attitudes of elementary school students after being educated through educational video media with the theme of hand hygiene.

In the aspect of waste sorting, waste is divided into organic and inorganic waste. Organic waste comes from food or plant scraps that can be decomposed, while inorganic waste comes from non-natural materials such as plastic or metal that are difficult to decompose. According to

Lestari and Ramadhan (2021), education on the interactive sorting of the two types of basic waste in elementary schools significantly increases students' understanding and forms habits that can be applied in daily life. It can also contribute to a decrease in the volume of unmanaged mixed waste. This education is important because many students do not understand the difference between organic and inorganic waste.

Educational games and practice simulations have also proven to be effective media for delivering health and environmental materials to elementary school-age children. Yusuf (2024) in his study developed educational methods based on quiz games and hands-on practice for waste sorting materials and recorded a significant increase in student involvement during learning. Rahmawati (2023) also showed that game media such as Monotrash Latto-latto has succeeded in significantly increasing students' knowledge and practice of organic and inorganic waste sorting in elementary schools ($p < 0.05$).

Based on initial observations made by PBL students at SDN 13 Rambang, Negeri Agung Village, Rambang District, Muara Enim Regency, it was found that hygiene facilities such as hand washing stations are indeed available, but they are no longer functioning and the water system has been damaged, then soap is not always provided and there is no habit of washing hands correctly and regularly by students. On the other hand, waste management in schools has also not implemented a sorting system. Although there are already bins for some types of waste, there is still a habit of making all types of waste in one place without organic and inorganic classification, which shows the need for direct educational interventions.

This service activity aims to increase knowledge and change students' behavior in conducting HWWS and sorting waste according to its type. The hands-on and visual approach is expected to strengthen understanding and form new habits. In addition, this activity also plays a role in supporting healthy school programs and environment-based character education, in line with the spirit of Adiwiyata and the Environmental Care Movement in elementary schools. Through simple habits such as washing hands and sorting garbage, it is hoped that students will become pioneers in healthy lifestyle changes in their respective school and household environments.

METHODS

Community service was carried out at SD Negeri 13 Rambang starting with the submission of a permit to carry out activities to the school and an interview with the Principal to obtain initial data such as the number of students in grades IV, V, and VI at SDN 13 Rambang. Then, observe the school environment to find out the condition of the garbage can and handwashing facilities. On the same day, the service team conducted an internal discussion aimed at conveying the program plan, determining the implementation time, the location of the activity and the human resources involved, as well as the media that will be used during the activity.

The target of the activity is students in grades IV, V, and VI, with a total of 44 people. The educational program is carried out in the form of interactive lectures, handwashing

demonstrations, waste sorting simulation practices, and quiz games. The delivery of material is adjusted to the age and level of understanding of students, and is designed to be fun and participatory. The implementation of the activity was carried out on May 26, 2025 using a *participatory learning and practice approach (Participatory Learning and Action)* which includes providing materials, demonstrations, and independent practices.

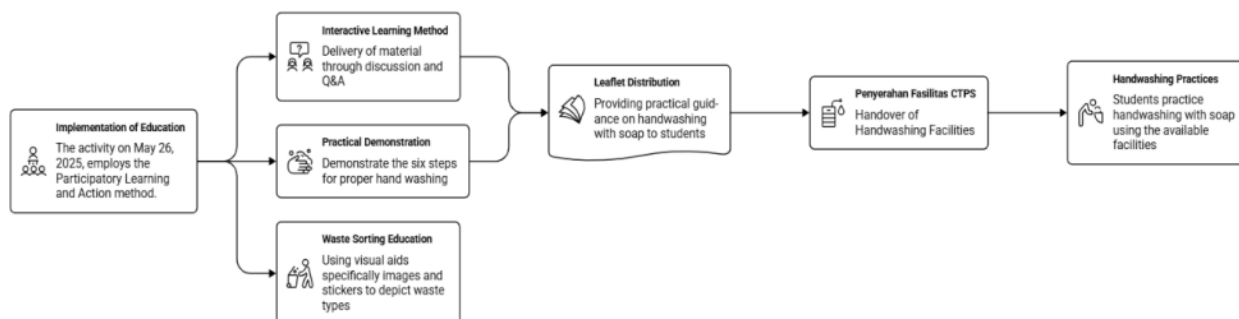


Figure 1. Overview of the activity process

Education was provided to students of SD Negeri 13 Rambang about the importance of Hand Washing with Soap (HWWS) and the sorting of organic and inorganic waste. Education on Clean and Healthy Living Behavior (CHLB), with a focus on Washing Hands with Soap (HWWS) activities regarding the six steps of proper hand washing. The delivery of material is carried out through interactive lectures that combine instruction with question-and-answer sessions and discussions, encouraging students not only to passively receive information but also to actively engage in the learning process. Students become more enthusiastic, dare to ask questions, give answers, and are able to convey the results of their understanding in front of their peers (Fatmawati & Rozin, 2018). Meanwhile, demonstration in learning is an approach used to convey material by directly showing students a process, condition, or object related to the topic being studied, either in its original form or through models or imitations (Setiawan, 2022). As an educational medium, the team distributed leaflets containing practical guidelines for HWWS that are easy for students to understand. In addition, the team also handed over a simple HWWS facility in the form of a faucet bucket that students can use as a means of washing their hands in the school environment that has been prepared after the delivery of education given on May 31, 2025. After providing materials and demonstrations related to the 6 steps of proper hand washing, students can have the opportunity to practice proper hand washing with soap with the facilities available. Education related to waste sorting is delivered through visual media in the form of images of green and yellow garbage cans pasted on cardboard, stickers with pictures of types of waste, and leaflets containing informative materials about the types of organic and inorganic waste.

The indicator of the success of this activity is shown through changes in the level of knowledge of students through post-tests after being given education. Where before the activity starts, students are assessed first on their level of knowledge with a pre-test. Then at the end

of the activity, the level of knowledge was reassessed with a post-test to see if there was a difference in the level of knowledge before and after the activity so that the effectiveness of the community service method carried out could be seen. In addition, success is also reflected in the ability of students to practice organic and inorganic waste sorting independently and in accordance with the material that has been given.

RESULTS AND DISCUSSION

Phase 1: Environmental Observation of SDN 13 Rambang

1. Handwashing Facilities with Soap (HWWS)

Based on the results of observations, the HWWS facilities at SDN 13 Rambang are still inadequate and have several obstacles. The school has several sink points scattered in strategic areas, such as in front of the classroom and around the teacher's room. However, his physical condition showed a lot of damage. Some faucets no longer work properly, some even don't run water at all because the water lines are damaged. In addition, the availability of soap as an inseparable part of handwashing activities cannot be provided continuously. In most of the observed sinks, neither liquid soap nor bar soap was found that could be used by students.

The effect of the above conditions is that students have difficulty washing their hands properly and regularly, especially after playing, before eating, or after using the toilet. This can be seen when observations are made at school. The lack of proper facilities has an impact on students' habits that tend to ignore the practice of handwashing which should be an important part of the formation of clean and healthy living behaviors (CHLB).

The availability of supporting facilities such as handwashing facilities with soap is an important factor in forming hygienic habits in the school environment. A person's behavior is influenced by three main factors, namely predisposition, enabling factors, and reinforcing factors. In this context, damaged HWWS facilities and the continuous unavailability of soap are obstacles to supporting factors, so even though students have knowledge of the importance of handwashing, they are unable to carry it out properly due to limited facilities (Admaise, et.al., 2022). This condition has an impact on the low practice of CHLB among students. Health behaviors are determined not only by knowledge, but also by the availability of adequate facilities and environmental support. Therefore, improving HWWS facilities and providing soap in a sustainable manner is a strategic step to ensure that the habituation of clean and healthy living behaviors can be realized consistently in schools (Simiyu, et.al., 2025).



Figure 2. Condition of the Early School Sink

2. Waste Sorting

SDN 13 Rambang has started implementing waste sorting by providing garbage cans for organic and inorganic categories. Trash cans were found at several points such as in front of the classroom and near the teacher's room. However, its implementation in the field is still not fully effective.

One of the obstacles is the use of colors and markings that do not meet the standards. For example, organic garbage cans, which should be green, are actually blue or red, so it confuses students in recognizing the type of waste that should be disposed of according to the color group. The written label is also unavailable or has faded, so the sorting function does not work properly.

In addition, based on observations in the area behind the school building, it was found that there was an improper garbage dump. In this location, various types of waste seem to accumulate and are not managed properly, ranging from leaf litter, snack plastic, to waste paper. This condition creates a slum impression and has the potential to become a nest of insects and a source of unpleasant odors.



Figure 3. Garbage Pile at SD Negeri 13 Rambang

3. Students' Behavior Towards Cleanliness

In general, the behavior of SDN 13 Rambang students in maintaining the cleanliness of the school environment still needs to be improved. The results of observations show that students' awareness of the importance of personal and environmental hygiene has not been consistent, even though the school has provided several supporting facilities.

When it comes to handwashing, most students are not used to washing their hands regularly, especially after playing or before eating. This is exacerbated by the condition of several sinks that are damaged or do not drain water, as well as the unavailability of soap, so that the habit of washing hands cannot be done properly. Some students were observed to only rinse their hands without soap, some even ate directly without washing their hands at all.

Regarding waste disposal, student behavior is still quite diverse. Although organic and inorganic bins are available at some point, students do not all understand the difference in the types of waste, coupled with bins that do not match standard colors and without clear labels. This causes some students to throw garbage carelessly, or mix all types of garbage into one place.

Stage 2: Health Education "Let's Clean, Let's Be Healthy"

The health education activity with the theme "Let's Clean, Let's Be Healthy" was held on Monday, May 26, 2025, at 09.30–11.30 WIB at SDN 13 Rambang, involving 44 students in grades 4 to 6 as targets. This activity aims to improve students' understanding and skills related to clean and healthy living behaviors, through two main focuses: the practice of Washing Hands with Soap (HWWS) and sorting types of waste. The methods used include interactive lectures, demonstrations, and independent practice. The material is delivered with the help of visual media such as *leaflets*, educational songs, and aids that attract students' attention.



Figure 4. Implementation of "Let's Clean Let's Be Healthy" Educational Activity

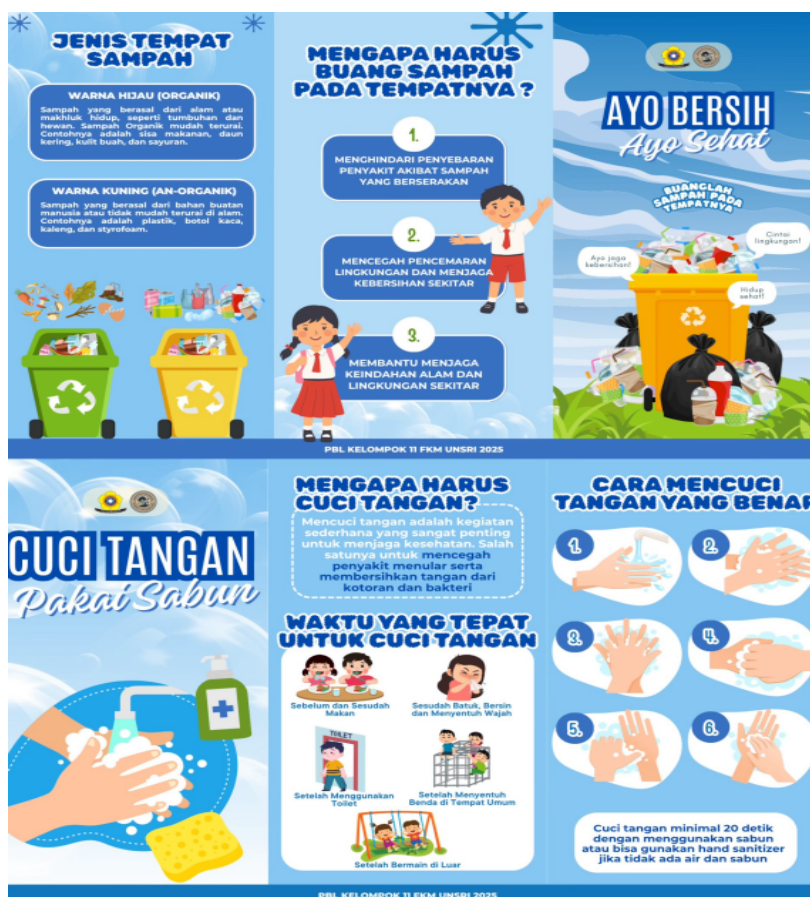


Figure 5. Media Leaflet

The leaflet is used as an educational medium in the "Let's Clean Let's Be Healthy" activity to make it easier to deliver health information to elementary school students. This media was chosen because it is concise, attractive, easy to carry, and able to improve children's understanding and memory. The material presented included the importance of hand washing with soap (HWWS) and waste sorting. The HWWS education includes important times to wash hands, its benefits in preventing infectious diseases, and the stages of proper hand washing according to standards. Meanwhile, waste sorting education is delivered based on the type of waste bin, namely organic (green color) and inorganic (yellow color), as an effort to instill awareness of cleanliness and environmental sustainability from an early age. Delivery through leaflets is expected to form clean and healthy living behaviors in children.



Figure 6. Hand Wash Sink with Decorative Bucket & HWWS Practice

Figure 6. show students when doing HWWS practice using HWWS decorative bucket facilities prepared by the service team. This bucket is specially designed with attractive decorations and features a simple tap so that students can practice the six steps of handwashing directly. This handwashing media is made from used buckets that are reused into useful handwashing media. Community service carried out based on waste utilization becomes a new product that is useful by utilizing creativity and awareness of the environment.

After the explanation of the material and joint demonstration, students practiced in groups and continued individually. HWWS songs are used as an auxiliary medium to remember the sequence of steps in a fun way. Songs are chosen as a medium because they can be easily remembered by children and are easy to apply in their delivery. The enthusiasm of the students is seen to be high, shown by active involvement and accuracy in following the stages of HWWS.



Figure 7. Sticker Media for Waste Sorting Education

Figure 7 shows student activities when using interactive sticker map media as a means of education for sorting waste types. This media is designed by the service team to make it easier for students to recognize the categories of organic waste and inorganic waste. After the presentation of the material, students were invited to attach pictorial stickers to the appropriate garbage box. This approach sparks discussion between students and strengthens understanding through hands-on experience. The use of visual stickers also speeds up the identification process and builds waste sorting habits from an early age.

The use of creative media such as HWWS decorative buckets and interactive stickers for waste sorting is in line with the theory of experiential learning where students gain a deeper understanding through hands-on practice and reflection on experiences (Wei, 2026). Visual media and real practices are able to increase knowledge retention compared to lecture methods alone. This is evident from the students' enthusiasm when practicing the six steps of HWWS with the help of songs as a memory booster, as well as active involvement in waste sorting activities using illustrated stickers. In addition, this participatory approach supports the theory of *Participatory Learning and Action* (PLA) which emphasizes the active involvement of participants in the learning process to build critical awareness and new habits (Lori, et.al., 2025). Thus, the

use of waste as a creative educational medium not only supports the formation of clean and healthy living behaviors, but also fosters environmental awareness from an early age through fun and meaningful learning experiences.

Pre-Test and Post-Test

To find out the extent of elementary school students' understanding of handwashing behavior with soap (HWWS) and waste sorting, initial knowledge measurement was carried out through *pre-tests* before counseling and *post-tests* after counseling. This method aims to evaluate the effectiveness of the educational materials provided and measure the improvement of students' knowledge as an indicator of understanding of the material presented.

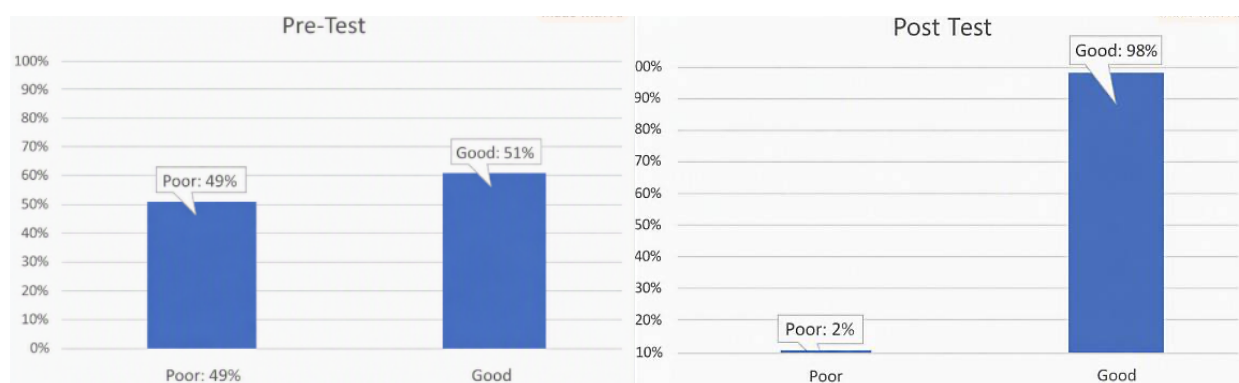


Figure 8. Graph of Student Pre-test and Post-test Assessment Results

Based on Figure 8. It can be seen that there is an increase in student knowledge between before and after being given education about washing hands using soap and sorting types of waste. From the results of the *pre-test* assessment, 49% of students are classified as "Poor", while 51% of students are in the "Good" category. This can be seen from some students still not being able to correctly answer questions related to waste sorting and washing hands with soap. The "Not Good" category in the *pre-test* assessment can be interpreted as students not being able to distinguish between types of waste, such as organic waste and inorganic waste, and not understanding the stages of washing hands with soap properly.

After being educated about washing hands with soap and sorting waste types through visual media in the form of *leaflets*, educational songs, *mapping stickers*, and independent practice, the *post-test* results showed an excellent increase in knowledge. The post-test results show that 98% of students have reached the "Good" category, and only 2% of students are still in the "Poor" category. This shows that the education provided has succeeded in increasing students' knowledge about washing hands with soap and sorting waste types. Students begin to know the stages of washing their hands with soap and can distinguish between types of organic and inorganic waste.

Table 1. Distribution of Respondents Based on SDN 13 Rambang Students' Answers

No.	Questions	Pre-Test Answers				Post-Test Answers			
		True		False		True		False	
		Total	(%)	Total	(%)	Total	(%)	Total	(%)
1	When is the right time to wash your hands?	42	97,7	1	2,3	43	100,0	0	0,0
2	Why should we wash our hands with soap?	43	100,0	0	0,0	43	100,0	0	0,0
3	What to use when washing hands if there is no soap and water?	40	93,0	3	7,0	41	95,3	2	4,7
4	How many stages are there to wash hands properly?	4	9,3	39	90,7	43	100,0	0	0,0
5	What is the minimum length of good hand washing?	18	41,9	25	58,1	43	100,0	0	0,0
6	What color is the organic waste bin?	27	62,8	16	37,2	41	95,3	2	4,7
7	What is the color of an inorganic waste bin?	11	25,6	32	74,4	42	97,7	1	2,3
8	What are examples of organic waste?	20	46,5	23	53,5	39	90,7	4	9,3
9	What is an example of inorganic waste?	23	53,5	20	46,5	40	93,0	3	7,0
10	Why should we dispose of garbage in its place?	42	97,7	1	2,3	43	100,0	0	0,0

Source: Handwashing with Soap (HWWS) and Waste Selection Questionnaire at SDN 13 Rambang

Based on Table 1, the most-answered question "correctly" in the *pre-test* and *post-test* is question number 2: "Why do we have to wash our hands with soap?" A total of 43 respondents with a percentage of 100% answered correctly in the *pre-test* and also *post-test*. Meanwhile, the most answered question "wrong" in the *pre-test* was question number 4 with the question "How many stages are there on how to wash hands correctly?", 39 respondents (90.7%) answered "wrong". However, all respondents were able to correctly answer questions from question number 4 in the *post-test*. Table 1 shows that there is a difference between knowledge before and after education. There is an increase in knowledge that can be seen from the number of students who answered correctly on the *post-test*. The average respondent has understood related to education on washing hands using soap and sorting types of waste.

Supporting and Inhibiting Factors

The HWWS educational activities and waste sorting at SD Negeri 13 Rambang have several factors that support the smooth and successful implementation. One of the main supporting factors is the active involvement of students in grades 4 to 6 of elementary school as the target of activities. A total of 44 students showed enthusiasm in participating in education, especially in a discussion session about the importance of HWWS and how to sort waste correctly. This shows that the educational approach used is on target and in accordance with the level of cognitive development of students. In addition, the material presented is also easy to understand and relevant to students' daily lives. Support from the school that provides a place for activities

and allows students to gather and participate in educational activities together is also an important aspect that facilitates activities.

On the other hand, the implementation of activities also faces several challenges that are inhibiting factors. One of the main obstacles is the lack of educational media for HWWS leaflets. The insufficient number of *leaflets* makes the distribution of information uneven to all participants. In addition, the unavailability of running water at the activity site is also an obstacle in the field.

Another obstacle that arises is the interference of students in grades 1 to 3 who are not included in the target of the activity. They tend to play or make noise outside of outdoor activities. This shows the need for venue arrangements or further coordination with the school so that activities can run conductively. In addition, there are still difficulties from some students in distinguishing organic and non-organic waste. This shows that even though the material has been delivered, there are still parts that need to be repeated or explained with a more contextual and visual approach to make it easier for students to understand.

CONCLUSIONS AND SUGGESTIONS

The health education activity with the theme "Let's Clean, Let's Be Healthy" carried out at SDN 13 Rambang is a tangible form of a community service program that aims to instill the values of Clean and Healthy Living Behavior (CHLB) from an early age, especially through the habit of Washing Hands with Soap (HWWS) and waste sorting. Through an educational and participatory approach, this activity has succeeded in making a positive contribution to improving students' knowledge and skills in implementing clean living behaviors and caring for the environment. Based on the results of the pre-test and post-test given to 44 students in grades IV to VI, it was found that there was a significant increase in the level of knowledge before and after the activity.

This activity also reflects the importance of the Participatory Learning and Action *approach* method which includes providing materials, demonstrations, and independent practice to be able to build a deeper understanding through real experiences. The high enthusiasm of the students, the active involvement during the practice, and the improvement in the post-test results show that the method is more effective than the theoretical delivery of the material alone. However, the implementation of activities also encountered several obstacles that should be considered in planning similar programs in the future.

Experiential-based education and creative media are able to reach students in a more effective and fun way. This program is also in line with the government's long-term goal of realizing healthy schools through the application of CHLB principles and supporting the Adiwiyata movement as an effort to preserve the environment in the basic education environment.

It is recommended that schools provide supporting facilities such as handwashing stations and segregated waste bins—and foster habits of clean, healthy living through daily routines and

teacher role modeling. Schools should also engage parents through outreach and joint activities, while ensuring program sustainability through regular monitoring, curriculum integration, and collaboration with community health centers or external partners, thereby helping ensure that clean and healthy living practices are consistently maintained both at school and at home.

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