Improving Clean and Healthy Living Behavior Through Project Based Learning (Sorting Waste) in Group B Children of Pembina Mambi Kindergarten, Mamasa Regency

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ABSTRACT

This research is a classroom action research (CAR) that aims to improve children's clean and healthy living behavior (PHBS) through the implementation of project learning (sorting waste). The research subjects were 20 children in group B of Pembina Mambi Kindergarten, Mamasa Regency. The research was conducted from May to June 2023 and was carried out in two cycles, each cycle consisting of planning, action implementation, observation, and reflection stages. Each cycle was carried out in three meetings with PHBS indicators including washing hands, sorting waste, and making crafts from waste, according to the Indonesian Ministry of Education and Culture Regulation Number 146 of 2014. The results showed that in Cycle I the average achievement of children's PHBS was 46.62% with the category of Starting to Develop (MB), so it did not meet the success criteria. After learning improvements were made in Cycle II, the average achievement increased to 75.93% with the category of Developing According to Expectations (BSH), consisting of 55% of children in the BSH category and 45% of children in the category of Developing Very Well (BSB). Thus, it can be concluded that the implementation of waste sorting project learning is effective in improving children's clean and healthy living behavior in the school environment.

Keywords:*Clean and Healthy Living Behavior; Project Learning; Waste Sorting*

INTRODUCTION

Early Childhood Education (PAUD) is the most fundamental education because a child's future development is largely determined by various meaningful stimulations provided from an early age (Azriyani Mutalib et al., 2023). Early childhood, namely children aged 0-6 years, where this period is the golden age for children for more rapid and fundamental growth and development in the early years of life, is given stimulation for the child's subsequent development process (Latief & Hijrah, 2022). Therefore, learning that involves real-life activities is very important to shape positive attitudes and behaviors in children, including clean and healthy living behaviors.

Health is a crucial indicator of human resource development (Hondor Saragih, 2025). Healthy individuals have a better ability to engage in activities, be productive, and contribute to development. Clean and Healthy Living Behavior (PHBS) is a manifestation of a healthy lifestyle within the culture of individuals, families, and communities, aimed at improving, maintaining, and protecting physical, mental, spiritual, and social health (Ivonne Ruth Situmeang et al., 2024).

Clean and Healthy Living Behavior (PHBS) is one of the important aspects that need to be instilled from an early age because it plays a role in forming healthy living habits for children in the future (Maharwati & Dinatha, 2023). Early childhood is a developmental period that shows the fastest process of other age periods, that is why it is often called the golden age or the most valuable period to be stimulated and receive attention to instill educational values. This period is the time when personality develops optimally, behavior, emotional self, behavior, attitude and emotional expression (Tahirah et al., 2024) Early childhood is at a very effective time to instill positive values, attitudes, and behavior through habituation and direct experience in the school environment, especially kindergarten, through planned and meaningful learning.

One form of implementing PHBS in the school environment is through environmental education, specifically waste sorting activities (Kartika et al., 2025). Waste sorting is the activity of distinguishing waste based on its type, such as organic and inorganic waste (Simbolon, 2024). This activity not only trains children to maintain environmental cleanliness but also Cultivating a caring attitude towards the surrounding environment. By cultivating the habit of sorting waste, children can understand the impact of waste on health and the environment and learn to be responsible for the cleanliness of their classrooms and school environment.

Habituation begins with the guidance of adults, especially teachers, because child development takes place through social interaction and adult guidance (scaffolding), as explained in the theory of Social Constructivism by Lev Vygotsky (Lestari et al., 2024).

Based on initial observations conducted by researchers in August 2022 at Pembina Mambi Kindergarten in Mamasa Regency, West Sulawesi Province, for five days, it was found that most students were not accustomed to disposing of trash properly. This was evident during recess, when children finished eating their lunch, food waste was simply thrown around them, both in the classroom and in the

schoolyard, even though trash cans were provided. Interviews with one of the teachers indicated that this behavior was common among grade B children and was caused by the children's habit of being accompanied by their parents during the learning process, resulting in children habitually placing trash carelessly, assuming their parents would clean it up. Furthermore, the lack of activities to promote clean and healthy living habits in the school environment also contributed to this problem, as the learning provided was still theoretical and instructional without directly involving children in practical activities. Consequently, children lacked interest and did not yet understand the importance of clean and healthy living behaviors.

One alternative solution to address these issues is the implementation of the Project-Based Learning model. Project-Based Learning (PBL) is a learning model that places projects at the core of the learning process. In PBL, students learn through active involvement in investigating meaningful and contextual problems or questions. The learning process focuses not only on delivering material but also encourages students to construct knowledge through direct experience, exploration, and the creation of tangible products or works as learning outcomes (Zhang et al., 2021).

*Project Based Learning*has several key characteristics, including student-centered learning, starting from challenging problems or questions, and involving an in-depth investigation process. PBL provides opportunities for students to learn independently and collaboratively, integrating various skills, and

Produce authentic products. Through this process, students not only gain knowledge but also develop critical thinking skills, problem-solving skills, and responsibility for their learning (Zhang et al., 2021).

*Project Based Learning*This can be done in various ways, one of which is through waste sorting. Waste sorting is the activity of separating waste based on its type, such as organic and inorganic waste, to facilitate management, processing, and maintain environmental cleanliness and health (Sukmaniar et al., 2023).

Waste sorting activities for Project Based Learning (PBL) in Early Childhood Education (PAUD) are learning activities that actively involve children in recognizing, differentiating, and classifying waste based on its type, such as organic and inorganic waste, through simple, contextual projects. These activities

are designed for children to learn through direct experience, collaboration, and producing tangible works or results, such as colored trash bins or a classroom cleanliness corner, thereby fostering clean and healthy living habits from an early age.

The Project-Based Learning (PBL) model emphasizes active student involvement in completing a real-life project. In early childhood education, PBL enables children to learn through hands-on experience, collaborate with peers, and solve simple problems encountered in everyday life (Zulkarnaen et al., 2023). This model is highly suitable for kindergarten because it can enhance children's activeness, creativity, and social skills through fun and meaningful activities.

The implementation of the Project-Based Learning model through waste sorting activities can be an effective strategy for improving clean and healthy living behaviors in Group B kindergarten children. Through waste sorting projects, children not only gain theoretical knowledge but also directly practice clean and healthy living behaviors in their daily lives. This activity encourages children to get used to disposing of and sorting waste properly, working together in groups, and taking responsibility for environmental cleanliness (Triananda, 2024). Thus, project-based learning can form positive habits and increase children's awareness of the importance of clean and healthy living from an early age.

Based on several descriptions that have been presented above, it is deemed necessary to conduct research with the title Improving Clean and Healthy Living Behavior through the Project Based Learning Model (Sorting Waste) in Group B Children of Pembina Mambi Kindergarten, Mamasa Regency.

RESEARCH METHODS

The type of research used was Classroom Action Research (CAR), which was described descriptively using qualitative and quantitative methods. The researcher decided to use this research method because CAR is a type of research that describes both the process and the results, conducted in the classroom to improve the quality of learning (Rangkuti, 2019).

Classroom Action Research (CAR) is implemented through a cyclical and iterative process, aimed at improving and enhancing the quality of classroom learning. Each cycle in CAR consists of four main stages: planning, action, observation, and reflection (Syaifuddin, 2021).

RESULTS AND DISCUSSION

This research was conducted at Pembina Mambi Kindergarten, Mamasa Regency, from May to June 2023. The classroom action research was conducted in two cycles, each consisting of three meetings, using project-based learning through waste sorting activities to improve children's clean and healthy living behaviors (PHBS). The PHBS indicators developed included handwashing, waste sorting, and making crafts from waste, in accordance with the Indonesian Minister of Education and Culture Regulation Number 146 of 2014.

Table 1.1 Summary of Observation Results for Cycle I: Improving Clean and Healthy Living Behavior in the School Environment Through Project Learning (Sorting Waste)

No.	Criteria	Number of children	Percentage
1.	Not Yet Developed	-	0%
2.	Starting to Grow	16	80%
3.	Developing as Expected	4	20%
4.	Developing Very Well	-	0%
Amount		20	100%

In Cycle I, conducted from May 18–20, 2023, research results showed that the implementation of project-based learning began to have a positive impact on children's clean and healthy living behaviors. The average PHBS achievement of children reached 46.62%, with 16 children (80%) in the "Starting to Develop" (MB) category, with 4 children (20%) in the "MB" category.

Developing According to Expectations (BSH) category. Although the children showed enthusiasm in participating in the activities, the results of Cycle I did not meet the established success indicators, so improvements are needed in the next cycle.

Table 1.2 Summary of Observation Results for Cycle II: Improving Clean and Healthy Living Behavior in the School Environment Through Project Learning (Sorting Waste)

No.	Criteria	Number of children	Percentage
1.	Not Yet Developed	-	0%
2.	Starting to Grow	-	0%
3.	Developing as Expected	11	55%
4.	Developing Very Well	9	45%
Amount		20	100%

Furthermore, Cycle II was implemented on May 26–27 and June 2, 2023 with improvements to learning strategies based on reflections on Cycle I. The results of the study in Cycle II showed a significant increase, with an average achievement of children's PHBS of 75.93% and in the category of Developing According to Expectations (BSH). A total of 11 children (55%) achieved the BSH category and 9 children (45%) achieved the category of Developing Very Well (BSB). These results indicate that the waste sorting project learning is effective in improving children's clean and healthy living behavior in the school environment and has met the research success criteria.

CONCLUSION

The implementation of project learning through waste sorting activities that are adjusted to the indicators of clean and healthy living behavior according to the Indonesian Minister of Education and Culture Regulation Number 146 of 2014, namely washing hands, sorting waste, and making crafts from waste, has proven effective in improving children's clean and healthy living behavior in the school environment. The results of the study showed that in Cycle I most children were in the Starting to Develop (MB) category with an achievement percentage of 46.62%, so they did not meet the success criteria. However, after improvements were made in Cycle II, there was a significant increase with an achievement of 75.93%, where all children had reached the Developing According to Expectations (BSH) and Very Good Development (BSB) categories. In addition, teacher performance during the learning process was in the very good category. Thus, project learning of waste sorting can improve the clean and healthy living behavior of group B children at Pembina Mambi Kindergarten, Mamasa Regency.

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