

Exploring Pupils' Awareness on Waste Management and Segregation: A Phenomenological Study at Patunhay-Calahán Elementary School

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Abstract

This phenomenological study examines the waste management practices and knowledge of Patunhay-Calahán Elementary School children. With a focus on disposal, recycling, and segregation, the study aims to explore how students perceive and manage trash at home and at school. Purposive sampling was used to interview thirty first- through sixth-grade students in order to gain a better understanding of their experiences and challenges. The findings demonstrated that even while the majority of students recognize the importance of rubbish management in protecting the environment and their community, their practices are not always reliable. Among the primary problems identified are the lack of household waste segregation procedures, inadequate garbage disposal facilities, and forgetfulness caused by occasional reminders. The study emphasizes how schools can enhance their instruction on waste management by collaborating with parents, providing enough facilities, and incorporating trash management into everyday classroom activities. These strategies are essential for promoting regular waste management among students and increasing their knowledge of environmental issues.

Keywords: Waste Management, Pupils, Segregation, Recycling, Disposal, Environmental Awareness, Challenges, School Practices, Home Practices, Phenomenological Study.

Introduction

Improper solid waste management remains one of the pressing environmental concerns in the Philippines, contributing significantly to pollution, environmental degradation, and public health risks. In response to this challenge, the Philippine government enacted Republic Act No. 9003, otherwise known as the Ecological Solid Waste Management Act of 2000, which mandates proper waste segregation, recycling, composting, and environmentally sound disposal practices at the household, institutional, and community levels. The law also assigns local government units and educational institutions a vital role in promoting environmental awareness and encouraging responsible waste management practices among citizens. Complementing this mandate, the Department of Education issued DepEd Order No. 5, s. 2014, which institutionalizes the integration of *Gulayan sa Paaralan*, Solid Waste Management, and Tree Planting under the National Greening Program. The policy emphasizes environmental education through school-based initiatives that develop learners' knowledge, attitudes, and sustainable environmental practices.

Schools serve as important venues for cultivating environmental stewardship since learners develop habits and values that influence their future behavior. However, despite existing national policies and school-based environmental programs, improper waste segregation and disposal practices continue to be observed in many educational institutions. Upon assuming leadership at Patunhay-Calahán Elementary School, the researcher observed that waste generated within the school premises was commonly disposed of without proper segregation, indicating gaps in students' awareness and actual implementation of waste management practices. This situation reflects the continuing challenge of translating environmental policies into consistent daily behaviors among learners and highlights the need to understand students' lived experiences regarding waste management.

Previous studies consistently demonstrate that students' awareness significantly influences their waste management behaviors. Panganiban-Santos and Pastrana (2021) reported that students with higher levels of environmental awareness were more likely to practice proper waste segregation and recycling. Likewise, Molina and Catan (2021) found that although senior high school students possessed adequate knowledge of solid waste management concepts, their understanding of environmental laws and consistent recycling practices remained limited. Similarly, Diestro (2022) established that awareness positively influenced waste management practices but emphasized the need for strengthened environmental education, particularly in recycling and waste reduction initiatives.

Studies further reveal that although students generally demonstrate positive attitudes toward environmental conservation, gaps remain between awareness and actual practice. Taypin et al. (2024) found that elementary pupils exhibited high environmental awareness and satisfactory waste segregation practices, attributing these outcomes to school-based

environmental programs. However, Japus et al. (2023) observed that while students expressed favorable attitudes toward waste segregation, participation in recycling, composting, and other advanced waste management activities remained relatively low. Research likewise indicates that schools, parents, and digital media significantly shape students' environmental awareness, with social media emerging as one of the most influential sources of environmental information among learners (Bote et al., 2023; Molina & Catan, 2021). These findings suggest that while awareness initiatives have been effective in improving students' environmental knowledge, sustained experiential learning and school-based interventions remain necessary to transform awareness into consistent environmental practices.

Despite the growing body of literature on solid waste management awareness, limited qualitative studies have explored the lived experiences of elementary pupils regarding waste segregation within their own school environments. Most previous investigations have relied on quantitative approaches that measure awareness and practices but provide limited understanding of how learners perceive, experience, and apply waste management concepts in their daily school life. Addressing this gap, the present phenomenological study explores the lived experiences of pupils of Patunhay-Calahan Elementary School concerning waste management and segregation. By examining their perceptions, experiences, and practices, the study seeks to provide contextual insights that may guide the development of more responsive, school-based environmental education and waste management programs. Ultimately, the findings are expected to contribute to the effective implementation of Republic Act No. 9003 and DepEd Order No. 5, s. 2014 while strengthening environmental stewardship among young learners and promoting sustainable practices within the school community.

Material and methods

2.1 Research Design

This study employed a qualitative phenomenological research design to explore and understand the lived experiences, perceptions, and awareness of pupils regarding waste management and segregation at Patunhay-Calahan Elementary School, allowing the researcher to identify common themes from their experiences.

2.2 Locale of the Study

The study was conducted at Patunhay-Calahan Elementary School, where the researcher observed gaps in pupils' waste segregation practices despite the implementation of environmental programs, making it an appropriate setting for the investigation.

2.3 Respondents of the Study

The respondents of the study were thirty (30) pupils from Grades 1 to 6 of Patunhay-Calahan Elementary School, with five participants representing each grade level.

2.4 Sample and Sampling Procedure

The study utilized purposive sampling to select thirty pupils who had relevant experiences and active participation in the school's waste management activities, ensuring that they could provide meaningful information about the phenomenon being studied.

2.5 Research Instrument

The researcher used a researcher-made semi-structured interview guide containing open-ended questions designed to gather in-depth information about the pupils' experiences, perceptions, and challenges related to waste management and segregation.

2.6 Data Gathering Procedure

After securing permission from the school and obtaining the necessary consent from participants and their parents or guardians, the researcher conducted individual semi-structured interviews, recorded the responses with permission, and transcribed them verbatim for analysis.

2.7 Data Analysis Techniques

The collected data were analyzed using thematic analysis, wherein interview transcripts were coded, categorized, and organized into themes that reflected the pupils' common experiences, perceptions, and challenges regarding waste management and segregation.

2.8 Ethical Considerations

The study strictly adhered to established ethical standards in conducting research involving human participants. Participation in the study was entirely voluntary, and respondents were fully informed about the objectives, procedures, potential benefits, and their rights before providing informed consent. Respondents were assured that their identities, responses, and company information would remain confidential and would be used solely for academic purposes. Personal

identifiers were excluded during data analysis and presentation of results to preserve anonymity. Participants were also informed of their right to decline participation or withdraw from the study at any stage without penalty. All collected data were securely stored and accessed only by the researchers, ensuring compliance with ethical principles of confidentiality, privacy, integrity, and responsible research conduct.

3. Results and Discussion

3.1 Pupils Experiences With Waste Management Practices, Such As Segregation, Recycling, And Disposal

Based on the interviews conducted, the researcher identified and organized the participants' responses into central themes. For Research Question 1, which explored how pupils at Patunhay-Calahan Elementary School describe their experiences with waste management practices, the findings revealed inconsistent waste segregation, limited participation in recycling, and proper waste disposal mainly during organized school activities. Pupils shared that they practiced waste segregation only when reminded, indicating that it has not yet become a regular habit. Similarly, recycling was generally limited to school programs and special activities rather than being integrated into their daily routines. In contrast, pupils demonstrated proper waste disposal during school events when clear guidance and supervision were provided. Overall, the findings suggest that although pupils possess basic knowledge of waste management, consistent implementation remains a challenge. These results highlight the need for continuous environmental education, regular reinforcement, and school-based activities that encourage waste segregation, recycling, and proper waste disposal as part of pupils' everyday practices both in school and at home.

Table 1.1

Pupils Experiences With Waste Management Practices, Such As Segregation, Recycling, And Disposal

Theme	Responses	Implications
Inconsistent Practice of Segregation	"Hindi kami laging nags-segregate, minsan lang kapag pinapaalalahanan kami." (We don't always segregate, only sometimes when we are reminded.)	This shows that waste segregation is not yet a consistent practice for students. Schools should implement regular reminders and activities that reinforce segregation practices.
Limited Engagement in Recycling	"Wala kami masyadong ginagawa sa pag-recycle, pero tuwing may activity, doon lang kami nags-recycle." (We don't do much recycling, but we do it during activities.)	Limited recycling practices indicate that students only engage in recycling when it is part of an event. Schools should integrate recycling practices into daily routines.
Proper Disposal in School Activities	"Tuwing may event sa school, tinitiyak namin na tinatapon ang basura sa tamang lugar." (During school events, we make sure to dispose of waste in the proper place.)	Proper disposal is practiced during school events, suggesting that students follow waste management procedures when guided. Schools should promote this behavior in daily school activities.

3.2 Pupils Perceptions As The Importance of Waste Management In Their Daily Lives, Both At School And At Home

Based on the interviews conducted, the researcher identified and organized the participants' responses into central themes. For Research Question 2, which explored pupils' perceptions of the importance of waste management in their daily lives at school and at home, the findings revealed three key themes: environmental awareness, personal responsibility, and the influence of home practices. Pupils recognized that proper waste management helps protect the environment and reduce pollution, demonstrating an understanding of its ecological benefits. They also viewed proper waste disposal as a personal responsibility that contributes to the cleanliness and well-being of their community. However, many pupils reported difficulties in consistently practicing waste segregation because such practices were not regularly observed at home. Overall, the findings indicate that while pupils appreciate the importance of waste management, consistent implementation is influenced by both school and family environments. These results emphasize the need for continuous environmental education, strengthened school-based initiatives, and greater parental involvement to reinforce proper waste management practices both at school and at home.

Table 2

Pupils Perceptions As The Importance of Waste Management In Their Daily Lives, Both At School And At Home

Theme	Responses	Implications
Environmental Impact Awareness	"Mahalaga ang waste management kasi nakakatulong ito sa kalikasan at hindi magdudulot ng polusyon." (Waste management is important because it helps the environment and prevents pollution.)	The students recognize the environmental benefits of waste management. This awareness can be strengthened by further emphasizing the ecological impact of proper waste management practices.

Personal Responsibility	“Iniisip ko na kung magtapon kami ng basura sa tamang lugar, nakakatulong kami sa ating komunidad.” (I think that if we throw waste in the right place, we help our community.)	Students view waste management as a personal responsibility. Reinforcing this sense of responsibility can encourage them to be more active participants in waste management at home and school.
Challenges at Home	“Sa bahay, hindi kami sanay mag-segregate ng basura, kaya parang mahirap din gawin sa school.” (At home, we are not used to segregating waste, so it feels hard to do it in school too.)	The lack of waste segregation at home hinders the students’ ability to practice it effectively at school. Schools could help by working with parents to encourage consistent practices at home.

3.3 Challenges Or Barriers Pupils Encounter In Practicing Proper Waste Management, And How Do They Make Sense Of These Challenges

Based on the interviews conducted, the researcher identified and organized the participants' responses into central themes. For Research Question 3, which explored the challenges or barriers that pupils encounter in practicing proper waste management, the findings revealed three major themes: lack of waste management habits at home, inadequate waste disposal facilities, and forgetfulness or inconsistency in following proper practices. Pupils shared that the absence of waste segregation routines at home made it difficult for them to consistently practice proper waste management at school. They also reported that limited availability of appropriate waste bins hindered proper segregation and disposal. Furthermore, although pupils understood the importance of waste management, they admitted that they often forgot to segregate waste, especially without regular reminders. Overall, the findings indicate that environmental conditions at home and school, together with inconsistent reinforcement, influence pupils' waste management behaviors. These results underscore the importance of strengthening home-school collaboration, improving waste disposal facilities, and integrating regular reminders and environmental activities into the school's daily routine to encourage consistent waste management practices.

Table 3

Challenges Or Barriers Pupils Encounter In Practicing Proper Waste Management, And How Do They Make Sense Of These Challenges

Theme	Responses	Implications
Lack of Habits at Home	“Sa bahay, hindi kami nasanay mag-segregate, kaya hirap din kaming gawin sa school.” (At home, we are not used to segregating, so it’s hard to do it in school too.)	The lack of home-based practices is a significant barrier. Schools should partner with parents to create consistent waste management routines at home and at school.
Inadequate Waste Disposal Facilities	“Wala kaming mga basurahan sa tamang lugar sa bahay, kaya hindi namin alam kung saan itatapon ang iba’t ibang basura.” (We don’t have proper bins at home, so we don’t know where to throw different kinds of waste.)	Insufficient waste disposal facilities at home and school affect pupils ability to practice waste segregation. Improving facilities and creating awareness about them can help.
Forgetfulness and Inconsistency	“Minsan nakakalimutan namin mag-segregate, lalo na pag hindi kami pinapaalalahanan.” (Sometimes we forget to segregate, especially when we’re not reminded.)	Forgetfulness and lack of reminders create inconsistency in waste management practices. Schools can address this by integrating waste management into daily routines and regular reminders.

3.4 Dissemination and Advocacy Plans

Project 3Rs (Reduce, Reuse, Recycle) – Basura Mo, Palit School Supplies

Objective: The advocacy aims to strengthen proper waste management practices among pupils of Patunhay-Calahan Elementary School by promoting the principles of Reduce, Reuse, and Recycle (3Rs). Through the *Basura Mo, Palit School Supplies* initiative, pupils are encouraged to exchange recyclable materials for school supplies, fostering environmental responsibility while reinforcing proper waste segregation and recycling habits.

Advocacy Strategies: The project will be implemented through school-wide information campaigns using posters, announcements, parent orientations, and social media to increase awareness of proper waste management. A school launch activity featuring interactive waste segregation and recycling activities will introduce the initiative and encourage pupil participation. The school will also coordinate with the Municipal Environment and Natural Resources Office (MENRO) and the DepEd District Office for project documentation, acknowledgment, and technical support.

To sustain the advocacy, environmental workshops and school-based activities will be conducted to strengthen pupils' knowledge and participation in waste management. Partnerships with local government agencies and environmental organizations will provide additional educational support and resources. Continuous monitoring, feedback, and integration of waste management activities into regular school programs will ensure the long-term sustainability and effectiveness of the initiative.

Conclusions & Recommendations

The study concluded that pupils of Patunhay-Calahan Elementary School possess a basic understanding of proper waste management and recognize its importance in protecting the environment and promoting community cleanliness. However, the findings revealed that waste segregation, recycling, and proper waste disposal are not consistently practiced due to limited reinforcement at home, inadequate waste disposal facilities, and forgetfulness. Although pupils demonstrate positive attitudes toward environmental responsibility, there remains a gap between awareness and the consistent application of proper waste management practices. These findings emphasize that environmental education alone is insufficient without continuous practice, supportive school environments, and active participation from families and the community.

Based on these findings, it is recommended that the school strengthen its waste management program by integrating waste segregation and recycling into daily school routines, providing adequate waste disposal facilities, and implementing regular environmental education activities. The proposed Project 3Rs (Reduce, Reuse, Recycle): Basura Mo, Palit School Supplies may be adopted to encourage active pupil participation and reinforce sustainable waste management practices. Furthermore, stronger collaboration among the school, parents, the Municipal Environment and Natural Resources Office (MENRO), and the DepEd District Office is encouraged to promote consistent waste management practices at home and in school. Future researchers may conduct similar studies in other schools using larger samples or different qualitative approaches to further enrich the understanding of pupils' waste management experiences.

Compliance with ethical standards

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