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TEACHERS AND LEARNERS' GOOD PRACTICES ON ECOLOGICAL SOLID WASTE MANAGEMENT: BASIS FOR SUSTAINABLE PROGRAM

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ABSTRACT

This qualitative study examined the good practices of teachers and learners on ecological solid waste management as a basis for developing a sustainable program at Aurora Araneta Memorial Elementary School, District of Dueñas, for the Academic Year 2025–2026. Employing a phenomenological design, data were accumulated during in-depth interviews and interpreted using thematic analysis. The findings revealed that teachers practiced promoting the 3Rs (Reduce, Reuse, Recycle), implementing proper waste segregation and facility management, reinforcing responsibility in waste education, and encouraging the active participation of both learners and the community. On the other hand, learners demonstrated positive practices such as appropriate waste segregation, composting, and recycling. Teachers faced challenges like improper waste disposal and low student retention, while learners cited lack of awareness and discipline. These results serve as a foundation for developing a sustainable school waste management program that encourages environmental consciousness and fosters active involvement.

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Keywords: *Teachers, Learners, Good Practices, Ecological Solid Waste Management, Sustainable Program*

INTRODUCTION

Improper solid waste disposal continued to represent an urgent environmental issue in many parts of the world, particularly in developing countries. This issue was largely attributed to rapid population growth, expanding urbanization, and evolving consumption patterns, all of which contributed to a considerable increase in waste production.

Poor waste management can lead to environmental damage, pose health risks to the community, and undermine long-term sustainability.

Moreover, insufficient understanding and limited engagement from the community further exacerbated the problem of improper solid waste management. As noted by Debrah et al. (2021), effective solid waste management required both technological interventions and educational initiatives. Therefore, education emerged as a viable means of ensuring that individuals and organizations assumed responsibility for protecting the environment for future generations.

Environmental mindset, behavior and, practices about solid waste disposal are shaped through formal education. Formal education provides children with environmental education at school that affects how they behave and make decisions in their day-to-day lives. Although Debrah et al. (2021) stated that students from developing countries have a high level of environmental awareness and positive environmental attitudes, this does not always equate

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to good and effective waste management practices. A significant reason for this discrepancy is that teachers have limited practical experience and training in environmental sustainability. For this reason, developing the capacity of teachers to provide practical and relevant environmental education is a priority for ensuring that there are equipped to translate their classroom learning into everyday situations.

Educational institutions play an important role in implementing and promoting ecological solid waste management programs. They provide an environment where children can learn and develop values important to their development. As educators, teachers will be the examples to which students look to develop environmentally responsible actions; students also become part of the solution to the problem of sustainability. The study by Prisco and Cubillas (2022) shows how elementary schools that integrate solid waste management concepts into the curriculum perform better and get more stakeholders involved with the program. Furthermore, the study indicates that the collaboration between school personnel and stakeholders is key to successfully implementing solid waste management programs. School-based programs must be designed sustainably and structurally to overcome the barriers created by resource limitations and inconsistent practice enforcement.

In addition to the learners' awareness and practices, the success of a campus-level ecological solid waste disposal program also depends on how effectively it is implemented by both teachers and learners. Based on the study conducted by Usman et al. (2025), senior high school students have demonstrated moderate awareness and positive attitudes toward waste management with respect to waste reduction and reuse practices. However, there are still

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many gaps in the knowledge of school intervention and school waste management policy that demonstrate that learners need a more integrated and consistent environmental education.

Hence, this study seeks to examine the effective strategies adopted by educators and students in handling solid waste ecologically and to design a sustainable, school-based program that fosters environmental responsibility and encourages lasting ecological practices within the school community.

MATERIALS AND METHODS

Research Methodology

This chapter described the research methodology, including the design, participants, data collection, instruments, and analysis. It aimed to identify effective teacher and learner practices in ecological solid waste management to guide a sustainable program at Aurora Araneta Memorial Elementary School for the 2025–2026 school year.

Research Method

This study adopted a qualitative approach, utilizing a descriptive research method and conducting in-depth interviews. The descriptive method allowed for systematic observation and documentation of variables and conditions associated with a particular phenomenon without altering them. Its primary objective was to provide a detailed account of characteristics, patterns, and relationships within a specific population or context (Singh, 2023).

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The researcher and participants maintained a comfortable setting while discussing questions on the topic. The purpose was to gather the participants' key perspectives and insights on the issue, capturing their views within a social context through their responses.

Research Design

This study used a phenomenological research design, a qualitative approach focused on understanding how individuals experience and interpret events, emphasizing their unique perspectives rather than commonly held views. It focused on capturing individuals' lived experiences and personal interpretations.

This approach was typically implemented through interviews, allowing researchers to gather participants' insights and reflections, and was widely used in disciplines such as psychology, sociology, and social work. McLeod (2024) explained that phenomenology in qualitative research sought to explore the significance of lived experiences from the perspective of individuals. Rather than testing hypotheses or generalizing findings, it aimed to reveal the depth of personal experience and, in doing so, challenged conventional ideas by discovering how people viewed their realities and attempted to make sense of them. In this way, researchers were able to derive meaningful insights into the motivations, actions, and perceptions of subjects in specific contexts.

Participants of the Study

The participants in this study comprised six teachers, including five permanents and one Local School Board (LSB) teacher, along with six selected learners from Aurora Araneta Memorial Elementary School, District of Dueñas, for the 2025–2026 academic year. The

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teacher participants served as subject teachers and class advisers who incorporated sustainability into the teaching-learning process, led environmental clubs as part of the school program, and were responsible for waste management activities. The learner participants ranged from Grade 1 to Grade 6 and participated in recycling schemes, segregation programs, and school cleaning activities. This group was structured to maintain a balance between teachers and learners, as it was important to explore how these participants collaborated to integrate sustainability into the school's educational program.

Sampling Design

The study employed a purposive sampling design. As cited by Campbell et al. (2020), purposive sampling was defined as a technique for selecting participants who met specific criteria and were most likely to provide relevant and useful information for the study. Purposive sampling, also known as judgmental sampling, involved selecting participants who were information-rich and best suited to provide detailed insights pertinent to the research questions (Etikan et al., 2021).

Research Instrument

The primary research instrument was an interview questionnaire developed by the researcher. The questionnaire was divided into two sections: the personal profile and the main set of questions. The second section contained questions tailored for both teachers and learners, with two questions for each group, all designed to address the study's objectives.

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The researcher conducted the interviews directly with the participants. Additionally, with the participants' consent, voice and video recordings were utilized to collect and document the data.

Validity of the Research Instrument

The researcher first had the interview questionnaire reviewed by the thesis adviser and the Dean for validation, and it was then evaluated by a panel of experts.

Validity referred to the accuracy, relevance, and usefulness of the inferences drawn by the researcher, ensuring that the instrument effectively measured the intended constructs (Creswell & Creswell, 2022).

All feedback and recommendations from the panel of validators were carefully reviewed and considered using the evaluation form adapted from Good and Scates (Appendix A).

Data Gathering Procedures

The researcher secured the required approvals from the thesis adviser, the Dean of the Graduate School, the Schools Division Superintendent, the District Supervisor, the School Head, and the participants to ensure proper authorization for the study.

The participants were approached during their free time to request their cooperation in answering the interview questions. The researcher guaranteed the participants that their responses would remain strictly confidential.

The participants were briefed on the purpose of the interview, and additional questions were asked as necessary to obtain more detailed information.

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Participants signed a consent form granting permission to join the study. Data were collected through in-person, in-depth interviews.

During these sessions, voice and video recordings were used with the participants' consent to ensure accurate documentation of their responses. All data collected from the interviews were then compiled and prepared for analysis.

Data Analysis

The data collected from the participants were analyzed using a thematic approach. This method systematically identified, examined, and presented recurring patterns or themes within the qualitative data. According to Kiger and Varpio (2020), thematic analysis was widely regarded as one of the most commonly used, yet often misunderstood, approaches to qualitative data analysis. It provided a framework for organizing data and identifying patterns while allowing researchers the flexibility to explore participants' experiences from different perspectives. Through its systematic process, thematic analysis enabled a meaningful exploration of the participants' lived experiences (Kiger & Varpio, 2020).

RESULTS AND DISCUSSIONS

The study examined the good practices of teachers and learners in implementing sustainable ecological solid waste management as a basis for developing a sustainable program at Aurora Araneta Memorial Elementary School, District of Dueñas for the academic year 2025–2026.

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The study utilized a qualitative research approach, employing in-depth interviews as the primary data collection method. It adopted a narrative approach and utilized thematic analysis for data interpretation.

The participants consisted of six teachers, five of whom were permanent and one Local School Board (LSB) teacher, along with selected learners from Aurora Araneta Memorial Elementary School, District of Dueñas.

The researcher prepared research questionnaires that were validated by experts. The interviews were conducted during the participants' vacant time. Formal letters were submitted personally and through email to the school heads for approval and for the selection of participants for the interviews.

The researcher visited the school and conducted the in-depth interview. Voice recorder and notes were used for data gathering and photo documentation upon the permission of the participants.

The researcher compiled all data collected from the series of interviews. The participants' narratives were then transcribed, analyzed, and interpreted using a thematic approach.

The findings of the study are as follows:

Based on the responses from the in-depth interviews, teachers demonstrated diverse good practices in sustainable ecological solid waste management, which can serve as a foundation for developing a sustainable program that promotes effective and relevant educational and environmental initiatives. These practices include promoting the 3Rs (Reduce,

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Reuse, Recycle), implementing proper waste segregation and facility management, strengthening waste education responsibility, and encouraging the active participation of learners and the community.

Similarly, based on the learners' responses, their good practices in implementing sustainable ecological solid waste management include proper waste segregation, as well as the use of composting and recycling.

During the in-depth interview, it was revealed that teachers faced challenges in implementing sustainable ecological solid waste management, particularly in improper waste management practices and low student retention.

Likewise, the interviews showed that learners encountered challenges such as limited awareness and knowledge, as well as a lack of discipline in implementing sustainable ecological solid waste management.

Based on the findings, the following insights were gathered:

Teachers shows a range of meaningful practices in sustainable ESWM, which serve as a strong foundation for developing programs that support effective and relevant educational and environmental initiatives. Their efforts in promoting the 3Rs (Reduce, Reuse, Recycle), implementing proper waste segregation and facility management, strengthening waste education responsibility, and encouraging the active participation of learners and the community reflect a holistic and integrated approach to environmental management in the school.

These practices show not only their commitment to environmental sustainability but

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also their role in facilitating behavioral change, value formation, and community involvement. Overall, teachers are not just implementers of waste management activities but key contributors in building a sustainable school culture, where environmental responsibility is integrated into teaching, daily routines, and community partnerships, providing a strong basis for long-term, school-based sustainable ecological programs.

Learners exhibit diverse and meaningful practices in sustainable ecological solid waste management, which can serve as a strong basis for developing programs that promote proper waste disposal within the school environment. Their experiences in practicing proper waste segregation and participating in composting and recycling activities show a growing awareness of environmental responsibility and the application of ecological principles in their daily school routines.

These practices indicate that learners are not just passive recipients of environmental programs but active contributors to sustainable initiatives, playing a role in supporting effective waste management systems. Collectively, these experiences suggest that learners have the potential to become key agents of sustainability, and when supported by structured programs, continuous education, and guidance, their existing good practices can be strengthened and institutionalized to foster long-term environmental responsibility and sustainable waste management behavior.

Teachers' challenges indicate gaps between existing environmental initiatives and their consistent application in daily school routines. Improper waste segregation reflects not only behavioral inconsistencies among learners but also limitations in monitoring systems and

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reinforcement mechanisms, while poor retention suggests that ecological concepts and practices are not yet fully internalized as long-term habits and values. Collectively, these challenges highlight the need for structured interventions that emphasize continuous environmental education, consistent supervision, behavioral reinforcement, and value formation, ensuring that sustainable waste management practices are not merely introduced but effectively sustained within the school environment.

While ecological practices may be present within the school environment, they are not yet fully understood nor consistently practiced by learners. The limited awareness and knowledge reflect gaps in environmental education and information dissemination, while the lack of discipline points to difficulties in translating knowledge into responsible and habitual behavior. Together, these challenges highlight the need for integrative interventions that combine continuous environmental education, values formation, behavioral guidance, and accountability mechanisms to ensure that learners not only understand sustainable ecological practices but also consistently apply them in their daily school activities.

Conclusion

Schools should institutionalize and strengthen teachers' existing good practices by developing a comprehensive, school-wide sustainable ecological solid waste management program that integrates environmental education into the curriculum, daily routines, and school policies. Teachers should be formally supported through continuous capacity-building programs, provision of adequate facilities, and administrative backing to ensure consistency and sustainability of implementation. Furthermore, structured systems for learner

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participation, community involvement, and monitoring mechanisms should be established to reinforce behavioral change and value formation. By merging these practices into formal school programs and policies, schools can turn teachers' initiatives into long-term and sustainable systems that promote ecological responsibility, proper waste management, and a strong culture of environmental stewardship within both the school and the wider community.

Schools should develop structured, learner-centered sustainability programs that actively nurture and strengthen students' existing good practices in waste segregation, composting, and recycling. Continuous environmental education should be integrated into both curricular and co-curricular activities to deepen learners' understanding and reinforce responsible behavior. Schools should also establish student leadership structures, such as eco-clubs and peer-led initiatives, to empower learners as sustainability advocates and role models. By providing consistent guidance, institutional support, and participatory opportunities, learners' positive practices can be transformed into long-term habits and values, enabling them to become enduring agents of environmental stewardship and contributors to sustainable ecological solid waste management within the school and the wider community.

Schools should implement structured and systematic interventions that strengthen both behavioral consistency and learning retention in sustainable ecological solid waste management. This includes establishing clear and standardized waste segregation systems, strengthening monitoring and supervision mechanisms, and integrating continuous environmental education into daily teaching practices. Reinforcement strategies such as regular feedback, recognition programs, and behavior-based incentives should be introduced

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to encourage consistent compliance and positive habits among learners. Moreover, value formation activities and experiential learning approaches should be institutionalized to ensure that ecological concepts are not only taught but internalized, enabling sustainable waste management practices to be consistently applied and sustained within the school environment.

There is a need for integrative interventions that combine continuous environmental education, values formation, behavioral guidance, and accountability mechanisms to ensure that learners not only understand sustainable ecological practices but also consistently apply them in their daily school activities.

To ensure the implementation of a sustainable ecological solid waste management program, schools are encouraged to adopt an integrated, whole-school approach that combines policy formulation, environmental education, proper infrastructure, and community involvement. School administrators should institutionalize the program through clear guidelines, policies, and implementation frameworks, supported by sufficient facilities such as waste segregation systems, composting areas, and recycling stations. Continuous training for teachers, active involvement of learners through student organizations, and regular monitoring and evaluation should also be implemented to promote accountability and ensure the program's long-term sustainability. In addition, strong partnerships with parents, local government units, and community stakeholders should be developed to extend the program beyond the school environment.

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For future researchers, it is recommended that further studies on sustainable ecological solid waste management programs adopt broader, deeper, and more integrative research approaches to strengthen the development and implementation of sustainable programs. Future studies may examine the long-term effects of school-based sustainability programs on learners' behavior, value formation, and environmental attitudes using longitudinal research designs.

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