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IMPLEMENTATION OF THE GULAYAN SA PAARALAN AND TEACHERS' PERCEPTION IN MALNUTRITION REDUCTION

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ABSTRACT

The purpose of this study was to examine the implementation of the Gulayan sa Paaralan Program and teachers' perceptions of its role in reducing malnutrition among public elementary school learners. A descriptive–correlational research design employing a quantitative approach was utilized. The respondents consisted of 86 public elementary school teachers from selected schools in the Division of Davao de Oro, selected through purposive criterion-based sampling due to their direct involvement in the program. Data were collected using a structured, researcher-adapted survey questionnaire and analyzed using mean and standard deviation, Pearson product–moment correlation and multiple regression analysis. Findings revealed that the level of implementation of the Gulayan sa Paaralan Program and teacher involvement were generally high. A statistically significant relationship was found between program implementation and malnutrition reduction. Among the indicators, level of program implementation emerged as the sole significant predictor of malnutrition reduction. The results affirmed the importance of consistent and well-structured school-based gardening programs in improving learner nutrition and health outcomes, while underscoring the role of implementation fidelity in maximizing program impact.

INDEX TERMS: *Gulayan sa Paaralan Program, program implementation, teacher involvement, malnutrition reduction, students' health status, students' nutritional status*

INTRODUCTION

Globally, malnutrition among school-age learners remains a persistent public health and educational concern that continues to undermine children's physical development, cognitive functioning, and academic performance. International development reports consistently emphasize that hunger and poor nutritional intake weaken learners' concentration, reduce school attendance, and limit long-term human capital formation, particularly in low- and middle-income countries (Alderman & Bundy, 2021).

Internationally, specifically in Afghanistan, prolonged conflict and economic instability have severely disrupted school feeding initiatives, leaving millions of learners vulnerable to food insecurity and undernutrition due to inconsistent funding and interrupted program delivery (World Food Programme, 2025). Likewise, in Ethiopia, children experience inflation, climate-induced food shortages, and armed conflict (Zerfu, 2024). In Indonesia, schools faced constraints in terms of financial sustainability and logistical coordination as well as problem in meal delivery and limited the program's long-term effectiveness in improving learner nutrition (Financial Times, 2025).

Within the Philippines, specifically in Butuan City, it was found that Gulayan sa Paaralan Program faced sustainability challenges such as inadequate funding, insufficient land preparation, delayed planting, and heavy reliance on personal financial contributions (Codilla & Cubillas, 2022). Similarly, in Opol West District, the school faced limited parental involvement, insufficient nutrition education, and weak complementary activities (Agustin & Medalla, 2024).

The continued presence of malnutrition among learners has serious educational and social consequences, including reduced classroom participation, poor health outcomes, and weakened academic achievement, which ultimately compromise learners' long-term development. While DepEd Order No. 26, series of 2017 positions the Gulayan sa Paaralan Program as a key support mechanism for

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school feeding and learner nutrition, the persistence of these challenges raises concerns about the gap between policy intent and actual program outcomes. Notably, existing studies largely focus on implementation challenges or descriptive outcomes, while limited research has empirically examined teachers' perceptions of how the implementation of the Gulayan sa Paaralan Program and related school-based interventions contribute to malnutrition reduction at the local level, hence, this necessitated the conduct of this study.

METHODOLOGY

Method Used

The study employed a descriptive-correlational research design to systematically examine the implementation of the Gulayan sa Paaralan Program and teachers' perceptions of its role in reducing malnutrition among learners. This design was appropriate because it allowed the researcher to describe existing conditions related to program implementation and teacher involvement while simultaneously assessing perceived health and nutritional outcomes without manipulating variables (Jakstas et al., 2023).

The correlational component of the design was used to determine whether significant relationships existed between the level of program implementation, teacher involvement, and teachers' perceptions of malnutrition reduction. This approach enabled the identification of meaningful associations and key predictors that may influence perceived improvements in students' health and nutritional status.

Sources of Data

The primary data sources for this study were public elementary school teachers who were directly involved in the implementation of the Gulayan sa Paaralan Program. These respondents were selected because of their firsthand experience in planning, implementing, and supervising school-based gardening activities, which ensured that the data reflected actual ground-level practices.

The study was conducted in the Division of Davao de Oro, Philippines, an area where public schools actively implement the Gulayan sa Paaralan Program as part of the Department of Education's nutrition initiatives. This locale was chosen because of its diverse socio-economic conditions and sustained engagement in school-based gardening programs, providing an appropriate setting for examining program implementation and teachers' perceptions of malnutrition reduction. The geographical and contextual characteristics of Davao de Oro allowed the study to generate localized insights that are relevant for program enhancement, school planning, and policy implementation within similar educational settings.

Data Gathering Instrument

The primary research instrument used in this study was a structured survey questionnaire designed to assess the implementation of the Gulayan sa Paaralan Program and teachers' perception in malnutrition reduction. The questionnaire was researcher-adapted from empirically grounded school nutrition and implementation studies to ensure construct validity, contextual relevance, and alignment with the local public-school setting.

The independent variable, Implementation of the Gulayan sa Paaralan Program, was adapted from the implementation and sustainability framework for school garden programs developed by Codilla and Cubillas (2022), which measured key dimensions such as program implementation practices and teacher involvement. For the present study, the indicators were refined and reorganized to operationalize implementation in terms of level of implementation and teacher involvement, consistent with the objectives and context of the Gulayan sa Paaralan Program.

On the other hand, the dependent variable, Teachers' Perception in Malnutrition Reduction, was adapted from validated teacher-reported nutrition perception instruments used in school-based health research. Specifically, the indicators were informed by the Food and Wellness Questionnaire developed by Henry et al. (2010), which measured teachers' observations of learners' health, nutrition practices, and school food environments using a structured Likert-type scale.

The questionnaire was organized into two major sections: (1) Implementation of the Gulayan sa Paaralan Program and (2) Teachers' Perception in Malnutrition Reduction. Each sub-variable consisted of five clearly defined indicators, allowing respondents to provide systematic assessments based on their professional observations during the School Year 2025–2026. Ethical considerations were observed through the inclusion of a researcher's plea, clear instructions, and a statement emphasizing confidentiality and responsible data use. To facilitate the interpretation of the gathered data, the following mean with its descriptive level were presented:

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Score	Scale	Descriptive Level	Interpretation
5	4.20 – 5.00	Very High	The implementation of *Gulayan sa Paaralan* and the teachers perception on malnutrition reduction are always observed
4	3.40 – 4.19	High	The implementation of *Gulayan sa Paaralan* and School-Based Feeding Program are oftentimes observed
3	2.60 – 3.39	Moderate	The implementation of *Gulayan sa Paaralan* and School-Based Feeding Program are sometimes observed
2	1.80 – 2.59	Low	The implementation of *Gulayan sa Paaralan* and School-Based Feeding Program are seldom observed
1	1.00 – 1.79	Very Low	The implementation of *Gulayan sa Paaralan* and School-Based Feeding Program are never observed

All items were measured using a five-point Likert-type scale, designed to capture the extent of program implementation and perceived nutritional outcomes. The quantified responses provided a sound statistical basis for descriptive analysis, correlational testing, and regression modeling. To establish reliability, a pilot test involving 30 teacher-respondents was conducted prior to the main data collection. Results of the reliability analysis showed that the overall scale for Gulayan sa Paaralan Program Implementation obtained a Cronbach's alpha of 0.91, indicating excellent internal consistency. Its subscales yielded coefficients of 0.88 for level of implementation and 0.90 for teacher involvement, both interpreted as excellent.

Similarly, the overall scale for Teachers' Perception in Malnutrition Reduction registered a Cronbach's alpha of 0.89, indicating good to excellent reliability. The subscales obtained coefficients of 0.87 for students' health status and 0.90 for students' nutritional status, confirming that the indicators consistently measured their intended constructs. According to Pallant (2020) and Creswell (2020), Cronbach's alpha values of 0.70 or higher indicate acceptable reliability, while values exceeding 0.80 signify strong internal consistency. Based on these criteria, the instrument was deemed reliable, stable, and suitable for the main data collection and analysis.

Sampling Technique

The respondents of this study consisted of public elementary school teachers from selected schools in the Division of Davao de Oro who were directly involved in the implementation of the Gulayan sa Paaralan Program. A purposive criterion-based sampling technique was employed to ensure that only teachers with direct knowledge, involvement, and firsthand experience in the program were included. This approach enhanced the validity and relevance of the data, as respondents were able to provide informed assessments of program implementation and its perceived contribution to malnutrition reduction. The use of purposive sampling is appropriate in studies requiring expert-based judgment and context-specific insights (Palinkas et al., 2015).

To determine the adequacy of the sample size, a statistical power analysis using G*Power 3.1 was conducted. This method is widely recommended in quantitative research as it provides an evidence-based approach to establishing sample size sufficiency by considering the probability of detecting a true effect. The analysis was based on the following parameters: a 0.05 level of significance ($\alpha = 0.05$), a moderate effect size ($f^2 = 0.15$) as suggested by Cohen (1988), a statistical power of 0.80 ($1 - \beta = 0.80$), and two predictor variables (level of implementation and teacher involvement) in a multiple regression model. The G*Power computation indicated that a minimum sample size of 68 respondents was required to achieve adequate statistical power.

The final sample consisted of 86 teacher respondents, which exceeded the minimum requirement derived from the power analysis. This indicates that the study achieved sufficient statistical power, thereby reducing the likelihood of committing a Type II error and ensuring that the statistical analyses, particularly correlation and regression, were capable of detecting meaningful relationships among variables. The adequacy of the sample size further strengthens the reliability and robustness of the study's findings.

The selection of respondents was also influenced by practical considerations such as teacher workload, availability, and voluntary participation. Despite these constraints, the obtained sample size remained methodologically sound and appropriate for the descriptive-correlational design of the study. The alignment between the sampling technique and the research objectives ensured that the data gathered were both contextually grounded and analytically reliable.

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To further ensure the reliability and stability of the research instrument, a pilot test involving 30 teachers from outside the actual research locale was conducted. The pilot test allowed for the refinement of the questionnaire and the assessment of internal consistency. Consistent with Pallant (2020), a sample size of 30 respondents is sufficient for preliminary reliability testing, thereby supporting the validity of the instrument prior to full-scale data collection.

Data Gathering Procedure

The data gathering procedures were carried out in compliance with the ethical and research guidelines of The Rizal Memorial Colleges, Inc. and were aligned with the objectives of the study on the implementation of the Gulayan sa Paaralan Program and teachers' perceptions of malnutrition reduction. The researcher ensured that all stages of data collection were conducted systematically, ethically, and transparently, with particular attention to respondent consent, data accuracy, and confidentiality.

Permission to Conduct the Study. Prior to data collection, the researcher secured formal approval from the research adviser, the Dean of The Rizal Memorial Colleges, Inc., and the Schools Division Office of DepEd Davao de Oro through proper administrative channels. A comprehensive research proposal detailing the purpose of the study, research design, respondents, data gathering instrument, and procedures was submitted for review.

After approval and following the colloquium, the researcher coordinated with school heads to facilitate data collection. The teacher-respondents were provided with a clear explanation of the study's purpose, their role as participants, and their rights, including voluntary participation and confidentiality of responses. Informed consent was obtained prior to the distribution of the survey questionnaires.

Collation and Statistical Treatment of Data. After the retrieval of the completed questionnaires, all responses were checked for completeness and accuracy. The data were encoded and organized using Microsoft Excel before being submitted to the statistician assigned to the study for analysis. The statistician utilized the Statistical Package for the Social Sciences (SPSS) to process the data. Descriptive statistics were employed to determine the level of implementation of the Gulayan sa Paaralan Program and teachers' perceptions of malnutrition reduction, while correlational and regression analyses were conducted to examine relationships and identify significant predictors. Data consistency and reliability were carefully monitored to ensure that the results directly addressed the research questions and objectives of the study.

Statistical Treatment

To address the research problems posed in this study, descriptive and inferential statistical tools were employed to analyze and interpret the collected data in a systematic and appropriate manner. All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) by the statistician assigned to the study.

Mean and Standard Deviation. Descriptive statistics, specifically the mean and standard deviation, were used to determine the level of implementation of the Gulayan sa Paaralan Program and the level of teachers' perceptions of malnutrition reduction. These tools were applied to summarize teachers' responses and describe the central tendency and variability of the data for the research questions that focused on program implementation, teacher involvement, students' health status, and students' nutritional status.

Pearson Product–Moment Correlation. To determine whether a significant relationship existed between the implementation of the Gulayan sa Paaralan Program and teachers' perceptions of malnutrition reduction among learners, the Pearson Product–Moment Correlation (Pearson's r) was utilized. This statistical technique measured the strength and direction of the relationship between the independent and dependent variables.

Multiple Regression Analysis. To identify which indicators of the Gulayan sa Paaralan Program significantly predicted teachers' perceptions of malnutrition reduction, Multiple Linear Regression Analysis was employed. This technique enabled the examination of the combined and individual contributions of the independent variables to the dependent variable, providing empirical bases for determining significant predictors of perceived improvements in learners' health and nutritional status.

Ethical Considerations

Ethical considerations were fundamental in ensuring that the research was conducted with integrity, respect for participants, and adherence to established standards. In this study, which explored the impact of school feeding programs on student health and academic performance, it was crucial to prioritize all participants' well-being, privacy, and informed consent. Ethical guidelines were followed to ensure transparency in data collection, protect participants' confidentiality, and avoid harm.

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Social Value. As part of the ethical considerations, the social value of this study was deemed significant. Examining the impact of school feeding programs on student health and academic performance informed potential policy decisions and the improvement of educational practices. The researcher maintained a commitment to ensuring that the research benefited not only the academic community but also the communities involved, particularly students who stood to directly benefit from improved nutrition. This study had the potential to drive positive changes in school programs, thereby contributing to students' well-being and academic success, especially for those from disadvantaged backgrounds.

Informed Consent and Assent. Regarding informed consent, the researcher prioritized adult participants' autonomy by providing clear, comprehensive information about the study's purpose, procedures, and potential risks. Each teacher was informed of their right to participate voluntarily and to withdraw at any time without consequence. Formal written consent was obtained from all respondents, ensuring they fully understood their role and the ethical safeguards in place to protect their confidentiality throughout the research process.

Regarding assent, the researcher recognized the importance of ensuring that participants were fully informed at a level appropriate to their understanding. For any learners or minors involved in discussions, clear and simplified information was provided to both legal guardians and the students themselves. This process ensured that while parents provided legal permission, the students' willingness to cooperate was explicitly sought, respecting their individual agency and ensuring a transparent, ethical environment.

Vulnerability of Research Respondents. The researcher prioritized protecting vulnerable respondents from marginalized backgrounds, addressing potential power imbalances to ensure voluntary participation. Measures such as strict anonymity and a supportive environment were implemented to minimize harm. Safeguarding these participants' rights and well-being remained a central ethical responsibility throughout the entire research process.

Privacy and Confidentiality. Regarding privacy, the researcher ensured that participants had full control over how much they shared of their personal experiences and observations. Data collection was conducted in a manner that respected individual boundaries, ensuring that no intrusive or sensitive information was gathered without the respondent's explicit permission. Participants were fully informed of how their information would be utilized, fostering a transparent environment that respected their personal dignity and autonomy.

To maintain confidentiality, all gathered data was strictly anonymized and securely stored, with access limited only to the researcher. Identifying details were replaced with codes, and findings were reported in aggregate to prevent responses from being traced back to specific individuals. These measures ensured that the participants' identities were protected from public disclosure, thereby upholding the highest ethical standards of data security and professional integrity.

Risk, Benefits and Safety. The researcher identified that the risks associated with this study were minimal, primarily involving the sensitivity of health-related data. To mitigate these concerns, all data were handled with extreme caution to prevent any psychological discomfort or breach of privacy. Participants were explicitly informed of their right to withdraw at any stage without penalty if they felt uneasy. By proactively identifying these potential stressors, the researcher ensured that any risks remained significantly lower than the investigation's potential rewards.

Regarding benefits, the study offered significant value by providing evidence-based insights into the effectiveness of the GPP and SBFP. These findings informed regional educational policies and improved nutritional strategies for disadvantaged students. While the broader academic community benefited from the contribution to existing literature, the participating schools and communities gained a clearer understanding of how to enhance their specific programs. Ultimately, the potential for positive social change and improved student health outcomes far outweighed any minor procedural risks.

To ensure safety, the researcher established a secure and supportive environment for all respondents during data collection. Physical, emotional, and psychological well-being were prioritized by maintaining professional boundaries and providing clear communication channels for any concerns. The systematic approach to distributing and retrieving questionnaires ensured the process was non-intrusive and stress-free. By fostering an atmosphere of trust and respect, the researcher successfully protected the dignity and overall safety of every individual involved in the study.

Justice. The principle of justice was upheld by ensuring that all participants were treated fairly and equitably throughout the research process. The researcher avoided the exploitation or unfair exclusion of any group, deliberately including a diverse range of respondents to accurately reflect the study population. Particular attention was given to students from disadvantaged backgrounds to ensure their perspectives were not overlooked. Furthermore, the researcher committed to making the findings accessible to the participating

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communities, ensuring that the study's benefits reached all stakeholders. This approach ensured that the research was conducted ethically, respecting the dignity and rights of every individual.

Transparency. The researcher maintained a commitment to transparency by being open and honest with all participants regarding the study's purpose, procedures, and potential outcomes. Clear and detailed information was provided to ensure that every respondent fully understood the nature of their involvement, including the methods for data collection, storage, and usage. The researcher was explicit about the participants' role, their absolute right to withdraw at any time, and the specific measures taken to ensure data confidentiality. By upholding these transparent practices, the researcher established a foundation of trust and preserved the overall integrity of the research process.

Qualification of the Researcher. The researcher's qualifications served as an essential ethical consideration, ensuring that the study was conducted with competence and integrity. The researcher brought a strong academic background and relevant experience in educational research, with a focus on health and nutrition in school settings. Having received the necessary training in research methods, ethics, and data analysis, the researcher was equipped to design and implement the study responsibly. Furthermore, a commitment to ongoing professional development ensured adherence to the latest research practices and ethical guidelines. Ultimately, the researcher maintained the highest standards of scientific rigor and ethical responsibility throughout the study.

Conflict of Interest. The researcher maintained a commitment to impartiality and transparency throughout the study. Any potential conflicts of interest that could have influenced the research design, conduct, or outcomes, including personal, professional, or financial relationships, were fully disclosed. The study was carried out in a manner that prioritized the integrity of the research process and the well-being of the participants, remaining free from external pressures or biases. By proactively addressing and disclosing these factors, the researcher ensured the continued credibility and trustworthiness of the research findings.

Adequacy of Facilities. The adequacy of facilities was a crucial ethical consideration to ensure the study was conducted in a safe, supportive, and well-equipped environment. The researcher utilized appropriate facilities that met the necessary standards for data collection, storage, and analysis. This included ensuring that all equipment and resources used throughout the study were functional, up to date, and properly maintained. Furthermore, the researcher ensured that the environment in which participants engaged with the study remained comfortable, safe, and conducive to their well-being, thereby allowing for optimal participation and reliable data collection. By providing a setting that supported the participants' best interests, the researcher successfully upheld the integrity and professional standards of the research process.

Community Involvement. Community involvement served as a key ethical consideration in this study, ensuring that the research was conducted respectfully and in a manner beneficial to local stakeholders. The researcher engaged with the community throughout the research process, ensuring that their voices were heard and their specific needs were considered. This involved collaborating with school administrators, teachers, students, parents, and other community members impacted by the study.

RESULTS AND DISCUSSION

Level of Implementation of Gulayan sa Paaralan

The following table presents the level of implementation of the Gulayan sa Paaralan Program as a multidimensional construct with descriptive findings across key indicators, namely: gardening integration, learner participation, instructional utilization of garden produce, adequacy of resources, and program monitoring and evaluation.

Presented in Table 1 is the level of implementation of the Gulayan sa Paaralan Program, as measured through indicators related to curriculum integration of gardening activities, learner participation, instructional use of garden produce, adequacy of resources, and program monitoring and evaluation. The table reflects an overall mean interpreted as High, indicating that the program is generally well implemented across the schools, with most indicators consistently observed, though the degree of emphasis and execution may vary among specific aspects of implementation..

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Table 1
Level of Implementation

No	Level of Implementation	Mean	SD	Descriptive Level
1	The school garden is regularly integrated into the curriculum across different subjects.	4.22	0.89	Very High
2	Students actively participate in gardening activities throughout the school year.	4.10	0.31	High
3	Teachers consistently incorporate the harvest from the school garden into daily lessons.	4.15	0.68	High
4	The school provides sufficient resources (e.g., gardening tools, space, materials) for the successful implementation of the *Gulayan sa Paaralan* program.	4.13	0.34	High
5	The implementation of the *Gulayan sa Paaralan* program is effectively monitored and evaluated to ensure its success.	4.14	0.77	High
	Mean Average	**4.15**	**0.60**	**High**

Very High (4.20–5.00); High (3.40–4.19); Moderate (2.60–3.39); Low (1.80–2.59); Very Low (1.00–1.79)

Table 1 presents the level of implementation of the Gulayan sa Paaralan Program in terms of gardening with an overall mean of 4.15 and an SD of 0.60, described as High, indicating that the gardening component of the program is implemented to a strong and consistent extent across the selected public elementary schools. This suggests that gardening activities are well integrated into school practices and are actively supported by teachers and school administrators, reflecting institutional commitment to the program's objectives.

Among the indicators, the highest mean was obtained by the school garden is regularly integrated into the curriculum across different subjects with a mean of 4.22 and an SD of 0.89, described as Very High. This reflects the program's emphasis on curriculum integration, where the school garden is used as a learning resource across subject areas to support experiential and contextual learning. The next highest indicator was teachers consistently incorporate the harvest from the school garden into daily lessons with a mean of 4.15 and an SD of 0.68, described as High, indicating that harvested produce is meaningfully utilized to reinforce instruction and nutrition-related concepts.

Following this was the implementation of the Gulayan sa Paaralan Program is effectively monitored and evaluated to ensure its success, which obtained a mean of 4.14 and an SD of 0.77, described as High. The indicator the school provides sufficient resources for the successful implementation of the Gulayan sa Paaralan Program recorded a mean of 4.13 with an SD of 0.34, also described as High. Finally, students actively participate in gardening activities throughout the school year obtained a mean of 4.10 and an SD of 0.31, described as High, suggesting that learner participation is strong, though slightly lower than curriculum integration and instructional use.

The findings suggest that the Gulayan sa Paaralan Program is effectively implemented in terms of gardening, particularly in curriculum integration, instructional utilization of garden produce, and program monitoring. This is consistent with the claim of Holloway et al. (2023), which highlighted that curricular integration and teacher support are critical mechanisms that link school gardening to improved learner well-being and dietary practices. Similarly, Hong and Cho (2025) noted that sustained participation in school garden programs fosters long-term positive attitudes toward healthy food choices among learners.

Level of Teacher Involvement

Presented in Table 2 is the level of teacher involvement in the implementation of the Gulayan sa Paaralan Program, as measured through indicators related to planning and organization of garden activities, engagement of learners in hands-on gardening tasks, provision of training and workshops, collaboration with school staff, and participation in program evaluation and improvement.

It presents the level of teacher involvement in the implementation of the Gulayan sa Paaralan Program with an overall mean of 4.05 and an SD of 0.83, described as High, indicating that teachers are actively and consistently engaged in various aspects of the program. This suggests that teacher participation is a strong supporting factor in the effective implementation of the school gardening initiative, though the intensity of involvement may vary across specific roles and activities.

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Volume: 11 | Issue: 5 | May 2026 - Peer Reviewed Journal

Table 2
Level of Teacher Involvement

No	Teacher Involvment	Mean	SD	Descriptive Level
1	Teachers actively participate in planning and organizing the school garden activities.	4.58	0.91	Very High
2	Teachers regularly engage students in hands-on activities related to the garden.	4.08	0.65	High
3	Teachers are provided with adequate training or workshops to support the implementation of the *Gulayan sa Paaralan* program.	4.16	1.22	High
4	Teachers collaborate with other staff members to ensure the success of the school garden program.	3.74	0.80	High
5	Teachers contribute to the evaluation and improvement of the *Gulayan sa Paaralan* program throughout the school year.	3.66	0.59	High
	Mean Average	**4.05**	**0.83**	**High**

Very High (4.20–5.00); High (3.40–4.19); Moderate (2.60–3.39); Low (1.80–2.59); Very Low (1.00–1.79)

Among the indicators, the highest mean was obtained by teachers actively participate in planning and organizing the school garden activities with a mean of 4.58 and an SD of 0.91, described as Very High. This reflects a strong commitment among teachers to take leadership roles in organizing, coordinating, and sustaining garden-related activities. The next highest indicator was teachers are provided with adequate training or workshops to support the implementation of the Gulayan sa Paaralan Program with a mean of 4.16 and an SD of 1.22, described as High, indicating that capacity-building initiatives are generally available, although the relatively higher variability suggests that access to training may not be uniform across all schools.

Following this was teachers regularly engage students in hands-on activities related to the garden, which obtained a mean of 4.08 and an SD of 0.65, described as High. This suggests that teachers frequently involve learners in experiential gardening activities that reinforce both academic lessons and nutrition awareness. The indicator teachers collaborate with other staff members to ensure the success of the school garden program recorded a mean of 3.74 with an SD of 0.80, also described as High, indicating collaborative efforts among school personnel, albeit with some variation in the extent of teamwork. Finally, teachers contribute to the evaluation and improvement of the Gulayan sa Paaralan Program throughout the school year yielded the lowest mean of 3.66 and an SD of 0.59, described as High, suggesting that while teachers are involved in program evaluation, this aspect receives comparatively less emphasis than planning and implementation.

The findings suggest that teacher involvement plays a central role in sustaining the Gulayan sa Paaralan Program, particularly in planning, organizing, and facilitating learner participation. These results align with Hoover et al. (2021) which emphasized that teacher engagement in school gardening initiatives is essential in overcoming implementation barriers and ensuring the continuity and effectiveness of such programs, while Hsiao (2023) further noted that integrating garden-based learning into classroom instruction enhances learner engagement and reinforces the educational value of school gardening initiatives.

Conclusion and Recommendations

Summary of Findings

The study found that the level of implementation of the Gulayan sa Paaralan Program was generally high, indicating that the program was consistently carried out across the participating schools. Gardening activities were well integrated into school practices, supported by adequate resources, learner participation, and regular monitoring. In terms of teacher involvement, the findings likewise revealed a high level, showing that teachers actively participated in planning, implementation, and facilitation of garden-related and nutrition-support activities, although their involvement varied across specific roles such as program evaluation.

With regard to teachers' perceptions of malnutrition reduction, the results showed favorable outcomes. The level of perceived improvement in students' health status was high, with teachers observing better school attendance, overall health, physical growth, and well-being among learners after program implementation. Similarly, the level of perceived improvement in students' nutritional status was rated very high, indicating noticeable reductions in malnutrition-related indicators, increased energy and physical activity, healthier weight gains, and improved eating habits among students.

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The inferential analysis revealed that there was a statistically significant relationship between the implementation of the Gulayan sa Paaralan Program and teachers' perceptions of malnutrition reduction. Although the strength of the relationship was interpreted as moderately low, the result indicated that better program implementation was associated with greater perceived reductions in malnutrition among learners, leading to the rejection of the null hypothesis.

Finally, the regression analysis showed that among the indicators of the Gulayan sa Paaralan Program, the level of implementation significantly influenced teachers' perceptions of malnutrition reduction. In contrast, teacher involvement, while important for program delivery, did not emerge as a significant independent predictor when analyzed together with program implementation. This finding highlights that the consistency, quality, and fidelity of implementing the Gulayan sa Paaralan Program play a more critical role in achieving perceived improvements in learners' health and nutritional outcomes.

Conclusion

The study concludes that the Gulayan sa Paaralan Program is generally well implemented and is perceived by teachers as an effective school-based intervention in reducing malnutrition among learners. High levels of program implementation and teacher involvement indicate that gardening and nutrition-related activities have been institutionalized within school practices. Teachers observed improvements in learners' health and nutritional status, including better attendance, increased energy levels, reduced malnutrition indicators, and improved eating behaviors, showing the program's positive contribution to learner well-being.

The inferential findings further reveal that program implementation has a statistically significant relationship with and predictive influence on malnutrition reduction, while teacher involvement does not independently predict malnutrition outcomes when implementation quality is considered. These results indicate that consistency, structure, and fidelity of implementation are more influential than individual participation alone, providing partial support for the Human Capital Theory, Maslow's Hierarchy of Needs, and Social-Ecological Theory. While the findings affirm that meeting learners' nutritional needs enhances health and readiness for learning, they also highlight that malnutrition reduction is shaped by broader system-level and contextual factors beyond the school, underscoring the need for integrated, multi-sectoral support to maximize program impact.

Recommendations

The following recommendations are proposed to address the gaps in implementation and strengthen the impact of the Gulayan sa Paaralan Program on malnutrition reduction:

The study recommended that the Department of Education Division Office of Davao de Oro, through its School Governance and Operations Division, establish a more structured and regular monitoring and evaluation system for the Gulayan sa Paaralan Program. School heads and designated program coordinators may be provided with clear implementation benchmarks, monitoring tools, and periodic technical assistance.The DepEd Regional and Division Training Units, in coordination with school heads may conduct targeted professional development programs focusing on nutrition integration, garden-based instruction, and data-guided intervention planning. School heads and local government units, particularly barangay councils and municipal agriculture offices, may strengthen school–community partnerships. Collaboration with parents, local farmers, and health offices can support resource sharing, nutrition education, and household-level reinforcement of healthy eating practices, ensuring that gains achieved through the Gulayan sa Paaralan Program are sustained beyond the school environment.

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