

## Impact of School-Based Feeding Program on Pupils Reading Performance in San Gabriel Elementary School



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**ABSTRACT:** This study examines the impact of a school feeding program on the reading skills of Grade IV pupils. The research hypothesizes that a well-structured and effectively implemented feeding program can enhance pupils' reading performance. Specifically, the study aims to determine how the school feeding program influences the reading performance of Grade IV pupils at San Gabriel Elementary School during the 2022-2023 school year. The study sought to address several key questions: What is the socio-demographic profile of the pupils (age, sex, parents' education, family income, and BMI)? What is the impact level of the school feeding program in terms of physical facilities, fund management, paraphernalia, and food preparation? What is the reading performance of the pupils? Is there a significant relationship between the pupils' socio-demographic profile and the effectiveness of the school feeding program? Lastly, is there a significant relationship between the feeding program's impact and reading performance? The research employs a descriptive-correlational design and involves 32 Grade IV pupils from San Gabriel Elementary School, selected through purposive sampling. Data collection instruments included a modified pupil profile survey and a school feeding program assessment, with responses measured using a 5-point Likert scale. The data were analyzed using frequency, percentage, mean, standard deviation, Biserial Correlation, and Pearson r. Findings reveal that the pupils, all aged 9, consist of an equal number of boys and girls. Most parents had completed high school, and family incomes were typically below 9,000 pesos. Pupils generally had a normal BMI. The school feeding program was found to have an outstanding impact on both nutritional support and reading performance, with a significant correlation between program management and pupils' reading improvement. A significant relationship was also found between the socio-demographic profile and program effectiveness.

**KEYWORDS:** Nutritional impact; school feeding program, management, educational outcome, correlational,

### 1.0 INTRODUCTION

The primary goal of every educational system is to enhance student performance and foster a school environment where all students can receive the best possible education. Quality education is essential for personal growth and future success. However, despite various government initiatives aimed at making education accessible to all, not all students receive a sufficient and well-rounded education. One significant factor contributing to this disparity is poor nutritional status, which is a leading cause of low academic performance and reduced productivity in primary education. Poor nutrition can negatively affect children's physical and cognitive development, especially during their formative years [1]. In response, the Department of Education has implemented curriculum improvements, introduced innovative teaching. On the other hand, School feeding is a multifaceted intervention, and designing effective programs on a national scale requires collaboration, evidence-based strategies, and an impact-driven approach for efficient implementation and long-term results [2]. The Department of Education (DepEd) has been conducting supplementary feeding programs in schools since 1997, initially aimed at addressing short-term hunger in public elementary schools. In 2012, the focus shifted from tackling short-term hunger to addressing the more critical issue of undernutrition. The School-Based Feeding Program (SBFP) now primarily aims to rehabilitate severely malnourished children and improve their classroom attendance, while also promoting the overall health and behavior of students [3]. While numerous studies have explored the relationship between nutritional status and academic performance, there is a significant gap in the specific context of school-based feeding programs and their direct impact on reading performance among elementary school pupils. Previous research has established that proper nutrition is essential for cognitive development and educational achievement [1,4]. However, studies focusing on the effectiveness of these feeding programs, particularly in the context of improving literacy skills, remain limited. For example, a recent study by Senesie et al. [5] examined the broader effects of school feeding programs on overall academic performance but did not isolate

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the impact on reading skills specifically. Similarly, a study by Mukhamedzhanov et al. [6] highlighted the importance of nutritional interventions in improving student engagement and attendance, yet it lacked a detailed analysis of how these factors translate into enhanced reading abilities. Moreover, while the Department of Education has implemented the School-Based Feeding Program (SBFP) to combat undernutrition and its related effects on learning, the existing literature does not provide robust evidence on how these programs specifically enhance reading performance among Grade IV pupils in specific local contexts, such as San Gabriel Elementary School. It is undeniable that every teacher understands the importance of proficiently teaching reading, particularly to beginning readers, in order to prevent frustration later on. During the first quarter of the School Year 2022 - 2023, San Gabriel Elementary School examined students' health status to identify who among the pupils are undernourished. Based on the Body Mass Index of one hundred fifty (150) pupils from Kinder to Grade VI, fourteen (14) of them are categorized stunned by BMI, out of which nine (9) Grade IV pupils. In the same manner, San Gabriel Elementary School experienced this kind of situation wherein the reading performance result for the first quarter, showed a poor performance in the reading of the Grade IV pupils. Of the 150 pupils, only 91 or 60% were classified as independent readers. These learners were the ones who could access the text very quickly with 100% accuracy when reading. On the other hand, 59 or 40% of pupils belong to frustration level, out of which are fifteen (15) from Grade IV. These data reveal that these grade levels have reading difficulties. The above problem encourages the researcher to conduct this study to determine how the School Feeding Program can improve the reading performance of pupils. Thus, the findings drawn from this study may best serve in improving the school-teachers-pupils performance as essential components of an effective and performing school. Thus, this research focused on the impact of school-based feeding programs on pupils' reading performance in San Gabriel Elementary School. As to the relation to the substantial impact of school-based feeding programs on pupils' reading performance in San Gabriel Elementary School, no empirical data support the claim. It is therefore on this premise that this study were conducted among the Grade IV pupils of San Gabriel Elementary School.

## **2.0 METHODOLOGY**

### **2.1 Research Design**

The descriptive-correlation research design were utilized in this study. This study assessed the socio-demographic profile of pupils, the level of effectiveness of school-feeding programs, and reading performance. Purposive sampling were used thru a complete enumeration technique to gather responses from pupils regardless of their socio-demographic profile, level of effectiveness of school-feeding programs, and reading performance. The respondents of this study are the Grade IV pupils of San Gabriel Elementary School. during the school year 2022-2023. A total of 32 pupil respondents were participated in this study using the purposive sampling technique. The researcher were sought the permission of the Schools Division Superintendent to conduct data collection among the respondents. She will also ask the permission of the respondents for them to answer the survey questionnaire. Once permitted, they were distribute to the respondents answer the survey questionnaire which were retrieved by the researchers. The data-gathering procedure were through the teacher handling the English 4 subject. While letters seeking permission were delivered to the DepEd Schools Division Superintendent, the researchers constructed a questionnaire and have it validated by the experts, preferably the experts of the study. The reading performance of the respondent were taken from the Group Screening Test (GST) of the school year and were the basis of the research since during this period the feeding program is not yet implemented. While the reading performance of the pupils in the fourth grading period after the feeding program implementation were utilized to compare the previous performances of the pupils before and after the feeding program. The respondents were given enough time to answer the questionnaire preferably 30 to 60 minutes to answer the questionnaire. After this, the questionnaires were collected or retrieved and subjected to further presentation, analysis, and interpretation of data. Then, a final draft were submitted for finalization and corrections. Data from the responses were submitted to the statistician for statistical computation, after which the researchers made an analysis and interpretation of the data gathered. The data collected were submitted to a statistician and were presented using tables and graphs. The relationship between the socio-demographic profile, the impact level of the school feeding program, and the reading performance of pupils were analyzed using descriptive and inferential statistics. To determine the demographic profile, impact level of school feeding program, and reading performance of pupils, percentage, mean and standard deviation were computed based on their score. The reading performance were determined through the Group Screening Test (GST) in their first quarter assessment. To determine whether there is significant relationship exist between respondent demographic profile and the impact level of school feeding, the Point Biserial Correlation coefficient were utilized. To determine whether there is significant relationship exist between the impact level of school feeding to the reading performance, Pearson r of correlation were computed at 0.05 level of significance. This study adhered to the relevant research ethics guidelines. Approval for data collection was obtained from the School Division Superintendent and District In Charge of Borongan City Division to allow Grade IV pupils to participate in the survey. Consent forms were distributed and collected from the respondents, along with the necessary permits from relevant government agencies. The questionnaire was

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administered only after securing the respondents' consent and permission from appropriate authorities. Additionally, the study complied with the provisions of the Data Privacy Act of 2012 regarding the handling, treatment, use, and storage of research data.

### 3.0 RESULTS AND DISCUSSION

#### Demographic Profile of Pupils

Tables 1 present the statistics on the profile of the teachers in Borongan City Division in terms of their age; sex; parents' educational attainment; family monthly income; initial BMI; and recent BMI.

**Age.** As reflected in Table 1, the data indicated that all of respondent's age bracket at 9 – 10 with 32 or 100% within the mean age of 9.69 years. This denotes that age is at the higher end of the grade level indicating that the pupils are older than the ideal median age for the Grade IV. According to Bundy et al., [7], health and nutrition of school-age children from 5-9 years of age; referred to as middle childhood receives less attention than that of younger children or adolescents.

**Table 1. Frequency and percentage distribution of respondents demographic profile of Grade IV Pupils**

Variable	Frequency	Percent
Age		
11 – Above	0	0
9 – 10	32	100
8 -- below	0	0
Sex		
Male	16	50
Female	16	50
Parents' educational attainment		
College Graduate	5	15.62
College Level	5	15.62
High School Graduate	20	62.5
High School Level	2	6.26
family monthly income		
20,000 - above	6	18.76
9,000 - 20,000	5	15.62
9,000 - below	21	65.62
Initial BMI		
Severely Wasted		
Wasted	21	65.63
Normal	5	15.62
Overweight	6	18.75
Obese		
Recent BMI		
Severely Wasted		
Wasted	3	9.37
Normal	29	90.63
Overweight		
Obese		
<b>Total</b>	<b>32</b>	<b>100</b>

Moreover, this life stage is critical for learning and intellectual development as well as for shaping attitudes, behaviors and practices. Thus, investing in children's nutrition, health and education during middle childhood, and sustaining this into adolescence, will help children to reach their full potential, become productive adults and break the inter-generational cycle of malnutrition [8]. This finding is same in the study conducted by [9], wherein older children tend to be wasted than their counterparts. Increasing age requires higher nutrients to support the continuous growth before adolescence; therefore, school children who have insufficient food intake suffered from a reduction in body weight. Likewise, older children are already

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transitioning to puberty, where numerous inimitable challenges occurred, including higher body requirements, making them more susceptible to wasting [10].

**Sex.** Table 1 shows that female respondents (16 or 50 %) and male respondents (50 or 50%). The data clearly manifest on the equality of the respondents. This finding is not similar on the study of Garcia and Meer [11], where the pupils-respondent is dominated by male students. In addition, the findings negate with the 2016 Philippine Statistics Authority (PSA) that there were more males who were out of school, due to lack of personal interest and insufficient family income. Hence, the benefits of school feeding go far beyond a school meal and include consequences for equity and inclusion in education. Particularly for girls, encouraging results have been documented on school performance through increased enrolment and sustained attendance [12]. By providing healthy balanced meals, school feeding programs can improve overall micronutrient status and reduce anemia prevalence in primary school-aged children and adolescent girls [13].

**Parents' Educational Attainment.** It is revealed from Table 1 that most of the parents' educational attainment, that High School Graduate gets the highest frequency of 20 and with the percentage of 62.5 of the respondents. This is followed by College Graduate and College Level with the frequency of 5 or 15.62 percent, respectively. The lowest in parents' educational attainment with the frequency of 2 and with the percentage of 6.26 are those with High School Level. From these findings, it was implied that most respondents' parents' educational attainment was completed only a high school graduate. Various studies reported on the effect of parents' educational attainment in improving nutritional status. Findings supported in the study of Soliman et al., [14], indicated that the parents with low educational attainment lack experiences and insights they can share to their children so the latter generally may feel inadequate to aim for higher life than what their parents have achieved. In contrast, parents' education matter in the interaction as it provides parents with the cognitive resources, values and skills that enable them to better support and facilitate their child's learning and developmental environment [15].

**Family Monthly Income.** Table 1 shows that most of the respondents' family monthly income that ranges from PhP 9,000 - below obtains the highest frequency of 21 and with the percentage of 65.62. Whereas, family income of more than PhP 20,000 - above and income of PhP 9,000 to 20,000 had no has the lowest frequency of 6 or 18.75 percent. This implies that most of the respondents' parents are very low wage earners with a monthly income ranging from PhP 9,000 - below. Relative to the findings of this study, based on the reports of the Philippines Statistics Authority [16], farmers, fishermen, and children that belong to these families have an income below the official poverty threshold which consistently recorded the highest incidence of poverty. Likewise, aside from low income among farming households, parental educational attainment was also considered low since most of the household's heads and caregivers had attained or completed elementary education. Poverty threshold on income in Eastern Samar where the study site belongs, for a family of five members (i.e., three children) was reported at P20,237 in 2021 (PSA, 2022) which means that a family of five members in the province should have a monthly income of P9,536 to meet its food and non-food requirements. This figure is lower than the regional (P21,304) figure. Eastern Samar registered a poverty incidence of 37.4% which is higher than the regional figure of 30.7% [17]. According to Fernandez, and Abocejo, [18], shows that the short-term needs for income among farming households across generations have become a vicious cycle of constantly neglecting education to augment the meager income of the households. This is consistent with the result of this present study, which revealed that most of the farming families belonged to the poorest wealth index.

**Body Mass Index.** Table 1 shows the frequency and percentage distribution on the respondents Nutritional Status Before and After the Feeding Program. The food served for the 100-day intervention program was noted to be nutritious and healthful. The meal is balanced with components of go, glow and grows food value. Based on the menu plan (see Appendix B). Before the feeding program, out of thirty-two (32) pupil respondents 21 or 65.63% under "wasted" nutritional status, 6 or 18.75 obtained "overweight", and 5 or 15.62% belong to "normal" nutritional status. The table highlights that more half of the respondents were wasted nutritional status before the implementation of school-based feeding program. This finding is in line with the report of Department of Education [19] Nutrition Status Baseline Report for School Year (SY) 2015—2016, that there were about 1,845,687 severely wasted and wasted students from Kindergarten to Grade 6. Meanwhile, after the intervention, there were 3 or equivalent to 9.37% retain the wasted status; and 29 or equivalent to 90.63% in the "normal" nutritional status. The data clearly demonstrate on the improvement of the school children nutritional status from August 2022 school opening to July 2023 school year end. There were 9.37% retained under the wasted status; and a total of 73.33% increase to "normal" status. This finding implies that school feeding it indicate significant improvement on the nutritional status of the schoolchildren during the feeding program. A similar result is found by Soliman et al., [14], for wasted pupils, with percentage improvement to normal nutrition status among the SBFP-fed wasted pupils exceeding that for their NB counterparts by nearly 8 percentage points. In contrast, with the study conducted by Lu and Dacal [20], that the status of undernourished children remains unchanged. Hence, changes in body mass indices arising from the school feeding are program intervention variables because they have been introduced from the program.

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### Impact Level of School Feeding Program

The impact level of the school feeding program management was evaluated based on physical facilities; management of funds; paraphernalia; and food preparation.

**Physical Facilities.** Table 2.1 below disclosed the evaluation results of the impact level of school feeding program for Grade IV pupils in terms of physical facilities. Results showed that among the statement, "neatness and orderliness of the school feeding centers" obtained the highest mean ( $M=4.82$ ,  $SD=.467$ ) and was verbally interpreted as "Outstanding". On the contrary, the lowest rating was on statement, "Availability of a storage room for Perishable & non-perishable" with a mean ( $M=3.80$ ,  $SD=.831$ ) and was verbally interpreted as "Very Satisfactory". Based on the finding, the grand-mean of school feeding program management based on physical facilities is 4.20 with a standard deviation (of 0.322) which is interpreted as outstanding. The main reason for this outstanding outcome of physical facilities in school feeding centers have wide-ranging implications, including improved hygiene, increased participation, enhanced focus, a positive learning environment, and the promotion of healthy habits among pupils. This means that this neatness and orderliness and availability of a storage room can contribute in maintaining food safety standards, reducing the risk of food-borne illnesses, and ensuring the overall health and well-being of the pupils. This result is conforming with Saeni [21] highlighted the importance of adequate physical facilities, such as well-equipped kitchens, dining halls, and storage areas, in ensuring the success and sustainability of the programs. opined that SFPs would best improve the performance of pupils when coupled with adequate learning materials, physical facilities.

**Table 2.1. Impact Level of School Feeding Program management in terms of Physical Facilities**

Item	Mean	Std Dev	Interpretation
Neatness and orderliness of the school feeding center	4.82	0.467	Outstanding
Cleanliness of the lavatory used in washing all dishes after each feeding session	4.27	0.786	Outstanding
Functionality of handwashing and Toothbrushing area	4.09	0.539	Very Satisfactory
Availability of a potable water supply	3.90	0.831	Very Satisfactory
Availability of a storage room for Perishable & non-perishable goods	3.80	0.632	Very Satisfactory
<b>Grand Mean</b>	<b>4.20</b>	<b>0.322</b>	<b>Outstanding</b>

Moreover, Oro, et al., [22], emphasized that dedicated feeding facilities offer a conducive environment for learning and for food preparation and as a dining area for children. They help create an atmosphere that fosters nutrition, social interaction, and overall well-being, ultimately supporting the goals of the school feeding program in promoting healthy development and educational outcomes. Furthermore, Fernandes and Aurino, [23] pointed out that health conditions among children can be prevented or treated by interventions delivered through schools which often provide more opportunities to reach children than via health facilities, particularly in rural areas.

**Management of Fund.** Table 2.2 below disclosed the evaluation results of the impact level of school feeding program management on Grade IV in terms of management of fund. Findings showed that among the statement, "system of daily recording of all purchased items evident" obtained the highest mean ( $M=4.46$ ,  $SD=.0523$ ) and was verbally interpreted as "Outstanding". On the contrary, the lowest rating was on statement, "updating of daily disbursement of funds by the head of school" with a mean ( $M=4.16$ ,  $SD=0.750$ ) and was verbally interpreted as "Very Satisfactory". Based on the finding, the grand-mean of school feeding program management based on management of fund is 4.25 with a standard deviation (0.711) which is interpreted as outstanding. This means that the management of funds are meet all the standards procedure in school feeding program. These findings collaborate with the statement of Palma [24], that utilization of financial resources is very precarious since many are looking into how the school resources are managed. Hence, Department of Education continues to allocate more funds to public schools to support them in performing their ultimate task to educate the students to become better citizens of the country [19].

**Table 2.2. Impact Level of School Feeding Program management in terms of management of Fund**

Indicator	Mean	Standard Deviation	Interpretation
System of daily recording of all purchased items evident	4.46	0.523	Outstanding
Promptness in the liquidation of financial reports	4.18	0.750	Very Satisfactory

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Regular basis of updating records by the school Feeding Committee	4.27	0.786	Outstanding
Transparency of financial reports available in school Bulletin Board	4.18	0.750	Very Satisfactory
Updating of daily disbursement of funds by the head of school	4.16	0.750	Very Satisfactory
<b>Grand Mean</b>	<b>4.25</b>	<b>0.711</b>	<b>Outstanding</b>

**Paraphernalia.** Table 2.3 revealed the below disclosed the evaluation results of the below disclosed the evaluation results of the impact level of school feeding program management on Grade IV in terms of paraphernalia. Findings showed that among the statement, "availability of plates, bowls and glasses for use" obtained the highest mean ( $M=4.45$ ,  $SD=0.522$ ) and was verbally interpreted as "Outstanding". Likewise, the lowest rating was on statement, "availability of chopping board, shredders, peelers & knives" with a mean ( $M=4.17$ ,  $SD=0.750$ ) and was verbally interpreted as "Very Satisfactory". Based on the finding, the grand-mean of school feeding program management based on management of fund is 4.21 with a standard deviation (0.711) which is interpreted as outstanding. This means that the paraphernalia are sufficient in catering for the needs of the learner in the school feeding program. This implies, that effective management practices ensure that the necessary resources and equipment are available, well-maintained, and utilized optimally, contributing to the overall success and positive outcomes of the program for the pupils it serves. This assertion is supported by Hamupembe [25] who cited sufficient equipment and utensils to support for the needs of the learners.

**Table 2.3. Impact Level of School Feeding Program Management in terms of Paraphernalia**

Item	Mean	Std. Deviation	Interpretation
Availability of plates, bowls and glasses for use	4.45	0.522	Outstanding
Availability of spoons and forks for use	4.18	0.750	Very Satisfactory
Availability of frying pans, kettles& casserole	4.27	0.786	Outstanding
Availability of chopping board, shredders, peelers & knives	4.17	0.750	Very Satisfactory
<b>Grand Mean</b>	<b>4.21</b>	<b>0.711</b>	<b>Outstanding</b>

**Food Preparation.** Table 2.4 revealed the impact level of school feeding program management on Grade IV in terms of food preparation. Findings showed that among the statement, "the cycle menu preparation as prescribed is planned." obtained the highest mean ( $M=4.84$ ,  $SD=0.408$ ) and was verbally interpreted as "Outstanding". Likewise, the lowest rating was on statement, "necessary gears during feeding sessions utilized" with a mean ( $M=4.17$ ,  $SD=0.405$ ) and was verbally interpreted as "Outstanding". Furthermore, the grand-mean of school feeding program management based on management of fund is 4.80 with a standard deviation (0.428) which is interpreted as outstanding. This means that the food preparation is fully supported particularly in the daily preparation of foods during the entire duration of the program implementation. These findings are contradicted with the study of Rivera [26], that respondents' parents were not able to sustain its support in the implementation of the SBFP particularly in food preparation and cooking during the entire SBFP implementation. The current DepEd SBFP guidelines suggest that the authority is with the schools themselves to change and select their own food preparation [27]. However, most schools relied on the menu recommended by their respective division office. Schools were hesitant to expand or develop their own menu because of liquidation and ordering concerns. One of the advantages of school feeding is that, in addition to enabling education, it has positive direct and indirect benefits relating to a number of other development goals [28].

**Table 2.4. Impact Level of School Feeding Program Management in terms of Food Preparation**

Item	Mean	Std. Deviation	Interpretation
The cycle menu preparation as prescribed is planned.	4.84	0.408	Outstanding
Preparation of vegetables & other raw food for cooking observed.	4.67	0.516	Outstanding
System in food distribution to pupils observed.	4.83	0.408	Outstanding
Necessary gears during feeding sessions utilized.	4.81	0.405	Outstanding



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Raw food items or ingredients to be cooked are carefully washed	4.82	0.407	Outstanding
<b>Grand Mean</b>	<b>4.80</b>	<b>0.428</b>	<b>Outstanding</b>

This section shows the summary of impact level of school feeding program management. Table 2.5 below shows that based on the agreement given by the respondents; all of the indicators obtained an outstanding rating. The findings show that a well-managed school feeding program has a significant impact on the nutritional support, academic performance, attendance, health, social-emotional development, and community engagement. According to Maijo [4], by implementing proper management practices, the program can contribute to the holistic development and success of elementary learners, ensuring their well-being, education, and long-term outcomes.

**Table 2.5. Summary of level of school feeding program management**

Indicators	Mean	Standard Deviation	Interpretation
Physical Facilities	4.20	0.322	Outstanding
Management of Fund	4.25	0.711	Outstanding
Pparaphernalia	4.21	0.711	Outstanding
Food Preparation	4.80	0.428	Outstanding
<b>Over-all Mean</b>	<b>4.36</b>	<b>0.543</b>	Outstanding

### Relationship between Demographic Profile and School Feeding Program Management

Table 3 shows the relationship between the demographic profile of teachers and the level of school-based teamwork of elementary teacher in Borongan City Division. A Biserial Correlation test was run to assess the relationship between the socio-demographic profile and the level of school-based teamwork in a division level with a sample of 216 elementary teacher's participants. The following findings were revealed.

**Physical Facilities.** Table 3 below presents the data on the relationship between the demographic profile and the level of school feeding management in terms of physical facilities. It was revealed that physical facilities have significantly related to age ( $r=.101$ ,  $p = .038$ ), sex ( $r= .017$ ,  $p= .000$ ), parent educational attainment ( $r= .082$ ,  $p = .001$ ), family income ( $r= .036$ ,  $p= .000$ ) and body mass index ( $r= .023$ ,  $p = .000$ ). These p-values values were less than their critical value at 0.01 level of significance. This, therefore, reject the null hypothesis which is the state that there is no significant relationship between the demographic profile of pupils and the school feeding management. This indicates that the level of school feeding management in terms of physical facilities have an impact on the demographic profile of pupils in San Gabriel Elementary School. These findings not aligned with the study of Bilbar [29], shows that demographic profile of pupils had a significant relationship to the effectiveness school's feeding program. In the study of Hussein, et al., [30], shows that grade level of the students and diet information source were significant determinants of stunting in SFP students. But none of them could associate with stunting in NSFP students. Grade level of students persists to be significant factor associated with stunting in SFP students, NSFP students, and the overall stunting status. Pupils in grades 1, 2 and 3 of SFP schools were more likely to have stunting than students in higher grades. This may be due to as age and grade level increases knowledge of the student's increases, which in turn the stunting rate become decreased. In support to Bundy et al. [7], suggests that appropriately designed school feeding programs increase access to education and learning and improve children's health and nutrition, especially when integrated into comprehensive school health and nutrition programs.

**Table 3: Test of relationship between the demographic profile and school feeding management.**

Variable 1 (Profile)	Variable 2 (School-based Teamwork)	r-value	p-value	Interpretation
Age		.101	.038	Significant
Sex	Physical Facilities	.017	.000	Significant
Parent Educational Attainment		.082	.001	Significant
Family Income		.036	.000	Significant
BMI				

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			.023	.000	Significant
Age			.055	.001	Significant
Sex			.030	.001	Significant
Parent Educational Attainment		Management of Fund	.082	.002	Significant
Family Income			.073	.008	Significant
BMI			.022	.000	Significant
Age			.107	.005	Significant
Sex			.040	.002	Significant
Parent Educational Attainment		Paraphernalia	.067	.030	Significant
Family Income			.326	.000	Significant
BMI			.028	.001	Significant
Age			.037	.000	Significant
Sex			.010	.002	Significant
Parent Educational Attainment		Food Preparation	.003	.000	Significant
Family Income			.061	.000	Significant
BMI			.027	.000	Significant

\*tested at 0.05 level of significance, two-tailed

**Management of Fund.** Table 3 below presents the data on the relationship between the demographic profile and the level of school feeding management in terms of management of fund. It was revealed that management of fund has significantly related to age ( $r = .055$ ,  $p = .001$ ), sex ( $r = .030$ ,  $p = .001$ ), parent educational attainment ( $r = .082$ ,  $p = .002$ ), family income ( $r = .073$ ,  $p = .008$ ), and body mass index ( $r = .002$ ,  $p = .000$ ). These p-values values were less than their critical value at 0.05 level of significance. Therefore, reject the null hypothesis which is the state that there is no significant relationship between the demographic profile of pupils and the school feeding management. This indicates that the level of school feeding management in terms of management of fund has an effect to the demographic profile of pupils. The same result was observed in the study conducted by Karaba, et al., [2] conclude that the SFP had a statistically significant influence on the language and profile of pupils in ECDE centres. Likewise, Delfino, [31], reported that management of school-based feeding program in terms of program implementation as to planning, organizing, coordinating, budgeting and monitoring is very high. However, ensuring adequate funding remains challenging for many countries and ensuring quality service provisions all year round [32].

**Paraphernalia.** Table 3 above presents the data on the relationship between the demographic profile and the school feeding management in terms of paraphernalia. It was revealed that identity has not significantly related to age ( $r = .107$ ,  $p = .005$ ), sex ( $r = .040$ ,  $p = .002$ ), parent educational attainment ( $r = .067$ ,  $p = .030$ ), family income ( $r = .326$ ,  $p = .000$ ) and body mass index ( $r = .002$ ,  $p = .000$ ). These p-values values were less than their critical value at 0.05 level of significance. Therefore, reject the null hypothesis which is the state that there is no significant relationship between the demographic profile of pupils and the school feeding management. This shows that the level of school feeding management in terms of paraphernalia improved learning outcomes among schools' pupils. This implies that feeding paraphernalia promotes an important opportunity to foster various health-promoting behaviours that can impact nutrition, by ensuring that clean equipment and facilities and areas for physical activity throughout the school feeding program. The result of the study is similarly explained to the result of Azubuike & Mbah, [33]; and Mwendwa, & Gori [34] and Bashir, Ninan, & Tan [35], whose studies revealed that school feeding program has a significant influence on school participation, effectiveness in learning and cognitive outcomes. Moreover, Alderman [12], emphasized the schools' role in social protection can access basic health services and support, including water, sanitation and hygiene (WASH) education and facilities, which are important for nutrition.

**Food Preparation.** Table 3 above presents the data on the relationship between the demographic profile and the level of school-based teamwork in terms of process development. It was revealed that process development has not significantly related to age ( $r = .037$ ,  $p = .000$ ), sex ( $r = .010$ ,  $p = .002$ ), parent educational attainment ( $r = .003$ ,  $p = .000$ ), and body mass index ( $r = .061$ ,



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$p = .000$ ). These  $p$ -values values were less than their critical value at 0.05 level of significance. Therefore, reject the null hypothesis which is the state that there is no significant relationship between the demographic profile of pupils and the school feeding management. The results imply that the demographic profile of pupils concurred that the school feeding was acknowledged for providing meals in meeting educational objectives. These findings are in agreement with Sitali, et al., [36] who advocated that school feeding promotes educational objectives, health and community development. The result of the study is congruent to the result of Bilbar [29] that there are some factors of socio-demographic profiles that are correlated to the school feeding program. The discrepancy between the findings in different studies may arise from the discrepancies in the quality and quantity of food preparation and may also be due to the difference in food composition, the amount of feeding given, and the frequency of food eaten at schools. Preparation of meals is done at the schools with the local communities being involved in the preparation of meals.

### Reading performance level of Grade IV pupils

The fourth objective was to determine the reading performance level of Grade IV pupils in San Gabriel Elementary School, overall mean percentile scores were utilized.

**Reading Performance.** Table 4 shows the frequency distribution of mean percentile scores of the Grade IV pupils in San Gabriel Elementary School, Borongan District III, Borongan City Division. The scores of pre-tests reading performances on mean percentage score showed that most of them 12 or (37.50 %) had interpreted as "Frustration". There were 10 (31.25%) pupils who scored "Independent" and "Instructional" performance, respectively. This means that these pupils found the reading material difficult or challenging, leading to a level of frustration. However, majority of them scored in the categories of "Independent" and "Instructional" performance, respectively. It implies that these pupils have developed the necessary skills to read and comprehend texts on their own without significant assistance. These findings collaborate in the study of Imus, and Resultay, [37], appeared that the reading proficiency level of the learners was within the frustration and instructional level in the pre-test.

**Table 4. The reading performance level of Grade IV pupils in San Gabriel Elementary School**

Performance Level	Pretest		Posttest	
	Frequency	Percentage	Frequency	Percentage
Independent	10	31.25	24	75.00
Instructional	10	31.25	7	21.88
Frustration	12	37.50	1	3.12
Total	32	100	32	100

Moreover, Miñoza, and Montero, [38] claimed that those young learners who have not attained proficiency in reading according to their level by grade 4 are most likely the ones who would experience academic problems in high school and college. On the other hand, the post test result shows that most of them 24 or (75.00%) obtained "Independent" reader. There were 7 (21.88%) pupils who scored "Instructional", and 1 or (3.12%) "Independent" reading performance. This indicates that these pupils' post-test reading performance indicate significant progress, with a majority of pupils achieving independence in their reading abilities. This demonstrates the effectiveness of the school feeding intervention provided, as most pupils were able to improve their reading skills and become independent readers. These findings is in line with Nyarko, et al. [39], found out that reading proficiency can positively affect the learners' achievement academically.

### Relationship between the schools feeding management to the academic performance of Grade IV pupils in San Gabriel Elementary School

As the variables were not normally distributed and the assumption of linearity was markedly violated, Pearson  $r$  Coefficient of Correlation was computed to examine the inter-correlations of the variables. Table 5 shows that the computed  $r$  values signify a positive estimate for the evident level of school feeding management to the reading performance of Grade IV pupils in San Gabriel Elementary School. They are significantly correlated with the physical facilities,  $r = .621$ ,  $p = .001$ ; management of fund,  $r = .642$ ,  $p = .001$ , paraphernalia,  $r = .626$ ,  $p = .001$ ; and food preparation,  $r = .562$ ,  $p = .001$ . This is an implication that the school feeding management of Grade IV pupils were significantly associated with their reading performance.

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Table 5. Test on the significant relationship between the evident level of the factors to the academic performance of pupils in the kindergarten program in the new normal

Variable	Academic Performance		Interpretation	Decision
	Pearson's r	p-value		
Physical Facilities	0.621	**< .001	Significant	Reject Null
Management of Fund	0.642	**< .001	Significant	Reject Null
Paraphernalia	0.626	**< .001	Significant	Reject Null
Food Preparation	0.562	**< .001	Significant	Reject Null

Therefore, the null hypothesis which states that there is no significant relationship between the school feeding management to the reading performance of Grade IV pupils was rejected. This means that all the school feeding management initiated and implemented by the teachers are effective in developing children's intellectual, social and reading competence. This finding is similar to the study of Dela Cruz, [40], concluded that school-based feeding program is effective as it increases the nutritional status of the pupils and at the same improves the reading capability of Grade-One pupils, hence recommended the continuous implementation of both school-based feeding program and the reading validation oral test.

#### 4.0 CONCLUSION

Based on the findings of the study, the following conclusions were drawn: The entire Grade IV pupils age bracket at 9 – 10, consists of an equal number of boys and girls, with majority of their parents have completed high school education, in their family monthly income below 9,000, and the body mass index are normally nutritional status. The level of school feeding program management are outstanding outcome impact on the nutritional support and reading performance. There is a significant relationship in the demographic profile of Grade IV pupils and the school feeding management. The level of reading performance of Grade IV pupils indicate significant progress, with a majority of pupils achieving independence in their reading abilities. There is a significant relationship between school feeding management and the reading performance of Grade IV pupils.

#### 5.0 RECOMMENDATIONS

The foregoing conclusions served as the basis for the following recommendations: Department of Education must evaluate the effectiveness of different health and nutrition programs implemented for school-aged children to explore the gaps that the existing programs missed to address. Sustain the implementation of the nutrition and health education intervention program, particularly the school-based feeding program, has had a significant positive effect on the well-being of the pupils. Provide pupils with sufficient learning reading materials and software in order to improve the teaching-learning process, specifically about nutrition and health education. The school administration may conduct seminars to assist teachers in making this kind of learning materials suited for each type of learners. In order to expand the reach and applicability of the study, it is recommended to conduct additional research on the topic. This will help enhance the findings and allow for the formulation of broader generalizations with a wider scope and application.

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#### 7.0 CONFLICT OF INTERESTS

The authors affirm that they have no conflicts of interest related to this research. The study was conducted independently, with no financial or personal relationships that could affect the interpretation or presentation of the results.

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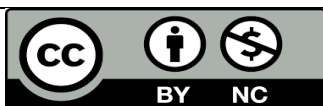
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