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GULAYAN SA PAARALAN AND ITS IMPLICATION TO LEARNERS' NUTRITIONAL STATUS AND ACADEMIC PERFORMANCE

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Abstract

This study aimed to determine the implications of the utilization of yield from Malaban Elementary School Gulayan sa Paaralan Project (GPP) through the School-based Feeding Program (SBFP) on the learners' nutritional status and academic performance. A descriptive research design was employed in this study. The respondents of the study were the 123 severely wasted and 400 wasted learners from Kinder to Grade VI of Malaban Elementary School, School Year 2018-2019. Based on the results of the study after the GPP utilization through SBFP, the nutritional status of the learners in terms of BMI showed improvement from severely wasted to wasted, and from waste to normal, some were from severely wasted to normal, together with their height and weight. Likewise, an improvement was also observed in the academic performance of the learners. Consequently, the GPP utilization through SBFP has positive implications on the nutritional status as indicated in the BMI, height, weight and academic performance of the learners. Hence, the researcher recommended that GPP needs to continue for it helps the schools in achieving the goals of the government in promoting and maintaining health and wellness among Filipino learners, for malnutrition is one of the biggest problems encountered by our country that affects the academic performance of the learners.

Keywords

Gulayan Sa Paaralan, Nutritional, Status, Academic, Performance

1. Introduction

One of the priorities of the government under the Department of Education (DepEd) is the improvement of nutritional status among school children. Hence, they will continue to administer the vegetable-growing program in all public schools around the country.

In DepEd Memorandum No. 95 series of 2018, Education Secretary Briones stated that the Department of Education (DepEd) – through the Learner Support Services-School Health Division (BLSS-SHD) – continues to implement the "Gulayan sa Paaralan Project" (GPP) in public elementary and secondary schools nationwide "to address malnutrition and promote vegetable production and consumption among school children."

She explained that the Department of Education's Memorandum No. 293 series of 2007 was issued to "encourage both public elementary and secondary schools to establish school gardens to ensure a continuous supply of vegetables for school feeding, specifically through the school-Based Feeding Program (SBFP)" (Llego, 2019).

According to her, the instructions for implementing the GPP are outlined in DepEd Memo No. 223 series of 2016, which mandates the GPP's strengthening. The goal, according to the Department of Education, is to "sustain school gardens, not just to achieve the current 63 percent sustainable garden rate, but also to establish gardens in all schools countrywide," (Llego, 2019).

Malaban Elementary School (MES) located at Barangay Malaban, Biñan City is one of the elementary schools with a large population. There are 3,725 pupils from Kinder to Grade VI enrolled during S.Y. 2018-2019, and there are 523 pupils out of the said population who are severely wasted and wasted.

The DepEd, through the School Health Division-Bureau of Learner Support Services (SHD-BLSS), will implement the school-Based Feeding Program (SBFP) for School Year (SY) 2016-2017 to address undernutrition and short-term hunger among public school children, as stated in DepEd Order (DO) #51 series of 2016 or the Implementation of School-Based Feeding Program for School Year (SY) 2016-2017. The SBFP Operational Guidelines for SY 2016-2017 specify that: 1) SBFP will cover an estimated 533,425 severely wasted (SW) and 1,385,039 wasted (W) kids from kindergarten to Grade 6. The program's main goal is to improve the nutritional status of the participants by at least 70% after 120 days of feeding. Second, by raising classroom attendance by 85 percent, it hopes to improve children's health, nutritional values, and behavior. 2) School heads (SHs) are expected to supervise feeding activities and program execution on a daily basis. 3) The Schools Division Technical Working Group (SDTWG) is in charge of ensuring that schools follow the guidelines in terms of procurement, health and nutritional assessments, and the implementation of complementary activities such as deworming, food production, waste segregation and composting, and the integration of good grooming and personal hygiene. The Regional Technical Working Group (RTWG) will be responsible for monitoring the actions of the school division offices, such as timely delivery of money to SHs, implementation progress, fund liquidation, and report filing; 4) All schools are required to establish and maintain the Gulayan sa Paaralan Program (GPP) as a source of ingredients for the SBFP, and to encourage the families of the SBFP participants, (Llego, 2019).

2. Research Issues and Objectives

Malnutrition remains one of the biggest problems in schools in the country. The lack of proper nutrition among pupils negatively affects their physical and mental development. If the children are undernourished or over-nourished, they might find it difficult to focus on the lessons and understand what their teachers are saying. They have poor concentration in class (Femke Neervoort, et.al., 2012).

There are 523 severely wasted and wasted pupils from Kinder to Grade VI enrolled during S.Y. 2018-2019, and this is a big issue and concern on the part of the school head this gives her an initiative in establishing and maintaining the MES- GPP, and it served as a source of healthy ingredients for their SBFP program. This also gave them the initiative to conduct research on the implications of their GPP utilization on their SBFP beneficiary nutritional status and their academic performance.

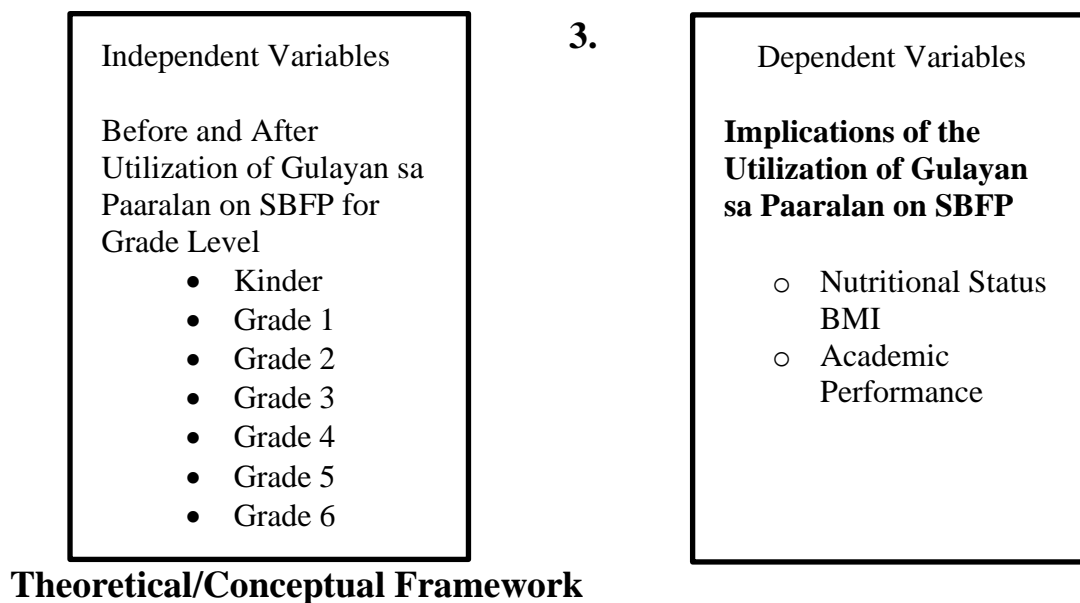


Figure 1: Research Paradigm

(Source: Self)

This research is based on Maslow's hierarchy, which is commonly depicted as a pyramid. The most fundamental needs are found at the bottom of the pyramid, while the most complicated needs are found at the top. Basic bodily requirements, such as the need for food, drink, sleep, and warmth, lie at the bottom of the pyramid. People can go on to the next level of requirements, which are for safety and security, once these lower-level demands have been addressed (Smith RA, & Feigenbaum KD, 2012).

The possible impact goal of targeting children through a feeding program is to improve their educational success so that they can be more productive in the future. SBFP assists students in improving their physical fitness. This reduces short-term hunger, which enhances children's cognitive functioning and attention span, allowing them to devote more time to studying. (<http://ww1.irhsr.org>) It improves students' performance in a class by making them more involved and cooperative during class discussions.

It was shown in Figure 1, the research paradigm of this study wherein the independent variables consist of the Grade Level of the learners before and after the utilization of Gulayan sa Paaralan Project through SBFP, while the dependent variables consist of its implication on the learners' nutritional status and academic performance.

4. Materials and Methods

The study used a descriptive-evaluative research design and a questionnaire checklist as the primary method for gathering data. The purpose of this design is to carefully evaluate the current study's worthiness. The descriptive approach, according to Padua (2006), is the finest way for describing the current state of events, persons, or subjects. Furthermore, he stated that this is beneficial in obtaining the current status and conditions of the difficulties, which is necessary in order to comprehend current and future conditions.

The participants of the study were the 123 severely wasted and 400 wasted Kinder to Grade VI learners during S.Y. 2018-2019 of Malaban Elementary School, Biñan City.

Table 1 shows the frequency distribution of the learners.

Table 1: Distribution of Learners' Sample Size

(Nutritional Status Before Utilization of Gulayan sa Paaralan through SBFP)

	No. of Severely Wasted	No. of Wasted	Grand Total Beneficiaries
1. Kinder	9	86	95
2. Grade I	18	79	97
3. Grade II	14	42	56
4. Grade III	13	48	61
5. Grade IV	47	49	96
6. Grade V	4	45	49
7. Grade VI	18	51	69
Total	123	400	523

(Source: Author's Own Illustration)

It was shown that there are 123 earners from Kinder to Grade VI severely wasted and 400 were wasted.

The instrument of this study is the records of the learners' Body Mass Index, height, and weight as indicators of their nutritional status and their general weighted average for S.Y. 2018-2019 before and after the GPP utilization through SBFP.

Frequency distribution and Percentage were used in describing the learners' weight, height, BMI, and academic performance.

T-test was used in determining the difference between the learners' nutritional status through their BMI with their academic performance.

5. Results and Discussion

The results in Table 2 show the learners' height, frequency and percentage distribution before and after the GPP utilization through SBFP.

Table 2: *Frequency and Percentage Distribution of Learners' Height Before and After the Utilization of Gulayan sa Paaralan through SBFP*

Height (cm)	Frequency	Frequency	Percentage (%)	
	Before	After	Before	After
146-150	18	45	3.44	8.60
141-145	24	95	4.59	18.16
136-140	65	125	12.43	23.90
131-135	120	115	22.94	21.99
126-130	106	72	20.27	13.77
121-125	93	48	17.78	9.18
116-120	97	23	18.55	4.40
Total	523	523	100.0	100.0

(Source: Author's Own Illustration)

It was shown that the majority of the learner's height positively increased before and after the GPP utilization through SBFP. For the 146-150cm before it was 18, and after the GPP

utilization, it became 45 with an increase of 27, while a decrease was observed in the lowest level of their height for those in the 116-120cm from 97 it goes down to 23. These results show a good implication of the program to the height of the learners.

Table 3 shows the learners' weight frequency and percentage distribution before and after the GPP utilization through SBFP.

Table 3: *Frequency and Percentage Distribution of Learners' Weight Before and after the GPP Utilization through SBFP*

Weight (kgs)	Frequency		Percentage (%)	
	Before	After	Before	After
26-30	65	97	12.43	18.55
21-25	140	154	26.77	29.45
16-20	153	149	29.25	28.49
11-15	165	123	31.55	23.51
Total	523	523	100.0	100.0

(Source: Author's Own Illustration)

Similarly, the majority of the learners' weight has increased positively. For those who belong to 26-30kgs. Before it was 65, then after the GPP utilization it became 97 with an increase of 32, while it decreased in terms of the lowest level of their weight for 11-15kgs from 165 it goes down to 123. The implication of the program to the weight of the learners was evidently manifested.

The GPP utilization really shows good implications for it helps to increase the height and weight of the learners which is evidence that the vegetable yielded from their Gulayan sa Paaralan Project (GPP) indeed helps in the improvement of the height and weight of the learners.

Table 4 shows the distribution of the learners' BMI.

Table 4: *Frequency and Percentage Distribution of Boy-Learners' BMI Before GPP Utilization through SBFP*

Age Years & Months	BMI	F	%
13.02-13.04	13.9-15.0 W	7	2.19
	<13.8 SW	2	0.63
12.11-13.01	13.8-14.9 W	4	1.25
	<13.7 SW	2	0.63
12.08-12.10	13.7-14.7 W	7	2.19
	<13.6 SW	2	0.63
12.05-12.07	13.6-14.6 W	9	2.81
	<13.5 SW	5	1.56
12.02-12.07	13.5 -14.5 W	7	2.19
	<13.4 SW	9	2.81

11.11-12.01	13.4-14.4 W	5	1.56
	< 13.3. SW	4	1.25
11.08-11.10	13.3-14.3 W	5	1.56
	< 13.2 SW	8	2.50
11.04-11.07	13.2-14.1 W	7	2.19
	< 13.1 SW	6	1.88
11.00-11.03	13.1-14.0 W	8	2.50
	<13.0 SW	7	2.19
10.08-10.11	13.0-13.9 W	8	2.50
	<12.9 SW	7	2.19
10.04-10.07	12.9-13.8 W	11	3.44
	< 12.8 SW	10	3.13
9.11-10.03	12.8-13.7 W	10	3.13
	< 12.7 SW	8	2.50
9.06-9.10	12.7 -13.5 W	5	1.56
	<12.6 SW	4	1.25
9.00-9.05	12.6-13.4 W	14	4.38
	<12.5 SW	4	1.25
8.05-8.11	12.5- 13.4 W	17	5.31
	< 12.4 SW	5	1.56
7.09-8.04	12.5-13.3W	25	7.81
	< 12.3 SW	5	1.56
7.00-7.08	12.3-13.1 W	10	3.13
	<12.2 SW	3	0.94
6.02-6.11	12.2-3.0W	28	8.75
	<12.01 SW	4	1.25
5.00-6.01	12.1 -12.9 W	33	10.31
	< 12.0 SW	5	1.56
	Total	320	100.0

(Source: Author's Own Illustration)

Legend: W=Wasted; SW (Severely Wasted)

The nutritional status of the male/boy learners from 5.00 to 13.04 of age with BMI from <12.0 to 15.0 ranges from 0.63% to 10.31% which consist of wasted and severely wasted. This result shows that there is an existing undernutrition problem among male/boy learners in MES. Hence, an intervention in the form of GPP through SBFP was implemented.

Table 5 reveals the male/boy learners' BMI after the GPP utilization through SBFP.

Table 5: *Frequency and Percentage Distribution of Male/Boy-Learners' BMI After the GPP Utilization through SBFP*

Age Years & Months	BMI	f	%
13.02-13.04	15.0-25.0 Normal	5	1.56
	13.9-15.0 W	4	1.25
12.11-13.01	14.9-24.9 Normal	3	0.94
	13.8-14.9 W	3	0.94

12.08-12.10	14.8-24.6 Normal	5	1.56
	13.7-14.7 W	4	1.25
12.05-12.07	14.6-24.3 Normal	8	2.50
	13.6-14.6 W	6	1.88
12.02-12.07	14.5-24.0 Normal	8	2.50
	13.5 -14.5 W	8	2.50
11.11-12.01	14.4-23.7 Normal	6	1.88
	13.4-14.4 W	3	0.94
11.08-11.10	14.3-23.4 Normal	9	2.81
	13.3-14.3 W	4	1.25
11.04-11.07	14.2-23.1 Normal	9	2.81
	13.2-14.1 W	4	1.25
11.00-11.03	14.1-22.7 Normal	9	2.81
	13.1-14.0 W	6	1.88
10.08-10.11	13.9-22.4 Normal	10	3.13
	13.0-13.9 W	5	1.56
10.04-10.07	13.8-22.0 Normal	12	3.75
	12.9-13.8 W	9	2.81
9.11-10.03	13.7-21.7 Normal	18	5.63
9.06-9.10	13.6-21.2 Normal	6	1.88
	12.7 -13.5 W	3	0.94
9.00-9.05	13.5-20.8 Normal	18	5.63
8.05-8.11	13.4-20.4 Normal	22	6.88
7.09-8.04	13.3-19.9 Normal	18	5.63
	12.5-13.3W	12	3.75
7.00-7.08	13.1-19.4 Normal	13	4.06
6.02-6.11	13.1-19.0 Normal	32	10.00
5.00-6.01	13.0-18.6 Normal	24	7.50
	12.1 -12.9 W	14	4.38
	Total	320	100.0

(Source: School Students' Record)

Legend: N=Normal; W=Wasted; SW (Severely Wasted)

The nutritional status of the male/boy-respondents from 5.00 to 13.04 of age with BMI from 12.1 to 25.0 ranges from 0.94% to 10.00% which consist of wasted and normal. The result of the study shows that there is an improvement in terms of the learners' nutritional status after the GPP utilization. This showed a good implication for the nutritional status among the male/boy learners.

Table 6 reveals the female/girl –learners' BMI before the GPP utilization on SBFP.

Table 6: Frequency and Percentage Distribution of female/Girl-Learners' BMI Before GPP Utilization through SBFP

Age Years & Months	BMI	f	%
13.02-13.03	13.7-15.0 W	3	1.47

	<13.7 SW	2	0.98
12.11-13.01	13.6-14.9 W	5	2.46
	<13.6 SW	2	0.98
12.08-12.10	13.5-14.8W	7	3.45
	<13.5 SW	2	0.98
12.06-12.07	13.4-14.6 W	4	1.97
	<13.4 SW	1	0.49
12.03-12.05	13.3-14.5 W	4	1.97
	<13.3 SW	1	0.49
12.00-12.02	13.2-14.4 W	4	1.97
	<13.2 SW	3	1.47
11.10-11.11	13.1 -14.3W	5	2.46
	<13.1 SW	4	1.97
11.08-11.09	13.0-14.2 W	5	2.46
	< 13.0. SW	7	3.45
11.05-11.07	12.9-14.0 W	9	4.43
	< 12.9 SW	7	3.45
11.02-11.04	12.8-13.9 W	7	3.45
	< 12.8 SW	2	0.98
10.11-11.01	12.7-13.8 W	3	1.47
	<12.7 SW	2	0.98
10.08-10.10	12.6-13.7 W	4	1.97
	<12.6 SW	2	0.98
10.03-10.07	12.5-13.6 W	4	1.97
	< 12.5 SW	1	0.49
9.11-10.02	12.4-13.5 W	7	3.45
	< 12.4 SW	4	1.97
9.03-9.10	12.3 -13.4 W	8	3.94
	<12.3 SW	2	0.98
8.11-9.02	12.1-13.1 W	3	1.47
	<12.0 SW	2	0.98
8.05-8.10	12.0- 13.0 W	23	11.34
	< 11.9 SW	5	2.46
7.09-8.04	11.9-12.9W	10	4.92
	< 11.8 SW	5	2.46
7.00-7.08	11.8-12.7 W	15	7.39
	<11.7 SW	1	0.49
5.05-6.11	11.7-12.6W	8	3.94
	<11.6 SW	1	0.49
5.00-5.04	11.6 -12.5 W	8	3.94
	< 11.5 SW	1	0.49
	Total	203	100.0

(Source: Author's Own Illustration)

Legend: W=Wasted; SW (Severely Wasted)

The female/girl learners' nutritional status with ages from 5.00 to 13.03 with BMI from <11.5 to 15.0 ranges from 0.49% to 11.34% which consist of severely wasted and wasted. This shows that the nutritional status of the female/girl-learners was low before the program.

Table 7 reveals the female/girl –learners’ BMI after the GPP utilization on SBFP.

Table 7: Frequency and Percentage Distribution of Female/Girl-Learners’ BMI After GPP Utilization through SBFP

Age Years & Months	BMI	f	%
13.02-13.03	15.0-26.4 N	4	1.97
	13.7-15.0 W	1	0.49
12.11-13.01	14.9-26.0 N	3	1.47
	13.6-14.9 W	4	1.97
12.08-12.10	14.8-26.0 N	6	2.96
	13.5-14.8 W	3	1.47
12.06-12.07	14.7-25.7 N	2	0.98
	13.4-14.6 W	1	0.49
12.03-12.05	14.5-25.5 N	3	1.47
	13.3-14.5 W	2	0.98
12.00-12.02	14.4-25.2 N	5	2.46
	13.2-14.4 W	2	0.98
11.10-11.11	14.3 -24.9 N	7	3.45
	13.1 -14.3W	2	0.98
11.08-11.09	14.2-24.7 N	9	4.43
	13.0-14.2 W	7	3.45
11.05-11.07	13.9-24.4 N	12	5.90
11.02-11.04	13.9-24.0 N	5	2.46
	12.8-13.9 W	4	1.97
10.11-11.01	13.7-23.8 N	6	2.96
	12.7-13.8 W	5	2.46
10.08-10.10	13.7-23.4 N	5	2.46
	12.6-13.7 W	4	1.97
10.03-10.07	13.6-23.1 N	8	3.94
9.11-10.02	13.4-22.8 N	5	2.46
	12.4-13.5 W	5	2.46
9.03-9.10	13.2-22.0 N	5	2.46
8.11-9.02	13.1-21.7 N	15	7.38
	12.1-13.1 W	12	5.90
8.05-8.10	13.0- 21.3 N	11	5.41
7.09-8.04	12.9-20.9 N	12	5.90
7.00-7.08	12.7-20.3 N	10	4.92
5.05-6.11	12.6-19.7N	10	4.92
5.00-5.04	12.5-18.9 N	8	3.94
	Total	203	100.0

(Source: Author's Own Illustration)

Legend: W=Wasted; SW (Severely Wasted)

The female/girl-learners’ nutritional status with ages from 5.00 to 13.03 with BMI from <11.5 to 15.0 ranges from 0.49% to 7.38% which consist of normal and wasted. The results revealed an improvement in terms of their nutritional status therefore the GPP utilization showed good implications for the nutritional status of the said group of learners.

Table 8 shows the learners’ academic performance before the GPP utilization.

Table 8: *Learners’ Academic Performance Before the GPP Utilization*

Grades	Frequency	Percentage (%)
87-89	78	14.91
84-86	89	17.02
81-83	141	26.96
78-80	97	18.55
75-77	118	22.56
Total	523	100.0

(Source: Author's Own Illustration)

Legend: W=Wasted; SW (Severely Wasted)

It was shown that most of the learners got 81-83% grades with 141 or 26.96% of the total respondents, while only 78 or 14.91% got 87-89% grades in terms of their academic performance. The results revealed that the low performing learners are dominant among the group of learners before the program.

Table 9 shows the learners’ academic performance after the program.

Table 9: *Learners’ Academic Performance After the GPP Utilization*

Grades	Frequency	Percentage (%)
93-95	26	4.97
90-92	92	17.59
87-89	133	25.43
84-86	87	16.63
81-83	95	18.16
78-80	90	17.22
Total	523	100.0

(Source: Author's Own Illustration)

It was shown that most of the learners got 87-89% grades with 133 or 25.43% of the total respondents, while only 90 or 17.22% got 78-80% grades in terms of their academic performances. It is evident from the results that there was an improvement in the academic performance of the learners for there were learners who got 90-95% grades after the program. This describes that the GPP through SBFP program has a good implication on the learners’ academic performance.

Table 11 shows the test of significant difference between the learners’ BMI/ nutritional status, and academic performance, before and after SBFP in School A.

Table 11: *Test on the Significant Difference between the Learners’ BMI/Nutritional Status, & Academic Performance Before and After the GPP Utilization through SBFP*

Indicators	Before Mean	After Mean	Mean Difference	df	t-value
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1. BMI/Nutritional Status (Boys)	12.84	19.02	6.18	319	6.102**
2. BMI/Nutritional Status (Girls)	12..22	20.25	8.03	122	14.397**
3. Academic Performance	81.53	89.94	8.41	522	32.17**

p-value ≤ 0.01 ; * *p-value* ≤ 0.05

It was revealed that there is significant difference between the learners' BMI/nutritional status of boys (t-value=6.102; df=319; p-values<0.01), and for girls (t-value=14.397; df=122; p-values<0.01), and their academic performance (t-value=32.17; df=522; p-values<0.01) before and after the program. This determined that the GPP utilization on SBFP has good implications to the learners' nutritional status and academic performance.

6. Conclusion and Recommendation

The data revealed a substantial change in nutritional status and academic performance before and after the program, according to the researchers.

Based on the findings of this study, the researcher proposed that GPP be continued through SBFP and that beneficiaries' parents or families start their own vegetable garden at home so that nutritional development can continue at home.

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