

Substantiating the School-based Feeding Program Towards Graders Academic Achievement

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Abstract

This study assessed the school-based feeding program among the ten (10) identified elementary public school recipients in the District of Tuburan II during the school year 2019-2020. The respondents were 217 learners from Grades 1-6, 130 parents, and 10 school feeding teachers. This study utilized the descriptive-survey method of research in obtaining the data and information through a modified adopted survey questionnaire of Reyes (2016) from his study, Impact of the School-Based Feeding Program on the Physical Growth, Academic Performance, and Social Development of Students. It was found out in the study that the academic achievement and nutritional status of the learners increased after the feeding program has been implemented. In addition, parents and teachers' perception on the degree of effectiveness of the school-based feeding program in terms of its objectives, had an average weighted mean of 3.82 and 3.59 respectively, which were interpreted as Very Effective. They also perceived the degree of effectiveness of the school-based feeding program in terms of its activities as Very Effective with an average weighted mean of 3.68 and 3.80. However, some of its activities like orientation of the parents about the program, backyard gardening and gulayan sa paaralan need to be strengthened. In conclusion, school-based feeding program had a great impact in improving the learners' academic achievement and nutritional status in the District of Tuburan II. The findings of the study were very significant since it enabled the researcher to propose an enriched school-based feeding activities that will serve as a guide of the school feeding teachers in the implementation of the program.

Keywords: Administration and supervision, academic achievement, descriptive-survey method, school-based feeding program, Tuburan Cebu, Philippines

Introduction

Education is considered as the powerful weapon of the country in improving its economy (Horca, 2016). It involves influencing the children in pursuing and acquiring the right things.

They must be taught how to think, not what to think. Quality education that the children must be acquired is being prioritized then by the government to make it accessible to all, but how the government can produce quality education if the students are suffering from lack of proper nutrition?

According to Reyes (2016), nutritional and health status of the children are the two main factors that influences on their learning and performance in school. These two must be prioritized first and must be given much attention. Noticeably, the learning capability of malnourished children differs from those of healthy and well-fed ones. Children who are malnourished and in poor health may find it harder in participating the class activities. Additionally, children who receive poor nutrition may naturally perform less in school and are likely to drop out from school and to repeat grades. Thus, contribute to the educational system's inefficiencies (Reyes, 2016).

Today, developing countries face a huge burden of malnutrition that includes both under nutrition and overweight. As of 2008, it was recorded that malnutrition continues to be a worldwide problem particularly in lesser developed countries.

In the Philippines, the recent 2015 National Nutrition Survey data revealed that the prevalence of underweight among 5-10 year old Filipino children is 31.2 % while stunting is 31.1% to be exact. With this data, it clearly means that malnutrition continuous to be an unresolved problem of the government that needs immediate intervention.

School-based Feeding Program as a means of addressing malnutrition, includes giving children wholesome meals or snacks during the school day. Such programs' main objectives are to satisfy kids' nutritional needs and enhance their general health and well-being. This program is frequently created to make sure that students, particularly those who might not otherwise have access to nourishing meals at home, obtain adequate and balanced nutrition at school.

Several studies were conducted on the effects of the school-based feeding program to the students' academic performance, yet, there remains a gap specifically in knowing the program's effectiveness in terms of its activities and objectives.

Given the importance of giving the proper nutrition to the learners, this research examined the school-based feeding program among the school feeding recipients of the District of Tuburan II towards an enriched school feeding activities.

Literature Review

This study is anchored on Maslow's Hierarchy of Needs, Piaget's Theory in Preschool Nutrition Education, Sustainable Development Goals, Philippine Plan of Action for Nutrition, RA No. 11037, An Act Institutionalizing a National Feeding Program for Undernourished Children in Public Day Care, Kindergarten and Elementary Schools, and DepEd Order No. 39, s. 2017 of the Department of Education which establishes the supplemental guidelines for the implementation of the School-Based Feeding Program for SY 2017 to 2022.

In Maslow's Hierarchy of Needs, he believed that every human being had several layers of needs beginning at the lower level. Each layer need must be met first before someone can meet the needs of the next layer. All children have a set of needs that if met with the help of parents and teachers can help mold a child and build a good foundation for adulthood. If there is a deficiency in the needs or any are neglected, it can result in hindering a child's performance and behavior particularly in school (McLeod, 2018).

Listed in the 2030 Agenda for Sustainable Development, which was adopted by all United Nations Member States in 2015, are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries- developed and developing in a global partnership. Its second goal focuses on "Zero Hunger" which aims to end all forms of hunger and malnutrition by 2030. This is to assure that all people especially children must have an adequate supply of nutritious foods throughout the years. In addition, SDGs fourth goal is to have "Quality Education". A quality education is believed to be the foundation of attaining sustainable development. Its target for 2030 is to ensure the completion of primary and secondary education by all children and guaranteeing equal access and opportunities to quality technical and vocational education to all. Addressing relevant barriers like gender inequalities and food insecurity can be of great help in improving access and quality through policy interventions. Likewise, achieving quality education requires better performances coming from the learners. In fact, learners can perform better if well taken care off by the parents and that includes the proper selection of nutritious foods to be given.

Additionally, consistent with the Duterte's Administration 10-point Economic Agenda, the Health for All Agenda of the Department of Health (DOH), the development pillars of malasakit (protective concern), pagbabago (change or transformation), kaunlaran (development), and the vision of Ambisyon 2040, Philippine Plan of Action for Nutrition (PPAN) as an integral part of the Philippine Development Plan 2017-2022, aims to improve the nutritional status of Filipinos by reducing the prevalence of protein-energy malnutrition. It also aims to prevent, control, and eliminate micronutrient deficiencies.

Another theory that strengthened this research was the Piaget's Theory in Preschool Nutrition Education. According to him, nutrition is one of the basic needs in life. Nutrition education in the formative years of life, particularly in the preschool period, is very significant in an individual's health throughout life. Nutritional practices at a young age greatly affect nutritional habits in adulthood. For this reason, nutrition education from early years should be effective, continuous, and directed towards all family members. Children learn many concepts and develop life-long habits during preschool period. They also learn about appropriate and balanced nutrition and acquire good eating habits for later years. Piaget emphasized that children's cognitive development is important for their understanding and learning about the world around them. Piaget's theory can be used as a guide in nutrition education. In fact, it helps to design effective nutrition education appropriate for the developmental stages of childhood.

In a previously conducted study of Mohammed et al (2023), it was found out that school meal programs can have a positive impact on nutritional and educational outcomes in African schoolchildren. This also was consistent to the findings of the study of Wall et al (2022) that

school feeding programs can have a positive impact on child health and development, specifically on cognitive function and school attendance.

Pursuant to RA No. 11037, An Act Institutionalizing a National Feeding Program for Undernourished Children in Public Day Care, Kindergarten and Elementary Schools, also known as “Masustansyang Pagkain para sa Batang Pilipino Act”, it was stated in the Section 4 that the DepEd shall implement a school-based feeding program for the undernourished public school children from kindergarten to grade six. This act aims to fight hunger and undernutrition among Filipino children that includes the provision of at least one (1) fortified meal for a period of not less than one hundred twenty (120) days in a year.

In response to RA NO. 11037, DepEd Order No. 39, s. 2017 of the Department of Education, establishes the supplemental guidelines for the implementation of the School-Based Feeding Program for SY 2017 to 2022. The Department of Education (DepEd) through the Bureau of Learners Support Services School Health Division (BLSS-SHD) must implement the School-Based Feeding Program (SBFP) for school years 2017-2022 to address under nutrition among public school children with the following objectives:

1. To improve the nutritional status of the beneficiaries by at least 70% at the end of the 120 feeding days.
2. To increase classroom attendance by 85%-100%
3. To improve the children’s health and nutrition, values and behavior.

Based from the theories, legal basis and results of related studies mentioned above, it can be hypothesized that school-based feeding program has a positive impact on learners’ academic performance.

Methodology

Research design

This study employed the descriptive-survey method of research design in presenting and discussing the profile, degree of effectiveness of the school-based feeding program in terms of its objectives and activities, and the best practices in the implementation of the program. The data gathered were presented, analyzed, and interpreted which were used as the basis for the presentation of findings, conclusions, and recommendations.

Respondents of the study

The respondents of the study included the learner-recipients of the School-Based Feeding Program, the school feeding teachers, and the parents of the learner-recipients in the District of Tuburan II. It composed of 217 learners, 130 parents and 10 school feeding teachers who were from the different schools of the District of Tuburan II.

Table 1 Distribution of the Respondents.

Name of School	Learners	Parents	Feeding Teachers	Total	%
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Antipolo Elementary School	10	8	1	19	5.32
Bakyawan Elementary School	12	10	1	23	6.44
Caridad Elementary School	32	15	1	48	13.44
Carmelo Elementary School	10	8	1	19	5.32
Colonia Central School	54	28	1	83	23.25
Fortaliza Elementary School	12	10	1	23	6.44
Gimamaa Elementary School	12	10	1	23	6.44
Jagbuaya Elementary School	30	16	1	47	13.17
Kansi Elementary School	25	15	1	41	11.48
Mangga Elementary School	20	10	1	31	8.68
Total	217	130	10	357	100

Research instrument

The research instrument used in the study was divided into three sections (I-III); Section I was for gathering the data on respondents' personal information; Section II was made up of questions that elicited responses from parents and teachers about the effectiveness of School-based Feeding Program in terms of its objectives and activities, with response options: Extremely Effective (EE), Very Effective (VE), Effective (E), Slightly Effective (SE), and Not Effective (NE); and Section III focused on the best practices during the implementation of the said program.

Data-Gathering Procedure

A written request was sent to the Schools Division Superintendent, Department of Education, Cebu Province to allow the researcher in conducting her study in the research locale. Following the approval, a letter asking each school administrator's permission to conduct the study in their school was delivered. Upon receiving permission, the researcher personally administered the questionnaire and discussed the content and purpose of the research through the help of teacher advisers. The respondents were given enough time to ask for some clarifications. One hundred percent of the questionnaires were retrieved right after filling the needed information.

Scoring Procedure

This study employed the following procedures:

In order to determine the effectiveness of the SBFP in terms of its objectives and activities, the rating scale utilized was the five-point Likert Scale of rating with five (5) categories of perceptions: Extremely Effective (EE), Very Effective (VE), Effective (E), Slightly Effective (SE), and Not Effective (NE). For the best practices in the SBFP implementation, the responses of the respondents were summed up and ranked from highest to lowest.

Findings and Discussion

The following are the results of the gathered data in determining the nutritional status, academic achievement, and effectiveness of the School-based Feeding Program (SBFP) in terms of its

objectives and activities. The last part discussed the best practices in the implementation of the said program.

Learners' Nutritional Status

The nutritional status of the learners were assessed through checking their weight and height according to the Body Mass Index (BMI).

As reflected in Table 2, there were 172 severely wasted and 45 wasted learners of the 10 school recipients in the District of Tuburan II before the implementation of the program. Colonia Central School had the great number of feeding recipients which comprises a 24.88 percent of the total population. In contrast to this, Antipolo and Carmelo Elementary Schools had the least number of feeding recipients with a total of only 10 recipients each.

Table 2 reflects the nutritional status of the learners before and after the implementation of the program.

Name of School	Before SBFP				After SBFP			
	SW	W	Total	%	SW	W	Total	%
Antipolo Elementary School	10	0	10	4.61	0	0	0	0
Bakyawan Elementary School	10	2	12	5.53	0	0	0	0
Caridad Elementary School	27	5	32	14.75	6	2	8	18.18
Carmelo Elementary School	8	2	10	4.61	0	0	0	0
Colonia Central School	43	11	54	24.88	11	6	17	38.64
Fortaliza Elementary School	12	0	12	5.53	0	0	0	0
Gimamaa Elementary School	11	1	12	5.53	0	0	0	0
Jagbuaya Elementary School	20	10	30	13.82	4	5	9	20.45
Kansi Elementary School	20	5	25	11.52	7	0	7	15.91
Mangga Elementary School	11	9	20	9.22	0	3	3	6.82
Total	172	45	217	100	28	16	44	100

However, after the feeding program has been implemented, 175 learner recipients were able to successfully attain a normal nutritional status. Five (5) out of 10 schools already got zero (0) wasted and severely wasted learners. The rest of the schools appeared to still have wasted and severely wasted learners which is fewer than before. To be exact, there were only 44 out of 217 recipients who remained underweight after implementing the said program. This implied that the school-based feeding program is very essential in improving the nutritional status of the learners and that there's a need to continue this program every year.

Learners' Academic Achievement

Based on the table below, it showed that Antipolo Elementary School feeding recipients had an average of 81.40 percent before and 82.10 after the feeding program; Bakyawan Elementary School feeding recipients had an average of 83.67 percent before and 84.25 after the feeding program; Caridad Elementary School feeding recipients had an average of 82.34 percent before and 83.12 after the feeding program; Carmelo Elementary School feeding recipients had an average of 81.50 percent before and 83.00 after the feeding program; Colonia Central School feeding recipients had an average of 81.91 percent before and 82.37 after the feeding program;

Fortaliza Elementary School feeding recipients had an average of 83.00 percent before and 84.25 after the feeding program; Gimamaa Elementary School feeding recipients had an average of 83.44 percent before and 84.69 after the feeding program; Jagbuaya Elementary School feeding recipients had an average of 82.03 percent before and 82.70 after the feeding program; Kansi Elementary School feeding recipients had an average of 82.91 percent before and 83.83 after the feeding program; and lastly, Mangga Elementary School feeding recipients had an average of 80.65 percent before and got 80.95 after the feeding program.

Table 3 presents the learners' academic achievement before and after the SBFP.

Name of School	Before	After
	Average Grade	Average Grade
Antipolo Elementary School	81.40	82.10
Bakyawan Elementary School	83.67	84.25
Caridad Elementary School	82.34	83.12
Carmelo Elementary School	81.50	83.00
Colonia Central School	81.91	82.37
Fortaliza Elementary School	83.00	84.25
Gimamaa Elementary School	83.44	84.69
Jagbuaya Elementary School	82.03	82.70
Kansi Elementary School	82.91	83.83
Mangga Elementary School	80.65	80.95
Average	82.28	83.13

The Table also showed that there is an increase of the average of their grades after implementing the feeding program. This clearly suggested that school-based feeding program is very helpful in improving the academic grades of the learners.

Effectiveness of School-based Feeding Program in terms of its Objectives

It is very essential to know the specific objectives of a particular program as it serves as the mileposts in guiding towards reaching someone's destinations. School-based feeding program's objectives include the improvement of the beneficiaries' nutritional status, increase in classroom attendance, and an improvement of the children's health and nutrition.

As reflected on the Table, the effectiveness of the feeding program's objectives had an average weighted mean of 3.82 for parents described as **Very Effective** and 3.59 for teachers described as **Very Effective** as well.

Table 4 presents Effectiveness of SBFP in terms of its Objectives

Objectives	Parents (130)		Feeding Teachers (10)	
	$\bar{x}$	Verbal Description	$\bar{x}$	Verbal Description
1. School-Based Feeding Program helps children gain weight.	4.88	Extremely Effective	4.70	Extremely Effective
2. It helps improve the Body Mass Index	4.85	Extremely	4.70	Extremely

(BMI) of the recipients.		Effective		Effective	
3. Prevents children from being sick.	4.06	Very Effective	4.40	Extremely Effective	
4. Reduces malnutrition.	4.88	Extremely Effective	4.80	Extremely Effective	
5. Alleviates short term hunger.	4.47	Extremely Effective	4.60	Extremely Effective	
6. Helps children to participate actively in class activities.	4.13	Very Effective	4.00	Very Effective	
7. Helps children to achieve higher grades.	4.71	Extremely Effective	4.30	Extremely Effective	
8. Lessens children’s absences from their class.	4.15	Very Effective	4.10	Very Effective	
9. Increase the number of enrolment rate.	3.52	Very Effective	3.90	Very Effective	
10. Helps children to improve their skills and talents.	3.31	Effective	3.90	Very Effective	
11. Helps children to become more sociable.	2.68	Effective	3.40	Effective	
12. Boosts children’s confidence.	3.18	Effective	2.78	Effective	
13. Helps children expresses their feelings ideas.	3.17	Effective	2.71	Effective	
14. Encourages children to become friendlier.	2.62	Effective	2.6	Effective	
15. Helps children to become more approachable.	2.77	Effective	2.86	Effective	
Average Weighted Mean		3. 82	Very Effective	3.59	Very Effective

* $\bar{x}$ - Mean; 4.21 - 5.00 Extremely Effective (EE); 3.41 - 4.20 Very Effective (VE); 2.61 - 3.40 Effective (E); 1.81 - 2.60 Slightly Effective (SE); 1.00 - 1.80 Not Effective (NE)

It can be gleaned from the Table also that school-based feeding program is extremely effective in gaining weight, improving the Body Mass Index (BMI), reducing malnutrition, alleviating short term hunger, and in achieving higher grades of the feeding recipients. This implied that school-based feeding program had a great impact on nutritional, health, and educational outcomes of the learners. However, there were some objectives focusing on the social development of the learners that were less effective compared to the others and that need improvement.

Effectiveness of School-based Feeding Program in terms of its Activities

As part of the implementation of the school-based feeding program, several activities were being practiced by the persons involved all throughout the feeding process.

As noticed from the Table below, parents' responses to the effectiveness of the feeding program in terms of its activities had an average weighted mean of 3.68. In addition, feeding teachers' responses had an average weighted mean of 3.80.

Table 5 presents Effectiveness of SBFP in terms of its Activities

Activities	Parents (130)		Feeding Teachers (10)	
	$\bar{x}$	Verbal Description	$\bar{x}$	Verbal Description
Orient the recipients' parents about the program.	2.13	Slightly Effective	2.26	Slightly Effective
Ensure deworming of target beneficiaries prior to the feeding activity.	4.92	Extremely Effective	4.90	Extremely Effective
Weighing the beneficiaries before implementing the program.	4.90	Extremely Effective	4.86	Extremely Effective
Actively participates in the handwashing activity done before and after eating.	4.93	Extremely Effective	4.90	Extremely Effective
Encourages the beneficiaries in strengthening the Gulayan sa Paaralan Program (GPP) to supplement feeding.	1.86	Slightly Effective	2.53	Slightly Effective
Encourages them to do backyard gardening.	2.10	Slightly Effective	2.24	Slightly Effective
Participates in the conduct of tooth brushing activity every after eating.	4.91	Extremely Effective	4.90	Extremely Effective
Average Weighted Mean	3.68	Very Effective	3.80	Very Effective

* $\bar{x}$ - Mean; 4.21 - 5.00 Extremely Effective (EE); 3.41 - 4.20 Very Effective (VE); 2.61 - 3.40 Effective (E); 1.81 - 2.60 Slightly Effective (SE); 1.00 - 1.80 Not Effective (NE)

Based on the tabulated results, parents and feeding teachers clearly perceived the activities of the school-based feeding program as Very Effective. However, some activities like orientation of the parents about the program, backyard gardening and strengthening Gulayan sa Paaralan were slightly effective compared to the others. Therefore, there is a need for both the parents and teachers to collaborate with each other to strengthen these activities.

Best Practices in the Implementation of the SBFP

Table 6 shows the ranking of the best practices during the implementation of the feeding program

Best Practices	Feeding Teachers (10)		Parents (130)		Learners (217)		Total	Rank
	f	Rank	f	Rank	f	Rank		
Parents wear hairnets and clean apron during cooking.	10	3.5	123	4	201	5	334	5
Observing the expiry dates of food commodities.	10	3.5	128	2	217	2	355	2
Brief discussion about the meal for the day and the nutrients which can	4	11	56	9	116	9	176	9

be derived from it.

Avoid using Styrofoam and plastics.	10	3.5	112	6	142	7	264	7
Proper selection of food and ensuring they are clean, fresh, and of good quality.	10	3.5	130	1	217	2	357	1
Feeding teachers inspect the hands and nails of the beneficiaries before eating.	6	9	99	7	137	8	242	8
Beneficiaries were taught basic chores like washing their dishes.	4	11	37	11	98	11	139	11
Teaching some table manners and praying before and after eating.	7	7.5	98	8	199	6	304	6
Provision of food covers and containers for safekeeping.	10	3.5	120	5	210	4	340	4
Impose practice of waste segregation (biodegradable, non-biodegradable, recyclable)	7	7.5	50	10	110	10	167	10
Seek support from stakeholders in providing like weighing scale, storage facilities and feeding paraphernalia.	4	11	34	12	87	12	125	12
Conduct handwashing before and after eating and tooth brushing every after eating.	10	3.5	125	3	217	2	352	3

As reflected on Table 6, Proper selection of food and ensuring they are clean, fresh, and of good quality was the first in rank among the 12 best practices. The result manifested that feeding teachers really gave suitable and nutritious foods to the feeding recipients. In addition, getting the most nutrients out from the selected foods was being considered as it was followed by observing the expiry dates of food commodities.

The third one was conduct handwashing before and after eating and tooth brushing every after eating. This was followed by the provision of food covers and containers for safekeeping and wearing of hairnets and clean apron during cooking. This clearly means that personal and food hygiene is being exercised in all school feeding recipients. Thus, teaching not only the learners but also the parents to be more hygienic in their daily living.

Teaching some table manners and praying before and after eating was the sixth in rank. These practices should and must be taught to the learners as it help them improve their social and religious aspects in life. Other best practices include the following: avoid using of Styrofoam and plastics; feeding teachers inspect the hands and nails of the beneficiaries before eating; brief discussion about the meal for the day and the nutrients which can be derived from it; impose practice of waste segregation (biodegradable, non-biodegradable, recyclable); and beneficiaries are taught basic chores like washing their dishes.

Conversely, seldom did the school recipients seek support from stakeholders in providing like weighing scale, storage facilities and feeding paraphernalia.

Conclusion

Based on findings, the following conclusions were drawn:

School-based feeding program had a great impact in improving the learners' academic achievement and nutritional status in the District of Tuburan II. In fact, both parents and teachers perceived it as very effective in terms of its objectives and activities. However, some of its activities and objectives focusing on the social development of the learners need to be strengthened. With regards to the identified best practices on this study, those must be considered and applied during the implementation of the feeding program. In addition, seeking support from active stakeholders must be practiced in all school feeding recipients too. Thus, an enriched school feeding activities is suggested for implementation.

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