

# EXTENT OF SCHOOL-BASED FEEDING PROGRAM IMPLEMENTATION ON HEALTH OUTCOMES AND EDUCATIONAL SUCCESS OF ELEMENTARY STUDENTS IN PAGSANJAN DISTRICT

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## ABSTRACT

*This study was conducted to determine the extent of School-Based Feeding Program Implementation on health outcomes and educational success of Elementary Students in the Pagsanjan District.*

*It involves the participation of two hundred (200) students from the Pagsanjan District, selected using the purposive sampling technique. Data were gathered using descriptive statistics such as weighted mean, and standard deviation and Annova was used to utilize the study.*

*The following were the significant findings of the investigation:*

*First, the finding shows that the extent of School-based Feeding program implementation strategies for planning, implementation, and evaluation appears to be a very great extent. Next, with regards to compliance in Wash in Schools (WinS) as to waste management, proper drainage, elimination of breeding grounds for mosquitoes, food safety, and sanitation was very high, it infers that the school provides proper facilities which enable them to be capable of implementing proper programs in connection with the food. Another, with regards to the promotion of health and nutrition information as to food safety, hygiene, and monitoring is also to a very great extent. Then, the level of students' health outcomes is all very high which can infer that students' health outcomes are properly taken care of. The findings of the study also reveal that the level of students' educational success in terms of reasoning, comprehension, critical thinking, and problem-solving is also very high which further implicit that students show good performance at school. Lastly, the result of the study reveals that school-based feeding programs significantly affect the student's health outcomes and educational success, inferring that feeding programs can help students maintain their well-being and support their daily needs. In that way, students will be able to have a good outcome in their school and study better.*

*To extend the School-Based feeding Program Implementation it is suggested for the School continue its good habit, allocate more budget and encourage the community and stakeholders to support the School feeding which will lead to the good maintenance of the program.*

## Keywords:

*School-Based Feeding Program implementation, Health outcomes, educational success, Wash in Schools (WinS),*

## INTRODUCTION

Education is seen as the country's resource for developing its economy, but how the government will produce quality education if the students suffer from malnutrition and nutrient deficiencies?

Nutrient and health problems in the Philippines are no longer new especially among children in both public and private elementary and secondary schools. Many governments and non-governmental organizations have initiated numerous feeding projects that can help reduce pupil malnutrition and dietary deficiency.

The Department of Education (DepEd) has been implementing public health programs such as community-based eating and school gardens nationally for many decades. However, 3 out of 10 school children aged 6 – 12 years old remain short for their age (stunted) and have not attained the optimum weight for their heights (wasted).

The government launched a feeding program for selected public schools around the country, they call it the School-Based Feeding Program also known as SBFP. Moreover, the government has developed feeding programs to reduce hunger, aid in the development of learners, improve nutritional status, and promote good health, as well as reduce inequities by encouraging families to send their learners to school given the incentive of being provided school feeding. The DepEd SBFP, lasting for 100 to 120 days for beneficiary schools, aims to restore at least 70% of

beneficiaries (from severely wasted) to normal nutritional status. Proceeds of income from operations of school canteens are also allowed for school feeding.

DepEd through the Bureau of Learner Support Services-School Health Division (BLSS-SHD) maintains its commitment to providing good nutrition to learners amidst the COVID-19 Pandemic. As such, it shall continue the implementation of the School-Based Feeding Program (SBFP) for the School Year 2022-2023 to address hunger and encourage the learner to enroll, contribute to the improvement of their nutritional status, provide nourishment for their growth and development, and help boost their immune system and enhance and improve health and contribute to their educational success.

School-based feeding programs have been and will continue to be essential for the provision of nutrients, improvement of academic performance, and the promotion of a healthy lifestyle for elementary students in the Pagsanjan District. Although school programs related to health improvement are already implemented before, modifications to their application of it are still necessary to emphasize conducting research and studies. This paper aims to determine the extent of a school-based feeding program implementation on the health outcomes and educational success of elementary students in the Pagsanjan district.

This study aims to determine the extent of school-based feeding program implementation on health outcomes and educational success of elementary students in the Pagsanjan district.

Specifically, it sought to answer the following questions.

1. What is the extent of a School-based Feeding program implementation with regard to
  - 1.1 Strategies as to;
    - 1.1.1 Planning;
    - 1.1.2 Implementation; and
    - 1.1.3 Evaluation;
  - 1.2 Compliance to Wash in School Policy (WinS) as to;
    - 1.2.1 Waste management;
    - 1.2.2 Proper Drainage;
    - 1.2.3 Elimination of breeding grounds for mosquitoes; and
    - 1.2.4 Food Safety and Sanitation
  - 1.3 Promotion of health and nutrition information;
    - 1.3.1 Food Safety;
    - 1.3.2 Hygiene;
    - 1.3.3 Monitoring?
2. What is the level of student health outcomes in terms of;
  - 2.1 Mental well-being;
  - 2.2 Physical health;
  - 2.3 Social health?
3. What is the level of student's educational success in terms of;
  - 3.1 Class participation;
  - 3.2 Reasoning;
  - 3.3 Comprehension;
  - 3.4 Critical thinking;
  - 3.5 Problem-solving?
4. Does the school-based feeding program significantly affect the students' health outcomes?
5. Does the school-based feeding program significantly affect the student's educational success?

## REVIEW OF RELATED LITERATURE

According to Albert, et.al. (2016), the Department of Education (DepEd) has been implementing school-based feeding programs (SBFPs). The DepEd's first SBFP, then called Breakfast Feeding Program, aimed to address short-term hunger. Through the years, the SBFP shifted focus from addressing short-term hunger to addressing undernutrition among public primary pupils. It also changed target beneficiaries, coverage, and service delivery mode. The SBFP aims to: (1) rehabilitate at least 70 percent of severely wasted beneficiaries to normal nutritional status at the end of feeding days, (2) ensure 85- to 100-percent classroom attendance among beneficiaries, and (3)

improve children's health, and nutrition values and behavior. According to the Health and Nutrition Center of DepEd, the primary goal of the SBFP is the nutrition goal; the rest are secondary.

## METHODOLOGY

A descriptive method was used for the extent of school-based feeding program implementation on the health outcomes and educational success of elementary students in Pagsanjan District.

Descriptive research is the research design in which data is collected in a qualitative manner and analyzed using quantitative procedures (Nassaji, 2015). Descriptive research refers to the scientific methodology in which observation of the sampled population is carried out in its natural surroundings.

A quantitative research method is considered conclusive and is used to test specific hypotheses and describe characteristics or functions. Descriptive research should have a clear and accurate research question/problem. This method enables the researcher to interpret the theoretical meaning of the findings and the hypothesis development for further studies (Fluet, 2021).

In determining the extent of the school-based feeding program implementation on the health outcomes and educational success of elementary students in the Pagsanjan district researcher integrated various indicators in the dependent and independent variables.

### Respondents of the Study

The respondents of the study consisted of two hundred (200) randomly selected students for the academic year 2022-2023. According to Ariola et.al. (2006) when it is not possible to study the entire population, a smaller sample was taken using a random sampling technique. Through random sampling technique, they were chosen to help the researcher in determining the extent of School-Based Feeding Program implementation on the health outcomes and educational success of elementary students in the Pagsanjan district.

### Research Instrument

The instrument used in the study was a survey questionnaire checklist. The questionnaire is a research-made instrument devised for determining the extent of a school-based feeding program implementation on the health outcomes and educational success of elementary students in the Pagsanjan district.

In the questionnaire, a five-point rating scale indicated below was used for the selected respondents.

Scale	Numerical Value	Verbal Interpretation
5	4.20 – 5.0	To a very great extent
4	3.40 – 4.19	To a great extent
3	2.60 – 3.39	To a moderate extent
2	1.80 – 2.59	To a low extent
1	1 – 1.79	To a very low extent

In the construction of the questionnaire described above, the researcher collected ideas and concepts by reading various articles and literature from books, publications, and internet sites. For further content validation research tools utilized in the study were presented to the adviser and panel. Validation of the questionnaire has been done by three (3) master teachers of Pagsanjan District upon seeking permission from Public School District Supervisor, Dr. Felicisimo Marana, and the School Principals.

The final form of the questionnaire was reproduced and administered to respective respondents of Cesar Lanuza Elementary School, Sampaloc Elementary School, and San Isidro Elementary School in Pagsanjan District.

### Research Procedure

The research study was started by giving the title for approval during the school year 2022-2023. The gathering of related literature and study was done by collecting information through the internet, articles, books, and online publications. Then the researcher started formulating the questionnaires for the respondents. After the formulation of the questionnaire, the researcher seek permission from the school head and principal of each school to gather the needed data through a letter of request for this study. Upon approval, the researcher oriented the students relative to the purpose of the study. The respondents were oriented on how to accomplish the entire set of questionnaires. The researcher explained fully the direction as well as the purpose of the study before allowing the respondents to answer the questionnaire.

Lastly, upon the retrieval of the questionnaires, the researcher analyzed and tabulated the data gathered using appropriate statistical treatment.

### Statistical Treatment

To establish the relationship among the data collected the following statistical tool were used:

Analysis	Statistical Tool
1. Extent of School-Based Feeding Program	Mean and Standard Deviation
2. Level of Student Health outcomes	Mean and Standard Deviation
3. Level of Student's educational success	Mean and Standard Deviation
4. Effect of School-Based Feeding Program on Student's Health Outcomes	Annova
5. Effect of School-Based Feeding Program on Student's Educational Success	Annova

## RESULT AND DISCUSSION

**Table 1. Extent of School-Based Feeding Program Implementation Strategies as to Planning**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Allocate enough budget for the feeding program.</i>	4.74	0.54	To the very great extent
<i>Coordinate with the parents and other stakeholders to build support for the program.</i>	4.73	0.53	To the very great extent
<i>Set clear objectives regarding the program.</i>	4.74	0.57	To the very great extent
<i>Establish a committee to facilitate and maintain the program.</i>	4.71	0.60	To the very great extent
<i>Assign faculty/personnel in charge that is capable of managing the program.</i>	4.73	0.55	To the very great extent

Overall Mean = 4.73

Standard Deviation= 0.56

Verbal Interpretation= To the Very Great Extent

Table 1 illustrates the extent of School-Based Feeding Program Implementation Strategies as to Planning

From the statements above, “*Allocate enough budget for the feeding program*” and “*Set clear objectives regarding the program*” yielded the highest mean score ( $M=4.74$ ,  $SD=0.54$ ) and were remarked as To the Very Great Extent. This is followed by “*Coordinate with the parents and other stakeholders to build support for the program*” and “*Assign faculty/personnel in charge that is capable of managing the program*” with a mean score ( $M=4.73$ ,  $SD=0.53$ ) and was also remarked as To the Very Great Extent. On the other hand, the statement “*Establish a committee to facilitate and maintain the program*” received the lowest mean score of responses with ( $M=4.71$ ,  $SD=0.60$ ) yet was also remarked To the Very Great Extent.

The extent of the School-Based Feeding Program Strategies as to Planning attained a weighted mean score of 4.73 and a standard deviation of 0.56 and was To the Very Great Extent among the respondents. The potential impact goal of targeting children through Food for Education programs is to increase their educational achievement so as programs increase school attendance by lowering the opportunity costs of attending school and providing additional incentives to engage in formal education. Through the alleviation of short-term hunger which improves children's cognitive functioning and attention span. This leads to better health and better resistance to infectious diseases and illnesses that would keep children from attending school, to improve their potential future productivity and earnings.

Bundy, (2013), states that school feeding is defined as a targeted social safety net that provides both educational and health benefits to the most vulnerable children, thereby increasing enrollment rates, reducing absenteeism, and improving self-reliance. The importance of school feeding has been increasingly recognized. Across the world, there are many types of school feeding programs, as there are countries. These can be classified into two main groups depending on the program modality: in-school feeding, where children are fed in school, and take-home rations, where families are given food if their children attend school.

**Table 2. Extent of School-Based Feeding Program Strategies as to Implementation**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Provide augmentation support for the students who are most in need.</i>	4.71	0.55	To the very great extent
<i>Ensure that the orderliness of the program is being maintained.</i>	4.73	0.56	To the very great extent
<i>Organized other related activities that can support the feeding program.</i>	4.71	0.57	To the very great extent
<i>Provides all the foods/ supplementary that are needed by the students.</i>	4.69	0.62	To the very great extent
<i>Managing the program by focusing on the student's progress and improvement.</i>	4.75	0.56	To the very great extent

Overall Mean = 4.72

Standard Deviation= 0.57

Verbal Interpretation= To the Very Great Extent

Table 2 illustrates the extent of the School-Based Feeding Program Strategies as to Implementation

From the statements above, “*Managing the program by focusing on the student's progress and improvement*” yielded the highest mean score ( $M=4.75$ ,  $SD=0.56$ ) and was remarked as To the Very Great Extent. This is followed by “*Ensure that the orderliness of the program is being maintained*” with a mean score ( $M=4.73$ ,  $SD=0.56$ ) and was also remarked as To the Very Great Extent. On the other hand, the statement “*Provides all the foods/ supplementary that are needed by the students*” received the lowest mean score of responses with ( $M=4.69$ ,  $SD=0.62$ ) yet was also remarked To the Very Great Extent.

The extent of School-Based Feeding Program with regards to Strategies as to Implementation attained a weighted mean score of 4.72 and a standard deviation of 0.57 and was To the Very Great Extent among the respondents. It was observed that different schools have different equipment provisions. Processes to collect data and identify beneficiaries differed. This may lead to varying results and differences in the manner of implementation. The anthropometric tools and indicators in identifying beneficiaries should be aligned with current national standards.

In addition, supervisors, principals, SBFP coordinators, nurses, and related focal persons should exclusively receive training for the full implementation of the program. If training all these persons is not feasible, communication and channels of transfer of program knowledge should be precise and clear to the school and its members, (Oro, et.al, 2018).

**Table 3. Extent of School-Based Feeding Program Strategies as to Evaluation**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Monitors the progress of the students that are included on the program.</i>	4.70	0.59	To the very great extent
<i>Keep track on the records of the students whether they participating the program or not.</i>	4.71	0.58	To the very great extent
<i>Assess the improvement of the students belong to the program.</i>	4.71	0.60	To the very great extent
<i>Often check if the program is still aligned with the needs of the students.</i>	4.71	0.57	To the very great extent
<i>Re-evaluate the processes and activities of the program to ensure that it has a positive impacts on the students.</i>	4.67	0.62	To the very great extent

Overall Mean = 4.70

Standard Deviation= 0.59

Verbal Interpretation= To the Very Great Extent

Table 3 illustrates the extent of School-Based Feeding Program Strategies as to Evaluation



From the statements above, “*Keep track on the records of the students whether they participating the program or not*”, “*Assess the improvement of the students belong to the program*” and “*Often check if the program is still aligned with the needs of the students*” yielded the highest mean score ( $M=4.71$ ,  $SD=0.58$ ,  $0.60$ ,  $0.57$ ) and was remarked as To the Very Great Extent. This is followed by “*Monitors the progress of the students that are included in the program*” with a mean score ( $M=4.70$ ,  $SD=0.59$ ) and was also remarked as To the Very Great Extent. On the other hand, the statement “*Re-evaluate the processes and activities of the program to ensure that it has a positive impact on the students*” received the lowest mean score of responses with ( $M=4.67$ ,  $SD=0.62$ ) yet was also remarked To the Very Great Extent.

The extent of the School-Based Feeding Program Strategies as to Evaluation attained a weighted mean score of 4.70 and a standard deviation of 0.59 and was To the Very Great Extent among the respondents. Evaluation is a powerful tool that can be used to inform and strengthen school health programs. The primary aims of evaluations are to determine the extent to which the program is being implemented as planned, to assess the outcomes, impact, and effectiveness, and if any aspects have not worked well, to identify the key lessons learned,

However, comprehensive reviews of empirical research and program evaluation reports have shown that although SBFP have had positive impacts on class participation, their impacts on nutritional outcomes have been rather unclear and partly blamed the substitution effect of school feeding on home consumption for the lack of effect, Government of Ghana, (2016).

**Table 4. Extent of School-Based Feeding Program with Regards to Compliance to DepEd order 10 s. 2016 as to Waste management**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Provide proper garbage bags and bins for every type of waste.</i>	4.71	0.59	To the very great extent
<i>Practice appropriate waste management.</i>	4.72	0.59	To the very great extent
<i>Transport waste materials using proper techniques.</i>	4.73	0.59	To the very great extent
<i>Garbage and waste are placed properly that is not near the food processing location.</i>	4.70	0.60	To the very great extent
<i>Reduce on using unnecessary and inappropriate materials e.g. plastic cups/utensils.</i>	4.67	0.64	To the very great extent

Overall Mean = 4.71

Standard Deviation= 0.57

Verbal Interpretation= To the Very Great Extent

Table 4 illustrates the extent of School-Based Feeding Program with regards to Compliance to DepEd order 10 s. 2016 as to Waste Management

From the statements above, “*Transport waste materials using proper techniques*” yielded the highest mean score ( $M=4.73$ ,  $SD=0.59$ ) and was remarked as To the Very Great Extent. This is followed by “*Practice appropriate waste management*” with a mean score ( $M=4.72$ ,  $SD=0.59$ ) and was also remarked as To the Very Great Extent. On the other hand, the statement “*Reduce on using unnecessary and inappropriate materials e.g. plastic cups/utensils*” received the lowest mean score of responses with ( $M=4.67$ ,  $SD=0.64$ ) yet was also remarked To the Very Great Extent.

The extent of School-Based Feeding Program Compliance to DepEd order 10 s. 2016 Wash in Schools (WinS) as to Waste Management attained a weighted mean score of 4.71 and a standard deviation of 0.57 and was To the Very Great Extent among the respondents. Conducting activities such as school cleaning programs, access to safe drinking water, improving toilet and hand washing facilities, waste disposal pits in school, construction of classrooms, toilets, etc. helped to improve the school environment. It also involved school cleaning; improving access to safe drinking water, toilet, and hand-washing facilities; and constructing toilets and waste disposal pits in schools. The teachers in the project schools were trained to conduct SHN activities. The students in project schools had better access to various school health services, hygiene and sanitation facilities, and more child club activities and special health classes compared to those in comparison schools. Eventually, better access to hygiene and sanitation facilities improved students’ hygiene practices, and their improved hygiene practices were associated with positive health outcomes.

Sharma, S. et al. (2018), conducted research to determine the preliminary impact of the Brighter Bites nutrition intervention on decreasing fruit and vegetable (F&V) waste at school lunches among fourth- and fifth-grade children. The main outcome measures were direct observation and weights to measure the number of F&V dishes selected at school lunches, the amount of F&V wasted (gm), and related nutrient waste (4 time points/child). Mixed-effects linear regression analysis was used to determine change in F&V selection and waste over time.

**Table 5. Extent of School-Based Feeding Program with Regards to Compliance to DepEd order 10 s. 2016 as to Proper Drainage**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Provide and install trench and channel drains.</i>	4.66	0.61	To the very great extent
<i>Allow drainage runoff to channel back into the ground where natural processes can filter it before it flows into rivers, lakes, and oceans.</i>	4.66	0.66	To the very great extent
<i>Utilize an in-ground drainage system.</i>	4.68	0.62	To the very great extent
<i>Enough headroom to handle sudden downpours without compromising its performance</i>	4.65	0.64	To the very great extent
<i>Allow the water system to flow appropriately without having any smell or bad odor.</i>	4.67	0.64	To the very great extent

Overall Mean = 4.67

Standard Deviation= 0.63

Verbal Interpretation= To the Very Great Extent

Table 5 illustrates the extent of School-Based Feeding Program Compliance to DepEd order 10 s. 2016 as to Proper Drainage

From the statements above, “*Utilize an in-ground drainage system*” yielded the highest mean score ( $M=4.68$ ,  $SD=0.62$ ) and was remarked as To the Very Great Extent. This is followed by “*Allow the water system to flow appropriately without having any smell or bad odor*” with a mean score ( $M=4.67$ ,  $SD=0.64$ ) and was also remarked as To the Very Great Extent. On the other hand, the statement “*Enough headroom to handle sudden downpours without compromising its performance*” received the lowest mean score of responses with ( $M=4.65$ ,  $SD=0.64$ ) yet was also remarked To the Very Great Extent.

The extent of School-Based Feeding Program Compliance to DepEd order 10 s. 2016 as to Proper Drainage attained a weighted mean score of 4.67 and a standard deviation of 0.63 and was To the Very Great Extent among the respondents. School feeding programs may help to ameliorate some problems. The goals of school feeding programs differ, but often include relieving short-term hunger, improving micronutrient status, growth, cognition, and academic performance in both higher and lower-income countries.

Sahagun, J.A. (2022), aims to evaluate the School-Based Feeding Program (SBFP) and its impact on schools at Raposo Elementary School, Candelaria district, division of Zambales. This study revealed that SBFP has an excellent impact on key indicators of school performance. It is also found out that this program alleviates short-term hunger and improves the nutritional status of learners. But it could be inferred that the positive attitude of parents towards the schooling of their child is the least attributed effect of SBFP. Thus, there is a need to strengthen parental involvement in organizing and implementing the SBFP and to revamp the policy framework detailing the management of the program. Therefore, as an output of this study, the proposed comprehensive school improvement plan of SBFP was designed to increase its beneficial effect and healthier operational practices.

Table 6 illustrates the extent of School-Based Feeding Program Compliance to DepEd order 10 s. 2016 Wash in School (WinS) as to Elimination of Breeding Grounds for Mosquitoes

From the statements above, “*Remove any materials that may become houses for mosquitoes*” and “*Turn over or remove clay pots and plastic containers*” yielded the highest mean score ( $M=4.72$ ,  $SD=0.53$ ) and was remarked as To the Very Great Extent. This is followed by “*Cover water drums and/or container to ensure that mosquitoes cannot use it for breeding*” and “*Clean all edges and corners of the school to get rid for the possible breeding grounds for mosquitoes*” with a mean score ( $M=4.71$ ,  $SD=0.52$ ) and was also remarked as To the Very Great Extent.

On the other hand, the statement “*Clean rain gutters to allow water to flow freely*” received the lowest mean score of responses with ( $M=4.70$ ,  $SD=0.58$ ) yet was also remarked To the Very Great Extent.

**Table 6. Extent of School-Based Feeding Program Compliance to DepEd order 10 s. 2016 as to Elimination of Breeding Grounds for Mosquitoes**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Clean rain gutters to allow water to flow freely.</i>	4.70	0.58	To the very great extent
<i>Remove any materials that may become houses for mosquitoes.</i>	4.72	0.53	To the very great extent
<i>Turn over or remove clay pots and plastic containers.</i>	4.72	0.54	To the very great extent
<i>Cover water drums and/or container to ensure that mosquitoes cannot use it for breeding.</i>	4.71	0.52	To the very great extent
<i>Clean all edges and corners of the school to get rid for the possible breeding grounds for mosquitoes.</i>	4.71	0.55	To the very great extent

Overall Mean = 4.71

Standard Deviation= 0.54

Verbal Interpretation= To the Very Great Extent

The extent of the School-Based Feeding Program Compliance to DepEd order 10 s. 2016 Wash in Schools (WinS) as to Elimination of Breeding Grounds for Mosquitoes attained a weighted mean score of 4.71 and a standard deviation of 0.54 and was To the Very Great Extent among the respondents. The largest effects of feeding in early childhood on growth are likely to be found between the ages of 6 and 24 or 36 months. The growth may not be as important as other outcomes such as improved physical and psychological health, the brain is sensitive to short-term lack of nutrients, and this may be particularly problematic for children who are undernourished and morning feeding might produce emotional benefits, enhance the ability to work, lead to 'transient' improvements in cognition and improve classroom behavior if classrooms are well set up.

Also, school-feeding programs may increase attendance, particularly in rural low-income schools in developing countries. Outside factors such as home environment seemed to have at least as much effect as school feeding; greater improvement might be achieved if both diet and the environments in which children lived and learned were improved, (Levinger 2016).

Table 7 illustrates the extent of School-Based Feeding Program with regards to Compliance to DepEd order 10 s.2016 as to Food Sanitation & Safety

From the statements above, “*Show proper personal hygiene*”, “*Proper cleaning and sanitizing of all food contact surfaces and utensils*”, “*Proper cleaning and sanitizing of food equipment*” and “*Ensures that foods are free from contamination*” yielded the highest mean score ( $M=4.76$ ,  $SD=0.51$ ,  $0.52$ ,  $0.50$ ) and was remarked as To the Very Great Extent. On the other hand, the statement “*Provide water faucet and clean water all the time*” received the lowest mean score of responses with ( $M=4.75$ ,  $SD=0.54$ ) yet was also remarked To the Very Great Extent.

**Table 7. Extent of School-Based Feeding Program Compliance Wash in Schools (WinS) as to Food Sanitation and Safety**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Show proper personal hygiene</i>	4.76	0.51	To the very great extent
<i>Proper cleaning and sanitizing of all food contact surfaces and utensils</i>	4.76	0.52	To the very great extent
<i>Provide water faucet and clean water all the time.</i>	4.75	0.54	To the very great extent



<i>Proper cleaning and sanitizing of food equipment.</i>	4.76	0.50	To the very great extent
<i>Ensures that foods are free from contamination.</i>	4.76	0.50	To the very great extent

**Overall Mean = 4.76**

**Standard Deviation= 0.51**

**Verbal Interpretation= To the Very Great Extent**

The extent of the school-Based Feeding Program Compliance Wash in Schools (WinS) as to Food Sanitation and Safety attained a weighted mean score of 4.76 and a standard deviation of 0.51 and was To the Very Great Extent among the respondents. Schools have been a powerful setting to promote health programs. The School Health and Nutrition (SHN) program is a cost-effective intervention for resource-poor countries where more schools and teachers are available than health care institutions and workers. Many school-aged children in these countries are affected by treatable and preventable illnesses. School children's ill health can be associated with poor cognitive development, learning, and academic performance.

As stated in the School District Action Plan (2017), School Heads and teachers should recognize that the health of the student is directly related to personal hygiene and cleanliness. Students who are present at school on a regular basis benefit from increased instruction and learning. To support this need, the district has established practices to reduce the spread of bacteria and viruses, such as the flu, the common cold, Norovirus, and Hepatitis A. Students shall have access to hand washing or sanitizing before and after meals and snacks. School staff is directed to implement these procedures whenever students use the restroom and prior to dining. Hand washing helps to reduce the spread of bacteria and viruses, from person to person and from people to food contact surfaces which are the main cause of the spread of Norovirus, the common cold and the flu, reduce germs and bacteria found on the hands to safe levels, to prevent or to eliminate the spread of bacteria and viruses, which increase the spread of illness in the cafeteria and classroom, reinforce and practice personal hygiene practices with all students, and provide an opportunity for the class to develop correct hand washing procedures and then apply the procedures on a regular basis.

Table 8 illustrates the extent of School-Based Feeding Program Promotion of health and nutrition information in terms of Food Safety.

From the statements above, "Always check the expiration dates and nutrient contents of every ingredient use for cooking", "Monitors if foods contain nutrients that are needed by the student" and "Foods are free from contamination and not expose with airborne bacteria" yielded the highest mean score ( $M=4.76$ ,  $SD=0.51$ ,  $0.50$ ) and was remarked as To the Very Great Extent. On the other hand, the statement "Food storage for the proper time and at safe temperatures" and "Check whether the ingredients are fresh" received the lowest mean score of responses with ( $M=4.74$ ,  $SD=0.52$ ,  $0.53$ ) yet was also remarked To the Very Great Extent.

**Table 8. Extent of School-Based Feeding Program Promotion of health and nutrition information in Terms of Food Safety**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Food storage for the proper time and at safe temperatures.</i>	4.74	0.52	To the very great extent
<i>Check whether the ingredients are fresh.</i>	4.74	0.53	To the very great extent
<i>Always check the expiration dates and nutrient contents of every ingredient use for cooking.</i>	4.76	0.51	To the very great extent
<i>Monitors if foods contain nutrients that are needed by the student.</i>	4.76	0.51	To the very great extent

<i>Foods are free from contamination and not expose with airborne bacteria.</i>	4.76	0.50	To the very great extent
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**Overall Mean = 4.75**

**Standard Deviation= 0.52**

**Verbal Interpretation= To the Very Great Extent**

The extent of School-Based Feeding Program with regards to Promotion of health and nutrition information in terms of Food Safety attained a weighted mean score of 4.75 and a standard deviation of 0.52 and was To the Very Great Extent among the respondents. The ability to combat food-borne illnesses in food facilities and institutional catering units require sufficient knowledge on food safety and sanitation standards by food producers and consumers.

Kim, et. al., (2013), studied the hand hygiene behavior of 400 middle school students (grades 1-3) in Seoul and Gyeonggi-Do to determine how stages of change were affected by food safety education, focusing on hand hygiene and general food safety. After food safety education by high-school mentors, middle-school students who were in the stages of pre-contemplation and contemplation showed significant progression toward the action stage. Proper hand washing and food safety knowledge were also significantly increased after educational intervention.

**Table 9. Extent of School-Based Feeding Program Promotion of health and nutrition information in Terms of Hygiene**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Separate raw and dry ingredients to ensure the cleanliness of the food.</i>	4.74	0.49	To the very great extent
<i>Use safe and clean water for preparing and cooking foods.</i>	4.77	0.49	To the very great extent
<i>Handle and store foods on a proper food storage.</i>	4.75	0.51	To the very great extent
<i>Cook food in a kitchen with proper ventilation.</i>	4.77	0.48	To the very great extent
<i>Location for food preparation and cooking are clean and not prone for bacteria.</i>	4.76	0.49	To the very great extent

**Overall Mean = 4.76**

**Standard Deviation= 0.49**

**Verbal Interpretation= To the Very Great Extent**

Table 9 illustrates the extent of School-Based Feeding Program Promotion of health and nutrition information in terms of Hygiene.

From the statements above, “Use safe and clean water for preparing and cooking foods” and “Cook food in a kitchen with proper ventilation” yielded the highest mean score ( $M=4.77$ ,  $SD=0.49$ , 0.78) and was remarked as To the Very Great Extent. This is followed by “Location for food preparation and cooking are clean and not prone for bacteria” with a mean score ( $M=4.76$ ,  $SD=0.49$ ) and was also remarked as To the Very Great Extent. On the other hand, the statement “Separate raw and dry ingredients to ensure the cleanliness of the food” received the lowest mean score of responses with ( $M=4.74$ ,  $SD=0.59$ ) yet was also remarked To the Very Great Extent.

The extent of School-Based Feeding Program Promotion of health and nutrition information in terms of Hygiene attained a weighted mean score of 4.76 and a standard deviation of 0.49 and was To the Very Great Extent among the respondents. It is necessary to provide basic oral hygiene aids like toothbrush, tooth paste etc. free of cost or at concessional rates to the underprivileged and neglected sections of the society; include dental health education into the existing school curriculum; and co-ordinate efforts between school personnel, dental health professionals, and parents to ensure long-term benefits.

Ventura & Goncalves (2015), characterized the process of buying Family Farming (FF) food for the Brazilian School Feeding Program (BSFP) and compare the quality of menus served to the schoolchildren before and after the implementation. The lack of interest of farmers and the deficient hygienic and sanitary conditions were the main difficulties reported. The study showed that the quality of the menus offered to school children improved significantly after the implementation of FF purchases. The partnership between FF and BSFP can contribute greatly to the development of healthy eating habits, not only by offering better nutritional quality menus, but also by implementing nutritional education activities guided by the sustainable production and consumption of food.

**Table 10. Extent of School-Based Feeding Program Promotion of Health and Nutrition information in Terms of Monitoring**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Frequently check the ingredients whether it is still safe to use or need to dispose.</i>	4.77	0.51	To the very great extent
<i>Monitors the progress of the student with regards to the effects of feeding program.</i>	4.79	0.50	To the very great extent
<i>Modify things that are needed to be change during the implementation of the program.</i>	4.78	0.50	To the very great extent
<i>Ensures that health is being monitored and prioritize.</i>	4.77	0.50	To the very great extent
<i>Make sure that the goals of the program are being achieve.</i>	4.77	0.51	To the very great extent

Overall Mean = 4.78

Standard Deviation= 0.50

Verbal Interpretation= To the Very Great Extent

From the statements above, “Monitors the progress of the student with regards to the effects of feeding program” yielded the highest mean score ( $M=4.79$ ,  $SD=0.50$ ) and was remarked as To the Very Great Extent. This is followed by “Modify things that are needed to be change during the implementation of the program” with a mean score ( $M=4.78$ ,  $SD=0.50$ ) and was also remarked as To the Very Great Extent. On the other hand, the statement “Frequently check the ingredients whether it is still safe to use or need to dispose”, “Ensures that health is being monitored and prioritize” and “Make sure that the goals of the program are being achieve” received the lowest mean score of responses with ( $M=4.77$ ,  $SD=0.50$ ,  $0.51$ ) yet was also remarked To the Very Great Extent.

The extent of School-Based Feeding Program Promotion of health and nutrition information in terms of Monitoring attained a weighted mean score of 4.78 and a standard deviation of 0.50 and was To the Very Great Extent among the respondents. The persistence of hunger, malnutrition, and micronutrient deficiencies can have long lasting effects on the health status and productivity of people and their nations. Early malnutrition can adversely affect physical, mental, and social aspects of child health, which in turn leads to underweight, stunted growth, lowered immunity, and mortality. The physical effects of malnutrition as measured by indicators such as body mass index (BMI), have a significant impact on an individual's productivity and wages.

Oro, et.al, (2018), states that the Philippine National Nutrition Survey conducted by the Food and Nutrition Research Institute of the Department of Science and Technology (FNRI-DOST) in 2013 presented that 31.1% of children in the Philippines (ages 5–10) were stunted, 31.2% were underweight, and 8.4 % were wasted. When the age bracket is raised to 10-19 years, 31.9% of children were reported as stunted, and 12.5% were reported as wasted, according to 2015 data. In the Department of Education (DepEd) Nutrition Status Baseline Report for School Year (SY) 2015–2016, there were 1,845,687 severely wasted and wasted students from kindergarten to Grade 6. Both perennial and arising nutritional concerns of the Philippines continuously call for more aggressive action and greater focus to be able to develop systems that result in sustainable gains in nutritional outcomes. Therefore, considering the nutritional intake of school-aged children could be important in this regard. Malnutrition might cause several problems in the trend of growth and accelerate cognitive impairment.

### Level of Student Health Outcomes

In this study, the level of students' health outcomes was described in terms of mental well- being, physical health, and social health and was determined by the weighted mean and standard deviation. Food security strongly influences positive mental health outcomes in children and teens, and schools can ensure that students have access to the nutritious food they need to learn and thrive.

**Table 11. Level of Student's Health Outcomes in Terms of Mental well- being**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Stay positive and optimistic at all times.</i>	4.70	0.57	Very High

<i>Appeal to own senses and emotions.</i>	4.69	0.59	Very High
<i>Eat a brain-healthy diet to support strong mental health.</i>	4.71	0.56	Very High
<i>Practice healthy sleeping routines.</i>	4.72	0.57	Very High
<i>Take care of own self.</i>	4.72	0.56	Very High

Overall Mean = 4.71

Standard Deviation= 0.57

Verbal Interpretation= Very High

Table 11 illustrates the level of Student's Health Outcomes in terms of Mental well-being.

From the statements above, "*Practice healthy sleeping routines*" and "*Take care of own self*" yielded the highest mean score ( $M=4.72$ ,  $SD=0.57$ ,  $0.56$ ) and was remarked as Very High. This is followed by "*Eat a brain-healthy diet to support strong mental health*" with a mean score ( $M=4.71$ ,  $SD=0.56$ ) and was also remarked as Very High. On the other hand, the statement "*Appeal to own senses and emotions*" received the lowest mean score of responses with ( $M=4.69$ ,  $SD=0.59$ ) yet was also remarked as Very High.

The level of Student Health Outcomes in terms of Mental well-being attained a weighted mean score of 4.71 and a standard deviation of 0.57 and was Very High among the respondents. Chronic malnutrition is highly prevalent in sub-Saharan Africa, especially among poor rural households, and it is mainly caused by morbidity and inadequate dietary intake. Infants and young children are most affected by the physical and mental deficits occurring due to chronic malnutrition.

Hanks, Q. (2018), states that food insecurity is correlated with unfavorable mental health and behavioral outcomes among children and teens. Food insecurity is associated with apathy, lack of motivation, and lower levels of engagement in the classroom. Children struggling with food insecurity also are more likely to experience anxiety and irritability, and teens face a higher risk of developing depression, bipolar disorder, and suicidal tendencies. Children who come from food-insecure households also are more likely to have impaired social skills, and difficulty forming interpersonal relationships.

**Table 12. Level of Student's Health Outcomes in Terms of Physical Health**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Commit to a healthy diet.</i>	4.67	0.60	Very High
<i>Limit snacking and eating junk foods.</i>	4.69	0.64	Very High
<i>Do physical exercises and physical activities.</i>	4.74	0.57	Very High
<i>Maintain normal weight and height.</i>	4.73	0.56	Very high
<i>Take enough rest and do other leisure activities for relaxation.</i>	4.72	0.58	Very High

Overall Mean = 4.71

Standard Deviation= 0.59

Verbal Interpretation= Very High

Table 12 illustrates the level of Student's Health Outcomes in terms of Physical Health

From the statements above, "*Do physical exercises and physical activities*" yielded the highest mean score ( $M=4.74$ ,  $SD=0.57$ ) and was remarked as Very High. This is followed by "*Maintain normal weight and height*" with a mean score ( $M=4.73$ ,  $SD=0.56$ ) and was also remarked as Very High. On the other hand, the statement "*Commit to a healthy diet*" received the lowest mean score of responses with ( $M=4.67$ ,  $SD=0.60$ ) yet was also remarked Very High.

The level of Student Health Outcomes in terms of Physical Health attained a weighted mean score of 4.71 and a standard deviation of 0.59 and was Very High among the respondents. Major challenges identified include insufficient funds, inadequate physical infrastructures, and lack of trained human resources. Furthermore, poor coordination and partnerships between stakeholders are also significant hindrances. Food insecurity is the inability to provide adequate food for at least one household member sometime during the year. It is linked to negative physical and mental health outcomes.

Following a biopsychosocial model of food insecurity, Darling K. (2015), examined differences in physical health and mental health outcomes among young adults with and without a history of food insecurity. Young adults with a history of food insecurity had higher average levels of body mass index, waist-to-height ratio, depressive

symptoms, stress, and disordered eating scores than individuals with no history of food insecurity. No differences were found with symptoms of anxiety.

**Table 13. Level of Student's Health Outcomes in Terms of Social Health**

Statements	Mean	Standard Deviation	Very High
<i>Recognize how other people influence you.</i>	4.70	0.56	Very High
<i>Interact and do socialization with other people around.</i>	4.72	0.58	Very High
<i>Share feelings and emotions with peer.</i>	4.70	0.58	Very High
<i>Initiate conversation with other people from the surroundings.</i>	4.71	0.56	Very High
<i>Engage self from the school and community activities.</i>	4.75	0.54	Very High

Overall Mean = 4.72

Standard Deviation= 0.56

Verbal Interpretation= Very High

Table 13 illustrates the level of Student's Health Outcomes in terms of Social Health

From the statements above, "*Engage self from the school and community activities*" yielded the highest mean score ( $M=4.75$ ,  $SD=0.54$ ) and was remarked as Very High. This is followed by "*Interact and do socialization with other people around*" with a mean score ( $M=4.72$ ,  $SD=0.58$ ) and was also remarked as Very High. On the other hand, the statement "*Recognize how other people influence you*" and "*Share feelings and emotions with peer*" received the lowest mean score of responses with ( $M=4.70$ ,  $SD=0.56$ ,  $0.58$ ) yet was also remarked as Very High.

The level of Student Health Outcomes in terms of Social Health attained a weighted mean score of 4.72 and a standard deviation of 0.56 and was To the Very High among the respondents. The impact of cooked school meals in India by comparing enrolment and attendance rates across academic years within treatment schools or through a cross-sectional comparison of participation rates in treatment and control schools. Although the results mostly show success of the program in raising enrolment and attendance rates, especially of girls, the estimation strategies neither account for the endogeneity of program placement nor the concurrent introduction of other public program which could impact school participation rates.

Early malnutrition and/or micronutrient deficiencies can negatively affect many aspects of a child's mental health and physical development. School feeding programs are designed to provide food to hungry children and to improve their physical, mental, and psychosocial health. (Kristjansson et al. 2017) reviewed the topic of school feeding. Results from higher-income countries were mixed but generally positive. For height, results from lower-income countries were mixed; in RCTs, differences in gains were important only for younger children, but results from the CBAs were large and significant overall. Results for height from high-income countries were mixed but generally positive. And results concerning mental and psychosocial health is also positive.

#### Level of Students' Educational Success

The Food for Education program is to increase their educational achievement to improve their potential future productivity and earnings. FFE programs increase school attendance by lowering the opportunity costs of attending school and providing additional incentives to engage in formal education. This leads to more time spent on learning.

**Table 14. Level of Student's Educational Success in Terms of Class Participation**

Statements	Mean	Standard Deviation	Very High
<i>Listen carefully with the class discussion.</i>	4.72	0.56	Very High
<i>Engage and participate on classroom activities.</i>	4.77	0.53	Very High
<i>Demonstrate interest towards the discussion.</i>	4.74	0.59	Very High
<i>Collaborate with other classmates.</i>	4.75	0.59	Very High



<i>Attend classes every day and avoid absences.</i>	4.75	0.54	Very High
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**Overall Mean = 4.75**

**Standard Deviation= 0.56**

**Verbal Interpretation= Very High**

From the statements above, “Engage and participate in classroom activities” yielded the highest mean score ( $M=4.77$ ,  $SD=0.53$ ) and was remarked as Very High. This is followed by “Collaborate with other classmates” and “Attend classes every day and avoid absences” with a mean score ( $M=4.75$ ,  $SD=0.59$ ,  $0.54$ ) and was also remarked as Very High. On the other hand, the statement “Listen carefully with the class discussion” received the lowest mean score of responses with ( $M=4.72$ ,  $SD=0.56$ ) yet was also remarked as Very High.

The level of Student’s Educational Success in terms of Class Participation attained a weighted mean score of 4.75 and a standard deviation of 0.56 and was Very High among the respondents. This reveals relatively consistent positive effects of school feeding on energy intake, micronutrient status, school enrollment, class participation, and attendance of the children participating in school feeding programs compared to non-participants. However, the impact of school feeding on growth, cognition, and academic achievement was less conclusive and was conceptualized to provide pupils at the public basic schools with one hot nutritious meal per day.

Bancy & Wanja (2014), investigate the influence of head teachers’ school feeding program practices on pupils’ class participation in public primary schools in Siakago division, Mbeere North, Kenya. Findings on the influence of procurement of food in a school feeding program on pupils’ participation in public primary schools revealed that the majority of 252 (96.9%) of pupils indicated that pupils’ participation had increased in the school due to the school feeding program. Majority 6(60.0%) of head teachers strongly agreed the hat school made efforts in increasing the participation of pupils by having initiative structures. Findings on the extent to which community participation in school feeding program influence pupils’ participation in public primary, the study found that community participation in school feeding programs influenced pupils’ participation in public primary schools. Findings on the influence of initiating structures such as bank accounts for school feeding programs helped in the management of the program, therefore the study concluded that initiating structures for school feeding programs influenced pupils’ participation in public primary schools. Schools had bank accounts for the school feeding program. The study lastly concluded that communities contributed to the purchasing of cooking utensils used for the food program and the community provided the casuals to cook for the children.

**Table 15. Level of Student’s Educational Success in Terms of Reasoning**

Statements	Mean	Standard Deviation	Very High
<i>Give own opinion and ideas regarding the certain topic.</i>	4.67	0.62	Very High
<i>Voice out opinion and feedbacks from the class discussion.</i>	4.71	0.62	Very High
<i>Capable of making decision for own self.</i>	4.71	0.61	Very High
<i>Explain thoughts and ideas from other peer and/or classmates.</i>	4.71	0.61	Very High
<i>Communicate effectively with the teacher and classmates.</i>	4.75	0.56	Very High

**Overall Mean = 4.71**

**Standard Deviation= 0.60**

**Verbal Interpretation= Very High**

From the statements above, “Communicate effectively with the teacher and classmates” yielded the highest mean score ( $M=4.75$ ,  $SD=0.56$ ) and was remarked as Very High. This is followed by “Voice out opinion and feedback from the class discussion”, “Capable of making the decision for own self” and “Explain thoughts and ideas from other peer and/or classmates” with a mean score ( $M=4.71$ ,  $SD=0.62$ ,  $0.61$ ) and was also remarked as Very High. On the other hand, the statement “Give own opinion and ideas regarding the certain topic” received the lowest mean score of responses with ( $M=4.67$ ,  $SD=0.62$ ) yet was also remarked as Very High.

The level of Student’s Educational Success in terms of Reasoning attained a weighted mean score of 4.71 and a standard deviation of 0.60 and was To Very High among the respondents. Not only are children motivated to

get into school but also there is a significant impact on their nutritional status and development, reasoning, cognitive capabilities, and academic performance. Literature has shown that the development and learning potential of the beneficiaries depend on the quality and nutrient components of food.

Maijo, S. (2018), assess the impact of school feeding program on pupil's reasoning and coherence in Mlunduzi ward, Tanzania. The results expose that the school feeding program had shown a significant impact on learners' academic performance in terms of coherence and logical thinking. The analysis has indicated that the school feeding program had increased examination performance, helped to get learners focused on lectures, and enhanced their logical thinking skills.

Table 16 illustrates the level of Student's Educational Success in terms of Comprehension.

From the statements above, "*Capable of writing knowledge that has been learned from the class discussion*" yielded the highest mean score ( $M=4.73$ ,  $SD=0.59$ ) and was remarked as Very High. This is followed by "*Able to re-tell stories, and information and/or give summarize of the lessons*" and "*Able to provide reflection and analysis on what have learned*" with a mean score ( $M=4.72$ ,  $SD=0.59$ ,  $0.61$ ) and was also remarked as Very High. On the other hand, the statement "*Improve vocabulary and reading comprehension*" and "*Focus on studying important things and avoid distractions*" received the lowest mean score of responses with ( $M=4.71$ ,  $SD=0.60$ ) yet was also remarked Very High.

**Table 16. Level of Student's Educational Success in Terms of Comprehension**

Statements	Mean	Standard Deviation	Verbal Interpretation
<i>Improve vocabulary and reading comprehension.</i>	4.71	0.60	Very High
<i>Focus on studying important things and avoid distractions.</i>	4.71	0.60	Very High
<i>Capable of writing knowledge that has been learned from the class discussion.</i>	4.73	0.59	Very High
<i>Able to re-tell stories, and information and/or give summarize of the lessons.</i>	4.72	0.59	Very High
<i>Able to provide reflection and analysis on what have learned.</i>	4.72	0.61	Very High

Overall Mean = 4.72

Standard Deviation= 0.60

Verbal Interpretation= Very High

The level of Student's Educational Success in terms of Comprehension attained a weighted mean score of 4.72 and a standard deviation of 0.60 and was Very High among the respondents. Poorly nourished children are often tired, apathetic, and unable to concentrate. Physical activity is associated with improved learning comprehension and concentration, better mood, and behavior as well a healthy weight. Developing strong, supportive relationships in schools provides a safer and more inclusive environment for students to engage in their studies and learn.

The nutritional records as well as the academic records of the elementary pupils of Bulua Central School showed that nutritional status has a tremendous effect on the academic performance of students. Records show that students with normal nutritional status have higher grades in Mathematics and English language and comprehension than those students who are severely wasted, (Krasdjanson, A. 2017).

**Table 17. Level of Student's Educational Success in Terms of Critical Thinking Skills**

Statements	Mean	Standard Deviation	Very High
<i>Practice active listening and improve comprehension.</i>	4.77	0.57	Very High
<i>Do not hesitate to ask for clarifications or questions from teachers.</i>	4.75	0.58	Very High
<i>Develop self-awareness and balance thinking.</i>	4.76	0.58	Very High

<i>Capable of identifying the problem and formulate solutions for it.</i>	4.76	0.59	Very High
<i>Analyze own decision and evaluate own actions.</i>	4.78	0.59	Very High

**Overall Mean = 4.76**

**Standard Deviation= 0.58**

**Verbal Interpretation= Very High**

From the statements above, “*Analyze own decision and evaluate own actions*” yielded the highest mean score ( $M=4.78$ ,  $SD=0.59$ ) and was remarked as Very High. This is followed by “*Practice active listening and improve comprehension*” with a mean score ( $M=4.77$ ,  $SD=0.57$ ) and was also remarked as Very High. On the other hand, the statement “*Do not hesitate to ask for clarifications or questions from teachers*” received the lowest mean score of responses with ( $M=4.75$ ,  $SD=0.58$ ) yet was also remarked as Very High.

The level of Student’s Educational Success in terms of Critical Thinking Skills attained a weighted mean score of 4.76 and a standard deviation of 0.58 and was Very High among the respondents. The purpose of school feeding program usually differs includes alleviating short-term hunger, enhancing health, school attendance and cognitive ability. Short-term hunger in some schools is a major challenge that alters critical thinking and academic performance. However, supplying food support to primary schools’ children in constantly food insecure areas aim to diminish short term hunger in classrooms. The purpose is to improve learning performance among learners. Hence, the impact of school feeding program had investigated empirically that learners who get food in school have shown the increase of scores than those who have not involved in the program.

Ash et al. (2013) states that although Food for Education programs are promoted for increasing educational achievement, they also play an important role in achieving the nutritional goal. For families facing poverty, food choices are usually limited, resulting in nutritionally inadequate diets that are often deficient in vital micronutrients. Deficiencies of micronutrients such as iron or vitamin B-12 can result in increased vulnerability to infections, stunted growth, and diminished cognitive performance and critical thinking in school-age children.

**Table 18. Level of Student’s Educational Success in Terms of Problem Solving**

Statements	Mean	Standard Deviation	Very High
<i>Find answers on the given problem without experiencing too much stress.</i>	4.66	0.68	Very High
<i>Able to identify what is being asked in the problem and solve it without hesitation.</i>	4.69	0.64	Very High
<i>Solve problems using own understanding.</i>	4.68	0.65	Very High
<i>Revisit past problems and connect it on the new problems so that solution can be easily made.</i>	4.68	0.65	Very High
<i>Recognize if there are some mistakes and take responsibly on own actions.</i>	4.69	0.67	Very High

**Overall Mean = 4.68**

**Standard Deviation= 0.65**

**Verbal Interpretation= Very High**

Table 18 illustrates the level of Student’s Educational Success in terms of Problem-Solving.

From the statements above, “*Able to identify what is being asked in the problem and solve it without hesitation*” and “*Recognize if there are some mistakes and take responsibly on own actions*” yielded the highest mean score ( $M=4.69$ ,  $SD=0.64$ ,  $0.67$ ) and was remarked as Very High. This is followed by “*Solve problems using own understanding*” and “*Revisit past problems and connect it on the new problems so that solution can be easily made*” with a mean score ( $M=4.68$ ,  $SD=0.65$ ) and was also remarked as Very High. On the other hand, the statement “*Find answers on the given problem without experiencing too much stress*” received the lowest mean score of responses with ( $M=4.66$ ,  $SD=0.68$ ) yet was also remarked Very High.

The level of Student’s Educational Success in terms of Problem-Solving attained a weighted mean score of 4.68 and a standard deviation of 0.65 and was Very High among the respondents. Hunger, with its adverse

consequences for children, continues to be an important national problem. Among children who reported severe hunger were more likely to have posttraumatic stress disorder.

The most important period of growth and body composition occurs in the first several years of life, well before enrollment in Food for Education program would begin. But snacks can be easily fortified to help provide micronutrients that are commonly missing from children's diets. This is especially important for school-age children, as the brain is sensitive to a lack of nutrients in the short term, which may be especially a problem for malnourished children (Pollitt 2015).

### Effect of School-Based Feeding Program on Students' Health Outcomes

To summarize the nutrition literature on the impact of school feeding, focusing primarily on the relationship between school feeding and changes in the nutritional and health outcomes of targeted school-aged children and secondarily on more established cognitive and educational outcomes.

Table 19 presents the significant effect of School-Based Feeding Programs on the Students' Health Outcomes. The *Planning, Implementation, Evaluation, Waste Management, Proper Drainage, Elimination of Breeding grounds for mosquitoes, Food Sanitation and Safety, Food Safety, Hygiene, and Monitoring* of the School-Based Feeding Program were observed to have a significant effect on the Students' Health Outcomes.

**Table 19. Significant Effect of School-Based Feeding Program to the Students' Health Outcomes**

School-Based Feeding Program	Health Outcomes	F	p-value	Analysis
Planning	Mental well-being	19.052	.000	Significant
	Physical health	15.019	.000	Significant
	Social health	17.429	.000	Significant
Implementation	Mental well-being	21.380	.000	Significant
	Physical health	17.452	.000	Significant
	Social health	19.188	.000	Significant
Evaluation	Mental well-being	23.037	.000	Significant
	Physical health	19.999	.000	Significant
	Social health	23.050	.000	Significant
Waste Management	Mental well-being	52.960	.000	Significant
	Physical health	41.195	.000	Significant
	Social health	60.482	.000	Significant
Proper Drainage	Mental well-being	38.643	.000	Significant
	Physical health	31.461	.000	Significant
	Social health	40.962	.000	Significant
Elimination of Breeding grounds for mosquitoes	Mental well-being	30.871	.000	Significant
	Physical health	22.943	.000	Significant
	Social health	25.545	.000	Significant
Food Sanitation and Safety	Mental well-being	46.954	.000	Significant
	Physical health	34.486	.000	Significant
	Social health	38.334	.000	Significant
Food Safety	Mental well-being	83.502	.000	Significant
	Physical health	45.685	.000	Significant
	Social health	54.913	.000	Significant
Hygiene	Mental well-being	46.501	.000	Significant
	Physical health	30.074	.000	Significant
	Social health	33.390	.000	Significant
Monitoring	Mental well-being	56.381	.000	Significant
	Physical health	36.189	.000	Significant
	Social health	33.761	.000	Significant

This is based on the computed F values obtained from the tests. Furthermore, the p-values obtained were less than the significance alpha 0.05, hence there is a significance.

From the findings above, we can infer that at 0.05 level of significance, the null hypothesis "There is no significant effect of School-Based Feeding Program to the Students' Health Outcomes" is rejected. Thus, the

alternative should be accepted which incites that there is a significant effect between them. A link between food insecurity and negative health outcomes in both children and adults is present. Children in households with food insecurity have poorer general health, as well as more frequent headaches and stomachaches than children in food-secure households. They are also at greater risk of developing chronic conditions such as asthma, obesity, and stunted growth. Adults from households with food insecurity report a higher prevalence of hypertension and hyperlipidemia than adults in food-secure homes. Limited food negatively affects the social, emotional, and behavioral development of children and adolescents. Additionally, food insecurity may inhibit a student's social skills and increase their risk for additional mental health challenges.

**Table 20. Significant Effect of School-Based Feeding Program to the Students' Educational Success**

School-Based Feeding Program	Educational Success	F	p-value	Analysis
<b>Planning</b>	Class Participation	18.383	.000	Significant
	Reasoning	19.786	.000	Significant
	Comprehension	21.619	.000	Significant
	Critical thinking	14.078	.000	Significant
	Problem-Solving	9.679	.000	Significant
<b>Implementation</b>	Class Participation	20.193	.000	Significant
	Reasoning	22.737	.000	Significant
	Comprehension	32.780	.000	Significant
	Critical thinking	29.442	.000	Significant
	Problem-Solving	12.143	.000	Significant
<b>Evaluation</b>	Class Participation	20.975	.000	Significant
	Reasoning	21.695	.000	Significant
	Comprehension	28.655	.000	Significant
	Critical thinking	17.760	.000	Significant
	Problem-Solving	11.046	.000	Significant
<b>Waste Management</b>	Class Participation	44.961	.000	Significant
	Reasoning	29.852	.000	Significant
	Comprehension	25.940	.000	Significant
	Critical thinking	16.479	.000	Significant
	Problem-Solving	12.783	.000	Significant
<b>Proper Drainage</b>	Class Participation	38.729	.000	Significant
	Reasoning	28.847	.000	Significant
	Comprehension	34.589	.000	Significant
	Critical thinking	26.945	.000	Significant
	Problem-Solving	16.191	.000	Significant
<b>Elimination of Breeding grounds for mosquitoes</b>	Class Participation	21.861	.000	Significant
	Reasoning	14.824	.000	Significant
	Comprehension	11.727	.000	Significant
	Critical thinking	5.093	.000	Significant
	Problem-Solving	6.321	.000	Significant
<b>Food Sanitation and Safety</b>	Class Participation	39.457	.000	Significant
	Reasoning	28.890	.000	Significant
	Comprehension	27.570	.000	Significant
	Critical thinking	19.115	.000	Significant
	Problem-Solving	11.656	.000	Significant
<b>Food Safety</b>	Class Participation	73.638	.000	Significant
	Reasoning	38.028	.000	Significant
	Comprehension	24.076	.000	Significant
	Critical thinking	11.439	.000	Significant
	Problem-Solving	13.632	.000	Significant
<b>Hygiene</b>	Class Participation	35.463	.000	Significant
	Reasoning	25.674	.000	Significant
	Comprehension	14.273	.000	Significant
	Critical thinking	7.453	.000	Significant



<b>Monitoring</b>	Problem-Solving	9.469	.000	Significant
	Class Participation	37.688	.000	Significant
	Reasoning	34.061	.000	Significant
	Comprehension	51.978	.000	Significant
	Critical thinking	41.826	.000	Significant
	Problem-Solving	14.603	.000	Significant

Table 20 presents the significant effect of School-Based Feeding Programs on Students' Educational Success.

The *Planning, Implementation, Evaluation, Waste Management, Proper Drainage, Elimination of Breeding grounds for mosquitoes, Food Sanitation and Safety, Food Safety, Hygiene, and Monitoring* of the School-Based Feeding Program were observed to have a significant effect to the Students' Educational Success. This is based on the computed F values obtained from the tests. Furthermore, the p-values obtained were less than the significance alpha 0.05, hence there is a significance.

From the findings above, we can infer that at 0.05 level of significance, the null hypothesis "*There is no significant effect of School-Based Feeding Program to the Students' Educational Success*" is rejected. Thus, the alternative should be accepted which incites that there is a significant effect between them. Improving educational outcomes is one of the top priorities in most countries, especially in the developing world, which lags behind high-income countries with respect to many educational indicators. This concern is partially driven by the idea that the training of human capital through education is one of the main drivers of economic growth.

### Conclusions:

After using the necessary statistical tools and through analysis of the data gathered the following conclusions were drawn:

There was a significant effect between school-based feeding program and the health outcomes of elementary students in the Pagsanjan district

There was a significant effect between the school-based feeding program and the educational success of elementary students in the Pagsanjan district.

### Recommendations

Based on the conclusions drawn from the significant findings and conclusions of the study, the following recommendations are offered:

1. For the School Heads, should involve professional social workers at different levels of steps and structure to get technical support for further effect and quality of the service delivery of the program, they could also tap the help of stakeholders, donors, and the community at large to enhance the efficiency and effectiveness of the program.
2. For the SBFP Coordinators, should connect with other agencies/ linkages. Tap the support from the Rural Health Units and LGU's Participation of different stakeholders. Conducting seminars for the parents of the beneficiaries for them to light up the importance of having good nutrition.
3. Schools-based feeding beneficiaries must undergo individual monitoring and strict implementation of the school-based feeding program for better results, especially for students the age of 8 and below to minimize the number of underweight on the higher level.
4. For future researchers, it is highly suggested that they include other variables that may have an impact on the level of physical growth and academic performance of the beneficiaries like level of quality education, instructional media, family follow-ups, educational facilities of the school, health status, and factors that may affect the program participation of the beneficiaries.

### ACKNOWLEDGEMENTS

With profound gratitude, the researcher wishes to acknowledge the following persons who share their genuine and selfless concern and assistance:

HON. PRESIDENT, MARIO R. BRIONES, Ed. D., University President, for his substantial contributions towards the completion of this study, and for sharing his wisdom and valuable experience to make this study a success.

DR. EDEN C. CALLO, Ed. D., Vice-President for the Academic Affairs of Laguna State Polytechnic University (Sta. Cruz Campus), and member of the panel for her encouragement and support to finish this study;

DR. ROSARIO G. CATAPANG, Ph. D., Dean College of Teacher Education, her beloved patience, and understanding, for her support, guidance, and patience in imparting her knowledge to the researcher.

DR. JULIE ROSE P. MENDOZA, Ed. D., Her Adviser, for her knowledge, generous advice, and scholarly guidance in the entire process of this study.

DR. BENJAMIN O. ARJONA, Ed. D, for helping the researcher in the Statistical data treatment of the study.

CHRISTIAN SAN LUIS, a member of the panel for his suggestions and constructive comments to make this work valuable.

DR. FLORHAIDA V. PAMATMAT, for her support, guidance, and patience in imparting her knowledge to the researcher.

Dr. ROSEMARIE D. SABADO, EdD, a member of the panel for her suggestions, valuable comments, and recommendations to make her research more realistic and meaningful.

MRS. EVELYN B. NAPIZA, LSPU School Registrar, for her support in updating the records of the researcher.

DR. FELICISIMO M. MARANA, District Supervisor of the researcher, for his understanding and continuing support for her personal and professional growth.

MRS. ARLEN C. CABANTOG, School Head of the Researcher, for her understanding and continuous support to finish her study.

Her parents, brothers and sisters, and in-laws, for their invaluable support.

Her loving children, James and Eunice, her inspiration, for keeping her desire and enthusiasm at height.

Her better half, Jerik, for his endless understanding, love, and generous assistance which this study would not have been made possible.

Most especially to the Greatest Teacher, ALMIGHTY GOD, who has made the impossible, possible, meaningless, and meaningful.

Indeed, behind the success of work are people who really care and who are willing to share.  
To all of them, my endless gratitude.

-The Researcher

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