

EVALUATION OF A SCHOOL-BASED FEEDING PROGRAM IN A PUBLIC SCHOOL IN CENTRAL LUZON, PHILIPPINES

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Abstract.

The Department of Education has directed school heads in public schools nationwide to feed malnourished pupils. In a rural school in Tarlac City, 40 pupils were found to be wasted and severely wasted in SY 2017-2018 based on their Body Mass Indices (BMI). Upon request of the school head, a double meal feeding program was conducted for 90 days by Tarlac State University -College of Education Extension, in partnership with government and non-government supporters. The study then evaluated the outcome of the feeding program in terms of its outcomes bases on the pupils' improvement in nutritional status, academic performance and their attitude in school. Participants of the study were 40 pupils under the feeding program, eight teachers and a school head and six parents who assisted the feeding program. Findings revealed that the nutritional status of 83% of the pupils became normal and their attitude towards classroom tasks, teachers, classmates, self-esteem and confidence improved but had not significantly improved pupils' academic performance. Further findings revealed that the best practices in the feeding program were the active participation of various school stakeholders, including the direct involvement of the external donors during the actual feeding days. However, there were some problems encountered along the process, which included pupils who did not report to school regularly and therefore had not completed the 90 days feeding program; some pupils who lacked appetite, especially in the morning; and some parents were too demanding. The study recommends drafting of policy when conducting feeding program; livelihood training skills for unemployed parents so they can provide nutritious meals at home; and training for mothers in preparing low cost nutritious meals. on Based on the findings of the study, A *trAC School-based* Feeding Program model was developed.

Keywords: *Academic Performance, Body Mass Index, Community Extension, Feeding program, Feeding Program Model, Proper Nutrition, Wasted, Severely Wasted*

Introduction

Community extension programs and activities must address the pressing needs of people to help them attain development. For this to be possible, a needs assessment survey must be conducted. In this way, the problems of the people are solved and opportunities are opened so that they can experience meaningful and productive lives. This is to fulfill the aim of the United Nations, which is to “promote social progress and better standard of life” among the member States. This development, according to the UN encompasses attainment of long and healthy life; acquiring quality education; having decent standard living; and freedom to participate in the life of one’s community (United Nations, 2018).

The United Nations’ aim of development is captured in almost all programs across the governments. In the Philippines, for example, the Department of Science and Technology continues to carry out researches to improve the tools and mechanisms that people use in their daily work or transactions; the Department of Health continues to explore all possible means to manage the health of the Filipinos so that they can function well in the society; and the Department of Social Welfare and Development assists and provides support for the underprivileged members of the community (USA.gov, 2018; Intellectual Property Office of the Philippines, 2018).

Moreover, educational institutions are directed to give the best for the learners and help them attain holistic development. Schools are expected to equip the learners with knowledge, skills and proper attitude to cope with the complexities of life. Schools are expected to actively involve in community programs and must in turn seek the participation of the community in school affairs (Jones, 2011; McCartney, 2015; World Data on Education, 2007; Official Gazette of the Philippines, 2013).

Development does not only pertain to accumulation of material resources but also, of possessing and sustaining good health. The World Health Organization (2018) stated that better health makes an important contribution to economic progress since healthy populations live longer and are more productive.

Health must then be a priority goal of the nation. Government agencies, hand-in-hand with private institutions, must endeavor to address the health needs of the communities. If the human resource is healthy, achieving development is most likely possible.

In a school setting, students must also be healthy to perform well academically (Chen and Lee, 2016; Baldwin, Towler, Oliver, and Datta, 2017). Good health improves learning potentials and enables students to take full opportunities of what the school can provide (Al-Shehri, 2002). This is the rationale behind the passage of Department Order No. 39, series of 2017, which directed all public schools to conduct feeding programs for malnourished pupils. This is called the School-Based Feeding Program (SBFP) under the Bureau of Learners Support Services -School Health Division (BLSSHD). This aims to improve the nutrition of wasted and severely wasted pupils by at least 70% at the end of 120 days. Secondly, it aims to increase attendance of the pupils by at least 85% to 100% and improve the pupils’ health, nutrition, values and behavior (DepED 2017).

The Tarlac State University College-based extension program then included health interventions to address health problems of the community. One of the adopted communities of TSU is a small public school situated in one of the poorest barangays in Tarlac City. Based on the measurement of the Body Mass Indices, 40 pupils were categorized to be wasted and severely wasted. The pupils needed to be enrolled in a feeding program. Although the Department of Education allotted budget, it is not adequate to sustain the long feeding days. According to the city health officer

interviewed by the researchers, feeding must last from 90 to 120 days to ensure that pupils gain normal nutrition.

After tapping linkages and networks, a feeding program was launched in October 2017. The feeding program was mostly funded by a non-government organization, Pioneer Project REACH, Inc, chaired by Dr. Alma M. Corpuz. Other supporters were Student Teachers' Organization of TSU College of Education batch 2018, chaired by Dr. Cynthia G. Quiambao, PI OMICRON International Organization headed by the TSU Chapter President Jomar Manuel, Philippine Association of Medical Technologists, Tarlac Chapter, headed by the president, Narcisa Agustin, and students of the Master of Arts in Education-Physical Science major, AY 2017-2018.

This study is then conducted in order to evaluate the outcomes of the feeding program and the inspirations that it brought to the extension providers, supporters and the recipients. Findings led to the development of model in conducting feeding programs in the community.

Literature Review

Around 51 million children across the globe are undernourished. Sixteen million under five years old are wasting, and 151 million children under 5 years of age are stunted (World Health Organization, 2018). Worldwide, malnutrition is the underlying cause of death of 2.6 million children each year. In developing countries, one in three children are stunted due to undernutrition and 11% of the global burden of disease is attributed to malnutrition. This is reported to be the number one risk to health worldwide (The Global Alliance of Improved Nutrition (2012).

The unabated malnutrition across the world had caused the implementation of various programs, especially for children. In April 2016, the United Nations General Assembly adopted a resolution, proclaiming the UN decade of action on nutrition from 2016 to 2025. The Decade aims to hasten policy commitments to step up efforts against malnutrition. This aims that all people have access to health and nutrition across the globe (World Health Organization, 2016).

To reduce health inequalities and leaving no one behind is also a part of the Sustainable Development Goals and the 2030 Agenda for Sustainable Development. All UN member nations are directed to identify inequalities and drivers of health inequalities. A potential strategy is to monitor maternal, infant and young child nutrition (World Health Organization, 2018).

Other programs offered by the United States Department of Agriculture (USDA) are Healthy Meals Resource System (HMRS), Commodity Supplemental Food Program (CSFP), Food Distribution Program on Indian Reservations (FDPIR), The Emergency Food Assistance Program (TEFAP), Child Adult Care Food Program (CACFP), Fresh Fruit and Vegetable Program (FFVP), National School Lunch Program (NSLP), School Breakfast Program (SBP), Special Milk Program (SMP) and Summer Food Service Program (SFSP) (USDA, 2018).

In the Philippines, the over-all objective of United Nations Children Fund Nutrition Programme (2018) on nutrition is to improve child survival, growth and development and thus, child survival through life-cycle nutrition security interventions. It aims to increase access to pregnant and lactating women and children under 5 years old to nutrition interventions that prevent under-nutrition and micro-nutrition deficiencies, treat acute malnutrition, and sustain positive nutrition behavior.

At the school level, the Department of Education also supports programs to make health and nutrition accessible to the school children. The DO No. 43, series of 2011 strengthened the School Health and Nutrition programs for the Achievement of

Education For All (EFA) and Millennium Development Goals (MDGs). In this DO, DepED enjoined the active participation of other Government Organizations (GOs), Local Government Units (LGUs), Non-government Organizations (NGOs), professional organizations, other private sector groups and concerned individuals. DepED highly encourages the collaboration of public and private agencies to help fight health and nutrition problems as the school level (DepED, 2011).

In addition, health and nutrition programs are deemed important since health and nutrition were found in some studies to affect academic performance. This is shown in the studies of Shaw, Gomes, Polotskaia, and Johnkowska (2015); National Center for Chronic Disease Prevention and Health Promotion (2014); Olivera (2012); and Ross (2010).

Researches were conducted to evaluate feeding programs among the malnourished children across the world. A feeding program was conducted in Lao People's Democratic Republic which was evaluated by Bутtenheim, Alderman, and Friedman (2011). Feeding programs implemented were on-site feeding, take home rations, and combined modality. The findings revealed a minimal improvement of nutrition. The study recommended further follow-up of the factors that affected the implementation of the feeding programs.

In addition, Dei (2014) evaluated the school feeding programme at Magog Primary School. The study revealed that although the program has a potential to improve nutrition and health, enrollment, attendance and cognitive development of students, there were some indications that needed further study -whether the feeding program is achieving its intended objectives, lack of effective monitoring and evaluation, geographical location of the schools and other implementation flaws.

Moreover, Adamba (2017) determined the outcomes of school feeding models on children's educational performances. School enrollment was found to have increased by 2%; reduced the pupils' chances of missing school a day by 6.87; high literacy of girls in Math but reduced reading ability for boys by 7%, of which, the researcher had recommended further investigation.

Evaluation of feeding programs was also carried out in the Philippines. Tabunda, Alber and Agdeppa (2016) found that revealed that feeding programs were generally well implemented by the school beneficiaries and welcomed by parents, teachers and pupils. However, inaccurate measurement of nutrition status variables marred the program and the improper documentation in prefeeding, feeding and postfeeding stages.

The present study also evaluated the outcomes of feeding program conducted in a public elementary school in Talac City. Findings and conclusions were the bases of the development of feeding program model.

Research Objectives

General Objective: The general objective of the study is to evaluate the implementation of the feeding program in Trinidad Elementary School, SY 2017 -2018.

Specific Objectives:

The specific objectives of the study are to:

1. describe the implementation of the feeding program;
2. evaluate the outcome of the feeding program in terms of improvement in the pupils':
 - 2.1.nutritional status;
 - 2.2. academic performance; and
 - 2.3.attitude;

3. identify the best practices in the implementation of the feeding program;
4. identify the problems encountered in the implementation of the feeding program;
and
5. enhance school-based feeding program through a model.

Methodology

Research Design

The school-based feeding program implemented in a public school in Tarlac City was evaluated using descriptive research design. The program was evaluated in terms of the nutritional outcomes, improvement of pupils' academic performance, attendance and attitude of pupils in class.

Research Locale

The feeding program was carried out in a rural public school in Tarlac City. This is categorized as a small school by the DepED since it only has 320 pupils in SY 2017-2018.

Participants

The data were gathered from 40 pupils who were in the feeding program because they were found to be wasted and severely wasted based on their BMIs. Hence, the pupil participant sample size was selected through purposive sampling. Other respondents were six parents who assisted in the feeding program; 8 teachers, including the principal who were selected via complete enumeration technique.

Research Instruments

Measurement of Body Mass Index (BMI)

To determine the improvement in the nutritional status of the pupils, the health leader, assisted by two teachers, measured their BMI before and after the feeding program.

Interview

To gather data on the manner by which the feeding program was implemented, the health leader and the school head was interviewed using a semi-structured interview guide. Teachers too were interviewed on their observations about the change in attitude of the pupils after the feeding program.

Questionnaire

To identify the problems in the implementation of the feeding program, a questionnaire was developed and distributed to the teachers and parents who assisted in the feeding program. On the other hand, to determine improvement in behavior of the pupils, eight teachers were given evaluation checklists to rate their attitude in class before and during the feeding program.

Documentary Analysis

The academic performance of the pupils were obtained from the records of the teachers based on their average grades per quarter.

Data Gathering Procedure

The data on BMIs were gathered before feeding, 50 days of feeding and after 90 days (upon completion of the feeding days). Before the feeding program, the health leader took the pupils' weights, heights, ages, and gender. The measurements were needed to compute the BMIs of the pupils. Another measurement was carried out after 50 days feeding to monitor the progress of the feeding program. The procedure was repeated after 90 feeding days. The BMIs before and after feeding were compared.

The data on the academic performance was based on the average grades of the pupils in four quarters. The feeding program started in the Third Quarter and ended in the last day of the Final Quarter. Grades before and after the feeding program were compared.

On the other hand, the data on the attitude of the pupils were taken from evaluation of the pupils' respective advisers. Their attitude before the start of the feeding program and while the feeding program was on-going was compared.

Research Ethics. To ensure that the rights of the participants are protected, parents' consents were obtained, including the permission or assent from the pupils, in the conduct of the study. Their permission was also secured to show some photos during the feeding program in this research. In addition, the pupils' identity was concealed in the study. Data gathered from them were reported in summary in order to maintain confidentiality and anonymity.

Statistical Treatment

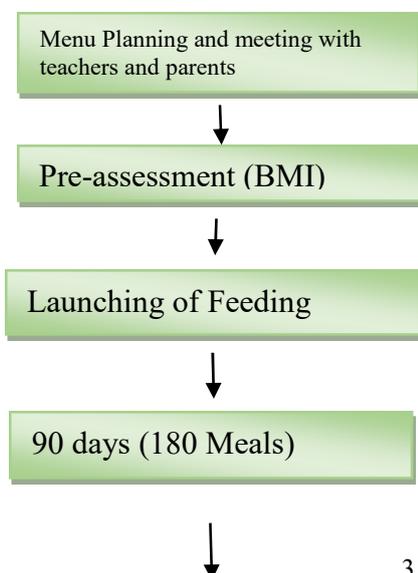
Simple descriptive statistics (frequency and percentage) and inferential statistics (t-test) were used in this study to analyze data.

Results and discussions

The data gathered were analyzed and interpreted. Discussions are presented in this section.

1. Implementation of the Feeding Program

A Memorandum of Agreement was forged between TSU College of Education and the school beneficiary, including the supporting organizations, in October 2017 after a community needs assessment survey. Aside from the feeding program, other health interventions implemented were health teachings and wound cleaning.



Post -Assessment (BMI)

Figure 1. Flow chart of the Feeding Program

Figure 1 presents the flow chart of how the feeding program was conducted. Based on a needs survey, it was found that 40 pupils were either wasted or severely wasted. The school head of TES, Dr. Julius Gamis to prioritize feeding program in order address the nutritional needs of the pupils immediately. So, after MOA signing, a meeting to plan for the feeding program took place.



Figure 2. MOA Signing

Menus were based on the suggested meal plans from the DepED. The school head assigned the school health leader as the coordinator of the feeding program, with the assistance of two teachers, and his supervision. Parents were also asked to help, including the school canteen operator.

Before starting the feeding program, the BMI of the pupils were taken. After getting the BMIs of the pupils, feeding proceeded. Pupils had double meals- breakfast and lunch. Aside from the food, they were also given multivitamins daily and milk or chocolate. This ran for 90 days (180 meals). Ideally, according to the city health and DepED, feeding should run from 90 to 120 days to see improvement in the nutrition of the pupils.



Figure 3. Pre-Assessment (BMI)

Every day, the health leader and some parents went to the market to buy the needs to prepare for breakfast and lunch. There was a total of fourteen cavans of rice supplied to them for the entire feeding program. These were provided by the Pioneer Project REACH, Inc. (PPRI). Gas and drinking water were provided by the STO. Funds to purchase food materials were provided by PPRI, PI OMICRON International Alumni Assoc., Tarlac Chapter, PAMET, Tarlac Chapter and MAED Physical Science Students.

Volunteer parents were in charged also of cooking, serving and cleaning the room where the feeding program was conducted. Parents, teachers and pupils took turns in giving milk and vitamins.



Figure 4 . Milk and Vitamin



Figure 5. Breakfast meals of the Pupils

Breakfast is usually served in the classroom near the canteen where the meals are prepared 7:30 to 8:00 A.M. Before eating, pupils take turns in praying. The school head took time to share about saying “thank you” to the persons who supported the feeding program and to the Lord for the daily provisions. Usually breakfast consisted of soup,

arrozcaldo, boiled bananas, boiled eggs, rice cakes, and milk or chocolate. Vitamins were also given after breakfast.



Figure 6. Random Photos During Feeding Sessions

At around 11:30 A.M. pupils proceeded to the room again for their lunch. The usual meals served during lunch time were pork or chicken adobo, pinakbet, sinigang, tinola, chop suey, fried chicken, mixed vegetables, fried fish, and La Paz bachoy. Pupils enjoyed the food served by their teachers and parents.

It should also be noted that before eating, pupils had to wash their hands in the pantry. The health leader usually inspected their nails before giving them food. Additionally, parents who prepared the food were also asked to wash their hands and use hand sanitizers to avoid introduction of contaminants.

After 90 days, post-assessment was conducted. The health leader measured the BMIs of the pupils. The BMIs in pre-assessment were compared to the BMIs after feeding or the post-assessment. Results are discussed in the preceding tables.

A closing program was conducted after 90 days. The objective of the program was to give the pupils rice, vitamins and milk so that parents can continue feeding their children at home.



Figure 7. Take Home Rice, Milk and Vitamins



Figure 8. Pupils Marching towards the Stage for the closing program



Figure 9. Prayer before Opening of the Program



Figure 10. PPRI Supporters were Recognized During the Closing Program



Figure 11. The Pi Omicron International Alumni Association, Tarlac Chapter, PAMET , Tarlac Chapter and the TSU Officials were given certificate of recognition for the Feeding Program

Parents were more than glad and very appreciative of the closing program. They expressed their gratitude for the unselfish support provided by TSU-COED, PPRI, Pi Omicron International Alumni Organization, PAMET and STO.

Parent 1: *Labis na pasasalamat ang aming nais ibigay sa mga sumuporta sa aming mga anak. Hulog kayo ng Diyos. (We are very much thankful for the support you gave to our children. You are God sent.)*

This is what a mother expressed when they were given a chance to give their messages to the supporters.

2. Outcomes of the Feeding Program

The nutritional status of the pupils was determined before and after the feeding program. Figure 7 shows the result.

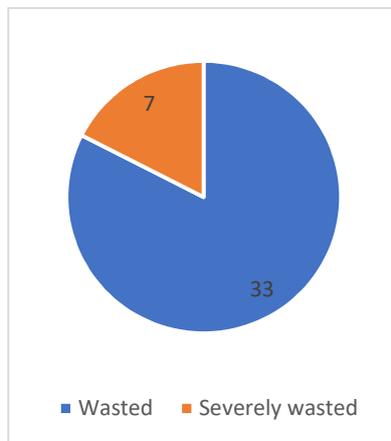


Figure 12. Nutritional Status Before Feeding

Before the feeding program, 7 or 18% out of 40 pupils were severely wasted while 33 or 82% were wasted based on the computations of the pupils' BMIs. The BMI is a measure of body fat based on height and weight and classifies the nutritional status of the pupils into obese, overweight, normal, wasted and severely wasted. DepED Memo. No. 241 series of 2010 is a guideline for public school teachers in determining the nutritional status of the pupils (DepED, 2010).

After the 50 days double feeding program (two meals), the nutritional status of the pupils was again measured.

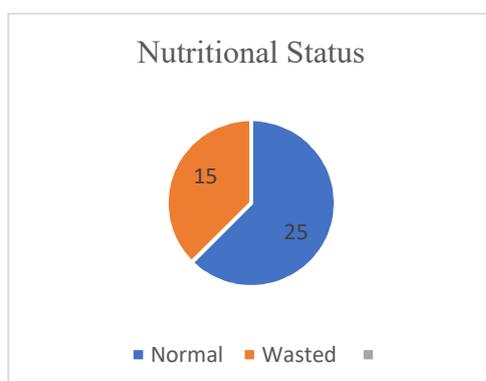


Figure 13. Nutritional Status After 50 Feeding Days

The health leader also measured their BMIs after the 90 days feeding program.

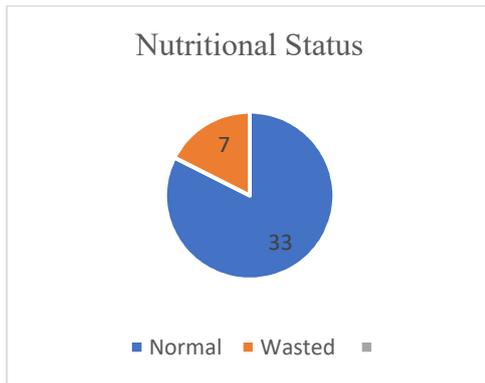


Figure 14. Nutritional Status After 90 Feedings Days

After 90 days double feeding, the number of pupils who gained normal nutrition was 33 and 7 failed to gain normal nutrition. These were pupils who were severely wasted before the start of the feeding program. The non-regular attendance of the pupils in the feeding program and lack of appetite when eating despite the vitamins they are taking were the factors why some pupils did not gain increase in BMI. Pupils who failed to gain normal nutritional status will resume feeding by June 2018.

T-test was used to compare the BMIs of the pupils before and after 90 days feeding program.

Table 1. Ttest Result for the BMI results Before and After Feeding

Indicator	Mean of BMI	T--test	P value	Decision and Interpretation
Before Feeding	12.52	11.54	<0.00001	Reject Ho Significant
After Feeding	14.93			

*0.05 level of significance

As shown in Table 1, the BMI of the pupils before and after the feeding program was significantly different as attested by a t -test value of 11.54 and a p value <0.05. The result of the study is consistent with the findings of Adamba (2017), Dei (2014) and Tabunda, Alber and Agdeppa (2016) that the nutritional status of the students who were subjected to school-based feeding program.

On the academic performance of the pupils, the grades before (1st and 2nd Quarters), during (3rd Quarter) and after the feeding program (4th Quarter) were compared. Grades of the pupils were obtained from the respective advisers.

Table 2. Pupils' Academic Performance in four quarters

Grade Bracket	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
90 and above	2	2	2	3
85-89	6	11	10	11
80-84	11	9	11	10

75-79	14	13	13	12
Below 75	3	1	0	0
Total	36	36	36	36
Mean Grade	81	82	82	83

*four kindergarten pupils were not included as their grades are adjectival

As can be seen in Table 2, three pupils out of forty incurred failing grades in the first quarter, with only a pupil failed in the second quarter. In the third and fourth quarters, all pupils already had passing grades. However, it is clear that in all quarters, pupils whose grades fell on the 75-79 % dominated the class. Only about 3 or 8% got above 90%.

The mean grades per quarter has not also dramatically improved. From the mean grade of 81 in the first quarter, this only increased to 82 in the second and third quarters and 83 in the fourth quarter. ANOVA was used to determine if the grades in the 1st to 4th Quarters differed significantly. Data are shown in Table 3.

Table 3. Comparison of the Grades Obtained in the 1st to 4th Quarters (Analysis of Variance)

Source	SS	Df	MF	
Between Treatments	72.46	3	24.15	F=0.945
Within Treatments	3474.51	136	25.55	p value =0.42
Total	3536.91	139		

*0.05 level of significance

ANOVA computation revealed an F value of 0.945 and a p value >0.05. These values are not enough to reject the null hypothesis. This means that pupils' grades in the 1st to the 4th Quarter did not differ significantly.

The findings contradict the result of the study conducted by Chakraborty and Jayaraman (2016)- that midday meals in Indian school had significantly improved the test scores of the pupils but consistent with the findings of Adroque and Orlicki (2013)- that in feeding program had not caused significant improvement in the school performance of the pupils.

As to the outcome of the feeding program to the behavior of the pupils. Table 4 shows the data. Teachers were the ones tapped to evaluate the behavior of the pupils before and after the feeding program.

Table 4. Attitude of Pupils Before and 50 Days After the Feeding Program

Attitude	Before		50 Days After	
	Mean	VD	Mean	VD
Towards	2.79	G	4.30	VG

Classroom				
Towards Teachers	3.38	G	4.43	VG
Towards classmates	2.81	G	4.30	VG
Self -Esteem and Confidence	2.58	G	4.42	VG
T-test Value =	P value=	Level of		
19.52	0.00001	significance =0.05		

Based on Table 4, data show that pupils' behavior towards their classroom tasks before the feeding program was generally good as attested by a grand mean of 2.79 then it improved to 4.30, very good after 50 days of feeding program. According to the teachers interviewed, they observed the pupils to have improved in their attitude towards their homework and their class participation and noticed that pupils became more involved in classroom tasks.

On the attitude of the pupils towards their teachers, the grand mean generated was 3.38 before the feeding program and improved to 4.43 after 50 days of feeding program. The ratings are higher in attitude towards their teachers than their attitude towards their classroom tasks. In the interview, the teachers felt that because pupils were given attention during the feeding program, they tried to compensate or return back the gesture to them.

As to the pupils' attitude towards their classmates, the grand mean was 2.81 before the feeding program and 4.30 after 50 days of feeding. According to the teachers during the interview, they observed that pupils were happier and more excited to be with their classmates and were always looking forward to another day in school.

In terms of their self-esteem and confidence, the grand mean computed before the feeding program was 2.58, good and improved to 4.42, very good. In the interview, teachers claimed that pupils had improved in dealing with their classmates and teachers and became more assertive and positive in class. Teachers claimed that pupils felt important because they were given attention by the extension providers, teachers, parents and visitors.

The p value obtained for the ratings before and 50 days after the feeding program was >0.05 , hence there is a significant difference between the attitude of the pupils before and after 50 days of being fed in school.

3. Best Practices in the Feeding Program

The school head, health leader, teachers and parents were asked about what they thought were the factors that contributed to the general success of the feeding program implementation. Data are shown in Table 5.

Table 5. Best Practices in the Feeding Program (N=15)

Best Practices	Frequency	Rank
School head is actively involved and	15	2

fully supportive of the feeding program		
Health leader is very responsible in coordinating the feeding program	15	2
Parents cooked and prepared the meals of the pupils.	15	2
External supporters (linkage and network) are visible in the feeding program	13	4
Partner school monitors the feeding program from time to time.	12	5
Barangay leaders are present in programs and provided support	10	6

As shown in the table, the feeding program was generally successful because of the active leadership of the school head and good coordination of the school health leader. Parents were tapped to cook daily meals and clean the feeding area. External supporters (PPRI, COED-STO, TSU COED Extension chairperson, PAMET, Pi Omicron International Alumni Association and MAED Physical Science students) were visible during the feeding program and barangay leaders were present (they provided transport for the pupils when they were invited to a birthday party of one of the supporters).

For a feeding program to be successful, school stakeholders must actively participate. School heads must seriously integrate feeding program in their institutional priorities and find ways for funding. The role of the partner supporters is not just to provide the funds but to visit and monitor the progress of the program. The more visible the external supporters are, the more motivated the school, parents and pupils to do their responsibilities in the program. School and external supporters must communicate openly. They have to discuss the support needed and problems that occur during the program implementation. In this way, both partners come to solutions and the feeding program continues smoothly.

4. Problems Encountered in the Feeding Program

Teachers and parents who assisted in the feeding program had encountered problems. These are shown in Table 6.

Table 6. Problems in the Feeding Program (N=15)

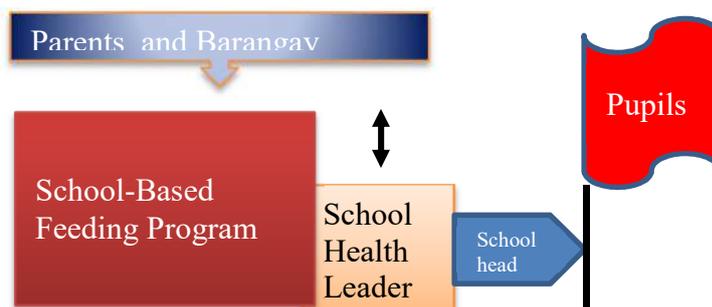
Problems	Frequency	Rank
Pupils who were not regular in attending the feeding program because of absence in school.	15	1
Parents who demanded so much from the feeding program.	10	2
Pupils had to be fed by batches since the classroom where they used to conduct feeding underwent repair.	8	3
Some pupils who lacked appetite	7	4

According to the teachers and parents who assisted the feeding program, some pupils did not report to school regularly so they did not complete the feeding program. In addition, the school health leader reported about some parents who were too demanding to the extent of wanting more food ration than what was served. Although the problem was resolved, it caused a little irritation on the part of the parent volunteers. Likewise, the health leader claimed that some pupils lacked appetite in the morning despite the multivitamins given to them. This was one of the reasons why some pupils failed to gain improvement in their BMIs.

Moreover, the feeding venue had to be repaired and there was no available room to house all pupils. They had to feed the pupils in batches. This made the work of the volunteers more taxing.

5. Proposed Model of a Feeding Program

Findings of the study revealed a generally successful feeding program. A model of a feeding program is thus developed.



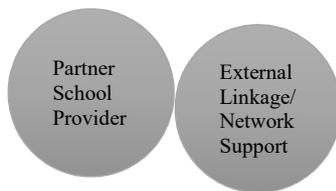


Figure 15. Proposed trAC Model for School-Based Feeding Program

Figure 15 shows a proposed model for a school-based feeding program. The figure looks literally like a truck. The school head is the driver supported by the health leader. Both actors are in-charge of maneuvering the feeding program. The two big wheels are the school extension provider and the external linkage /network whose role is to provide the material and financial support. The researchers coined the model as trAC which stands for *treat, reach, assist and care*. School stakeholders and external partners must reach out to provide the necessary treatment to the pupils (through feeding) in order to alleviate their nutritional status. Pupils need assistance and care until they reach normal nutrition.

Moreover, for a school-based feeding program to be successful, school heads must integrate feeding in the school programs. No matter how busy school heads are, they have to take full control of the feeding program. They have to work closely with the school health leaders-give clear and specific instructions on how they have to carry out the feeding program. Health leaders are important support to the school heads in the feeding program. They make sure that daily meals are prepared well, take BMIs from time to time to monitor improvement in their nutritional status, report to the school heads the progress of the feeding program. Likewise, they are responsible for coordinating with parents and barangay leaders to help them in the implementation of the feeding program. Parents are needed to help in preparing the meals, serving and cleaning the feeding area on a daily basis. Health leaders must focus their attention to the daily meals and what things to buy for the next day. They have to go to school early to work with parents in the food preparation.

Another important part of the vehicle are the two big wheels that propel the feeding program to its destination. Like the driver, the wheels are vital in catapulting the feeding program to reach its goal of improving the nutrition of the undernourished pupils. The school extension providers need to work-hand-in-hand with the external supporters or linkages to ensure that funds are provided on time. They also need to visit the feeding area from time to time to motivate the school beneficiaries to do their job efficiently.

It is also noteworthy to integrate health education to parents, especially maintaining good hygiene in preparing food for the children and ensuring that children properly wash their hands before and after eating. The researchers always reminded parents about these hygiene practices every time they fed the pupils.

Parents and barangay leaders also need to actively support the feeding program. They have to assist the school in preparing the daily meals and providing other needed materials.

If all the parts of the truck are functioning well, the objectives of the feeding program will be achieved. Like what is seen in the model, school-based feeding program has reached its destination.

Conclusions

The feeding program in TES was generally successful since most pupils had gained normal nutrition after 90 days and their attitude in school improved a lot. The success is attributed to the double feeding program which consisted of full breakfast and full lunch meal and the daily intake of multivitamins, and milk or chocolate drink. Parents, teachers and the extensionists, together with the donors/supporters worked hand-in-hand in making the program successful. Moreover, the donors' active involvement and visibility in the feeding area inspired the school counterpart and parent volunteers in doing their job. Furthermore, the extension providers were also effective in tapping donors to sustain the feeding program. These were the factors that led to the successful implementation of the feeding program.

In addition, other best practices observed during the feeding program were the active leadership of the school head and the good coordination of the health leader. They supervised the parents who volunteered to prepare the daily meals of the pupils. They carefully documented the events in the feeding program.

The feeding program also taught the parents proper ways in preparing meals. They learned to wear gloves, hair nets and cleaned the kitchen and dining area on a daily basis.

However, there were problems encountered in the implementation of the program. These were irregular attendance of some pupils; parents who were too demanding; feeding room had undergone repair; and pupils who lacked appetite in the morning. These were some factors that needed to be avoided in future feeding programs.

Recommendations

1. Policies to ensure complete attendance in feeding must be crafted. For example, if a pupil is unable to go to school, parents should get the food for their children in school.
2. Nutritional status of the pupils should be measured during the opening of school for 2018. This will provide information if parents were able to sustain feeding during the school break.
3. Another study may be conducted to compare feeding program conducted in the identified school with the feeding programs in another school.
4. Another study may be conducted to assess the capacity of the parents and their knowledge on how prepare nutritious meals using low budget so that they continue feeding their children with nutritious food at home.
5. School heads may look for supporters who can provide livelihood training skills to parents who cannot provide nutritious meals for their children.
6. Another study may be conducted to look into the factors affecting the academic performance of the pupils since findings of the study showed that improvement of nutrition had not caused improvement in their academic performance.
7. Feeding program must also be conducted among children below preschool years.
8. The trAC Model may be adopted by public schools in implementing their school-based feeding program.

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