

A STUDY OF THE SCHOOL HEALTH VENDORS TRAINING  
PROGRAMME AND ITS IMPACT ON THE SCHOOL  
HEALTH SERVICES IN IBADAN

By

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DEDICATED:

To my Sister, Haddy Faye, who fed, clothed, schooled  
and smiled to a boy but didn't live to see what he would  
become.

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A B S T R A C T

A major aim of the school meal programme is to provide 1/3 of the child's daily nutritional requirements. To this end a school meal vendors' training programme is held twice or thrice in the year, at the Jericho and Onireke Health Centres, Ibadan.

The training focuses on hygiene, cookery and nutrition. Personal hygiene, food hygiene, environmental sanitation, selection, preparation, serving and benefits of some of the local foods form the programme content. Various methods are applied in imparting knowledge and influencing attitudes, beliefs, values, skills and practices of the trainees, toward the school meal programme, nutrition and hygiene.

There is a significant increase in the vendors' knowledge level after training, as is evident in their knowledge scores on the administered questionnaires.

Practicing school meal vendors were observed at work and a questionnaire administered. For a better performance by the meal vendors and a fuller participation by the pupils, teachers and home economists need to be involved in the vendors' training programme and more teachers to participate in their role as meal supervisors in the schools. Such an integrated approach will enhance the growth and improvement of the school meal services in Ibadan.

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
CERTIFICATION .. .. .	i
DEDICATION .. .. .	ii
ACKNOWLEDGEMENT .. .. .	iii
ABSTRACT .. .. .	iv
TABLE OF CONTENTS .. .. .	v
LIST OF TABLES .. .. .	vii
LIST OF FIGURES .. .. .	ix
INTRODUCTION .. .. .	1
<u>CHAPTER ONE:</u>	
Statement of the Problem .. .. .	5
<u>CHAPTER TWO:</u>	
Nutritional Needs of the School Child .. .. .	11
<u>CHAPTER THREE:</u>	
Development and Organization of the School Meal Programme .. .. .	30
<u>CHAPTER FOUR:</u>	
Training for Food Vendors .. .. .	38
<u>CHAPTER FIVE:</u>	
Research Methodology .. .. .	43
<u>CHAPTER SIX:</u>	
Evaluation of Trainees and Practicing School Meal Vendors .. .. .	60
<u>CHAPTER SEVEN:</u>	
Assessment of the Training Process .. .. .	90
<u>CHAPTER EIGHT:</u>	
Discussion of Results .. .. .	100

BIBLIOGRAPHY

APPENDICES:

- A. Questionnaire for Trained Meal Vendors and Practicing Meal Vendors
- B. Observation Checklist
- C. Selected Questions for Knowledge Scores

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LIST OF TABLES

	Page
2.1 Comparison of The Average Body Weights ..	12
2.2 Nutrient Allowances per 2 ..	13
2.3 Daily Recommended Allowance, U.S.A. ..	18
2.4 Mean Heights of Primary School Children, Kofele and Madija ..	24
2.5 Mean Weights of Primary School Children, Kofele and Madija ..	25
2.6 Mean Heights and Weights of Pupils (6-8 Yrs.) of Ibadan As Percentage of the Standard ..	28
3.1 U.S.A. Recommended Types of Lunchees ..	32
5.1 Ibadan Zones and School Meals ..	52
6.1 Analysis of Knowledge Scores for Trainees and Practicing School Meal Vendors ..	63
6.2 Perceived Benefits of Eating Yams by Untrained, Trained and Practicing School Meal Vendors	64
6.3 Perceived Benefits of Eating Onions by Untrained, Trained and Practicing School Meal Vendors	65
6.4 Perceived Benefits of Eating Rice by Untrained, Trained and Practicing School Meal Vendors	66
6.5 Perceived Benefits of Eating Beans by Untrained, Trained and Practicing School Meal Vendors	67
6.6 Perceived Benefits of Eating Beans by Untrained, Trained and Practicing School Meal Vendors	68
6.7 Perceived Benefits of Eating Green leaves by Untrained, Trainees and Practicing School Meal Vendors ..	70
6.8 Perceived Benefits of Eating Tomatoes by Untrained, Trained and Practicing School Meal Vendors	71



6.9	Perceived Benefits of Eating Pepper By Untrained, Trained and Practicing School Meal Vendors	72
6.10	Perceived Benefits of Eating Fruits By Untrained, Trained and Practicing School Meal Vendors	73
6.11	Perceived Benefits of Eating Groundnut oil By Untrained, Trained and Practicing School Meal Vendors	74
6.12	Perceived Benefits of Eating Palm Oil By Untrained, Trained and Practicing School Meal Vendors	75
6.13	An Ideal Lunch For A School Child As Described by Untrained, Trained and Practicing School Meal Vendors	76
6.14	Foods Added To Cooked Rice to Make Complete Meal As Described by Untrained, Trained and Practicing School Meal Vendors	78
6.15	Foods Added To Cooked Yam to make a Complete Meal as Described by Untrained, Trained and Practicing School Meal Vendors	79
6.16	Foods added to Eba to make a Complete Meal as Described by Untrained, Trained and Practicing School Meal Vendors	80
6.17	Foods A Child Should Not Eat with reasons given by 110 Pretraining Respondents	81
6.18	Foods A Child Should Not Eat with reasons given by 110 Posttraining Respondents	82
6.19	Foods A Child Should Not eat with reasons given by 120 Practicing School Meal Vendors	83
6.20	Do Foods Cause Sickness In People? As Answered by Untrained, Trained and Practicing School Meal Vendors	85

LIST OF FIGURES

FIGURE

Page

7.1 Trained Vendors' Identity Card ...

99

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## INTRODUCTION

The experience of mankind with good and bad foods through many centuries led reflective men to conclude that diet had much to do with health; and without understanding the chemical constituents of foods or their nutritional implications. Observations by some philosophic minds on the personal experiences of individuals were made the basis for speculation concerning eating practices which best promoted health (McCollum, 1957).

Since this century, there have been numerous efforts to define in quantitative and qualitative terms, man's dietary needs. In 1926, the Technical Commission of the Health Committee, League of Nations, made recommendations for qualitative caloric and protein requirements and the consumption of appropriate "protective foods" was urged to provide minerals and vitamins. No attempt was made, however, to establish requirements or recommendations for specific mineral or vitamins (League of Nations, Health Committee, 1936).

Since 1936, new knowledge with profound bearing on the problem of man's dietary needs has accumulated. The question of nutritional requirements has been of great concern to the Food and Agricultural Organization and the World Health Organization of the United Nations.

Also, many national groups including Great Britain, U.S.A., Canada, India etc. have produced tables of nutritional requirements, allowances or standards which include numerical values for the major nutrients (Idusovic, 1971).

As governments become aware of the influence of food on the growth and development of the child, more support is being given to the School Meal Programme. Naturally, some countries, due to technological advancement and buoyant economies, have more organized School Meal Programmes. International Organizations, FAO, and UNICEF are largely responsible for 'spreading the gospel' for the need to establish firm meal programmes, and have offered financial and technical assistance in children's diet improvement programmes (Dupin, 1971).

This study aims at assessing the content and method applied in the School Meal Vendors Training programme, in Jericho and Onireke Health Centres, Ibadan, and how it affects the perception, attitudes and practices of the vendors towards the school meal programme in Ibadan, Nigeria.

In Ibadan, all government primary schools do not have a formal and well organized school meal programme. Cooking and eating facilities are not within the schools and meals are not subsidized by government, therefore they are prepared by self-employed vendors in their own homes. These foods are brought to the schools and sold to the children. Such practices form the basis of the problems which this study highlights, as seen in Chapter One. The nutritional status and requirements relevant to the primary school age child, are delved into in Chapter Two.

The development and organization of the school meal programme in different countries is presented in Chapter Three. The inception of the programme in some countries began as private efforts while in others it was sponsored by government. In Ibadan today, one finds a mixture of private enterprise and government encouragement.

The hazards likely to accrue from unsupervised school meal vendors are numerous, but training of vendors in the preparation of foods, hygiene, personal care and nutrition, prior to their engagement can be of benefit to the school meal programme. As pointed out in Chapter Four, though structured methods of training food vendors do not exist, training principles remain the same.

The study focuses on the school meal programme, it is apt for trainee vendors, practicing vendors, teachers and pupils of the randomly selected schools to form the target population. The sample also consists of 30 primary schools, 110 trainee vendors and 128 practicing school meal vendors, in a two fold pre-experimental study design, as described in Chapter Five.

The design facilitates the evaluation of trainees prior and after the training programme, by the administration of questionnaires. The practicing vendors are also evaluated by questionnaires and observations, while the teachers and pupils are interviewed and observed respectively, as discussed

in Chapter Six. The results, to an extent, reveal the effect training has on the individual's knowledge, beliefs, attitudes and practices.

In Chapter Seven, the contents and methods of the vendors' training programme are assessed. The contents include; personal hygiene, selection, preparation and the serving of food, food and environmental hygiene. Role plays, discussions and songs are some of the methods applied.

The results of the study are discussed in Chapter eight. The adequacy of the programme's contents, its limitations, the need for supervision in the selling of food in the schools and factors towards the improvement of the programme are highlighted.

Though it may not be the best school meal programme in Nigeria, the Jericho and Oniseke food vendors training programme contributes tremendously to ensuring that the primary school child in Ibadan, is served at least one nutritious meal on a regular school day.

## CHAPTER ONE

### STATEMENT OF THE PROBLEM

School Meal Services are the formal or informal arrangements made to providing a school child at least one meal, during the regular school hours. These services may be provided by the government through the Departments or Ministries of Education, Health, Agriculture, Social Welfare or by International Agencies - UNICEF, UNDP, The Catholic Relief Services, FAO and other philanthropic organizations. Provision may also be made by individual school arrangement for school participation.

Ideally, the <sup>school</sup> meal service should not only meet the objective of providing nutritious foods to prevent malnutrition. It should also strive to have an educational impact on the pupils, homes and the community. There is a close interrelation between these two as growing children thrive and learn best, when their stomachs are filled with nourishing foods. Arrangements should also be made for nutritious foods, including milk, to be available other than at meal time. An effort should be made to discourage the use of carbonated beverages and other snacks at school as these have no food value except for a few calories in the sugar content. Nutritious foods should be substituted as snacks (Morris and Schaller, 1975).

The school meal services involve all phases of the school health programme: (1) the physical facilities (environment); (2) the services which require medical examinations of food handlers and utilize the lunch for preservation and improvement of the health of children; and (3) the use of this facility as a teaching experience (Merritt and Schaller, 1975). It is also ideal to have food catering services in the school. A clean kitchen environment could be assured and all workers supervised to ensure quality, nutrition and hygiene.

Presently in Oyo State, Nigeria, these ideals do not exist. What obtains typically is described in the following observation by a University of Ibadan Medical student who inspected the school meal programme in action in the Ibarapa Division of the State:

"As it was break time, we went to observe the food sellers sell food to the pupils. The food sellers turned out to be government trained and approved. Food sellers wore blue uniforms with white aprons and white caps. We were informed that the food sellers underwent thorough medical check-up before approval and also are required to go for refresher courses every three years.

The menu for the day was porridge - beans mixed with rice and vegetable stew which we were told to observe.



stand is the same throughout Oyo State.

We observed that the portion served each kid was quite small with almost infinitesimal pieces of meat. This was attributed to the fact that the food was in no way subsidized by the State Government, and as the kids only brought 10 kobo to school, the sellers just have to make a profit. One of us tasted the food which he pronounced as quite palatable. The setting was hygienic enough with the kids each with his own plate queuing up for their turn". (Ariekaka, 1982).

The food sold to these children is in no way subsidized by the Federal or State government. Therefore, the vendor is likely to have personal economic considerations in mind which may prove at variance with the nutritional needs of the child. Infact, food vending may be the only source of income for these women. Although there is a standard menu for the state, this may not hold up to the economic pressures felt by a vendor.

As earlier stated, it is better to have the vendors supervised when the foods are being prepared, but this is quite deficient as vendors prepare the food in their own homes. The supervised vendor may operate in ways that are hazardous to health. Food vendors are likely to belong to the low socio-economic group of the society, and as such cannot provide the

best amenities and facilities for the preparation of food. They may therefore, use the same cooking utensils used for their families.

The low standards of hygiene characteristic of the low income areas of Ibadan, is in all likelihood prevalent where the food vendors prepare their foods. This situation could clearly be a sure source of infection to the children. Food-borne diseases such as salmonellosis, staphylococcal food-poisoning, and conditions like diarrhoea and dysentery will take their toll among the pupils.

Under such circumstances as described above, it is quite difficult to manage a nutritious and hygienic food service. At present the main mechanism for ensuring quality, cleanliness and uniformity of meals is through a pre-service training programme for vendors. In Ibadan, the capital of Oyo State, and the location of this study, the food vendors who are all women undergo training at the Jericho and Onireke Health Centres where, at the completion of the programme, they are certified as trained food vendors.

This study primarily aims at evaluating the effect of this training programme. The vendor is assessed with regards to her attitude, beliefs and practices, toward the preparation and sale of food to school children. Although mention will be made of the nutritional status and requirements of school children, it is not within the scope of this study to categorize

and analyze the nutritional values of the foods sold to the pupils at school. Neither does this study attempt to assess the vendors food preparation environment, but will be limited to results that can be obtained in the training and school settings.

### RESEARCH OBJECTIVES

As mentioned, the major purpose of this research is to assess the effectiveness of the training programme for school meal vendors in Ibadan, Nigeria. Vendors will be evaluated at the immediate post-training stage as well as on-the-job at schools in the city. The specific objectives of the study are:

1. To assess the existing concepts, knowledge, beliefs, values, habits and behaviour of the primary school meal vendor towards:
  - a) the school meal programme
  - b) their work
  - c) nutrition
  - d) hygiene
2. To assess the various organizational and behavioural factors that constrain or enhance the effectiveness of the school meal programme.

3. To assess and evaluate the adequacy and effectiveness of the school vendors training programme with regard to changing the vendor's concepts, knowledge, beliefs, values, habits, behaviour and skills toward:
  - a) the school meal programme
  - b) their work
  - c) nutrition
  - d) hygiene
4. To evaluate the organization and delivery of the training programme given the meal vendors.

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## CHAPTER TWO

### NUTRITIONAL NEEDS OF THE SCHOOL CHILD

Good nutrition of all systems of the body establishes the basis for their good function. Proper food is necessary in children and young adults for maintenance of good health, for continued growth, and for reasonable physical activity. A well-nourished child develops at an acceptable pace. He is full of energy, life and vigour, interested in play and appears relaxed and happy. His eyes shine, his hair is glossy, his skin feels good and elastic, his colouring is normal, and he holds himself in good posture for his age. He is poised and self confident, eats and sleeps well, gains weight and height and has fat under his skin - he is a robust healthy individual. If he remains healthy, he reaches puberty in average time, grows to maturity, and achieves his potential (Nemir and Schaller, 1975).

Due to the marked variations in average normal body weights among peoples of different races and socio-economic conditions coupled with the differences in physical activities and environmental conditions, table of nutritional requirements would vary from one country to another (Jelliffe, 1971).

TABLE 2.1

COMPARISON BETWEEN FAO AND NIGERIAN AVERAGE BODY WEIGHTS OF THE PRIMARY SCHOOL AGE POPULATION

Average Body Weights (Kg.)

Age (Years)	FAO	NIGERIA
0 - 5 (both sexes)	14	13
6 - 9 (both sexes)	22	22
10 - 14 Male	40	30
10 - 14 Female	40	32

Source: Idunogbe, E.O. (1971): The Nutritional Requirements of Nigerian Population, African Journal of Medical Science 3(1) 1971.

**TABLE 2.2**

Nutrient Allowances per Day for Children 6-14 yrs.

Age	Calories per Day		Protein g/kg/day		Calcium mg/day		Iron mg/day		Vitamins A IU/day		Thiamine mg/day		Riboflavin mg/day		Niacin mg/day		Ascorbic Acid mg/day	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
6-11	1,250	1,290	1.14	1.14	500	500	7	7	5,000	3,000	0.65	0.65	0.77	0.77	6.45	0.65	15	15
12-13	1,385	1,885	0.93	0.93	450	450	10	10	5,000	3,000	0.9	0.9	1.12	1.12	8.43	8.43	20	20
14-17	2,510	2,360	0.85	0.85	650	650	13	13	3,000	3,000	1.2	1.2	1.42	1.42	14.55	11.95	25	25

Source: Idroge, A.O. (1971):

The Nutritional Requirements of the African Population, African Journal of Medical Sciences, 3(1) 1971

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The calorie needs of the ages shown in table 2.2 are computed according to the procedure proposed by the Joint FAO/WHO Expert Group on protein requirements. The requirements in the table contain 20% increase to ensure that the needs are properly met (Idusogie, 1971).

The dietary needs of the three vitamins namely: thiamine, riboflavin and niacin are related to calorie intake.

The intake of thiamine is at 0.5 mg/1000 calories.

The allowance of riboflavin is calculated at 0.6 mg/1000 calories.

For niacin, the allowance is 5.0 mg/1000 calories.

Vitamin A values are given in International Units (IU) of Vitamin A activity (Idusogie, 1971).

During school age growth continues, initially at a slower rate than during the pre-school period but with profound acceleration just before puberty.

A child's nutrition is often deficient in quantity when the number of meals change due to a time-table which is different from that of the rest of the family. This is especially true in the developing countries, where because of school attendance, the child might not be home at one or two meal times.

There are however, differences in the nutrition of boys and girls:

- boys are able to obtain additional food more easily by gathering, hunting or begging food (Jelliffe, 1962).



girls reach puberty earlier, which calls for increased  
needs and they also help the mother actively with  
household chores (Nutrition Survey Report,  
Brassfield, 1971).

While resistance of a school age child to infection is greater  
than that of a preschool age child due to immune reactions  
acquired naturally or artificially through immunizations,  
anemia is quite common among school children. This is due to  
lack of iron in the diet as well as helminthiasis (Pallife,  
1971; Odunso, et al, 1976).

The importance of nutrition to growth and development is  
sometimes obvious to the casual observer and sometimes not.  
Extremely undernourished children may suffer from kwashiorkor  
(protein deficiency disease), or marasmus (protein-calorie  
malnutrition) coupled with vitamin deficiency. These children  
on the other end of the spectrum, that is, who are overnourished  
in terms of calories, become obese. In between are some young-  
sters who exhibit signs of mineral or vitamin deficiencies, whose  
hair and eyes are dull, whose skin is not elastic, whose  
posture is poor but who fall within average height and weight  
limits. Still others show no outward signs of undernourishment  
but may reveal some evidence of it as measured by laboratory  
tests or by food intake studies (Jones and Greene, 1976).

Sufficient calories and proteins appear to be the nutrients  
of greatest importance to growth. Calories are now believed to

be essential to cell multiplication, while proteins are essential for cell enlargement (Jenne and Greene, 1976).

Good nutrition forms the basis of good health for all the organs of the body. Whether it is a question of helping the healthy child to maintain the good nutrition necessary for growth and activity, or the sick child who must have nutrients for quick and full recovery to good health, the fundamentals of nutrition remain the same. Food is necessary for:

1. building and rebuilding tissues
2. providing energy
3. regulating metabolic functions

Nutrient requirements have been formulated by International Organizations like the Food and Agriculture Organization (FAO), and by some countries such as the United States of America. The school meal programmes in such countries try to meet these daily nutrient requirements. (See table 2.3, on Daily Recommended Allowance, U.S.A.). The U.S.A. uses the so-called "Harvard Standards" established on the basis of large scale surveying and analysis in Boston (Stuart and Stevenson, 1969).

Although on the surface, United States references might appear inapplicable for children in low income countries, there is in fact considerable validity in their use. Comparative analysis seems to indicate clearly that the growth of healthy children in low income countries, at least in the early years, closely approximates those US standards, thus ruling out the

likelihood of significant genetic differentials biasing the use of such standards (Jelliffe, 1966).

Jackson (1966) found these same similarities by superimposing on U.S. growth curves the growth patterns of normal children from different countries. On the basis of surveys in 17 low income countries conducted by the U.S. Interdepartmental Committee on Nutrition for National Defense (ICND), Woodruff (1964) states that infants and preschool children in most areas of the world have growth characteristics that are nearly the same under optimal environmental conditions. Racial and genetic factors probably play only a small part in the relative growth failure in many of the populations studied.

In many developing countries, the recommended daily nutritional allowances are seldom met, as portrayed by a study conducted in the Ivory Coast, West Africa (Haller and Lieber, 1980). The purpose of the study was to examine the health status of 430 school age children living in four villages of the forest region of the state. Basic anthropometric and haematological data as well as vitamin status were determined, and the evolution of the nutritional status was examined in relation to parasitic infection and diet.

Daily food intake was determined through weighing of the ingredients, the composition of which was calculated using FAO tables. It was shown that caloric intake was only 75%.

TABLE 2.3

DAILY RECOMMENDED ALLOWANCE, U.S.A.

Age Years	Females				Males				Minerals
	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	
Weight (lbs)	42	43	43	42	42	43	43	42	Ca, Fe
Height (in)	51	51	51	51	51	51	51	51	
Calories	2000	2000	2000	2000	2000	2000	2000	2000	
Protein gm	30	30	30	30	30	30	30	30	
Vitamin A Activity, I.U.	4500	4500	4500	4500	4500	4500	4500	4500	
Vitamin D, I.U.	400	400	400	400	400	400	400	400	
Vitamin E Activity, I.U.	15	15	15	15	15	15	15	15	
Ascorbic Acid mg.	40	40	40	40	40	40	40	40	
Niacin mg.	17	17	17	17	17	17	17	17	
Riboflavin mg.	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	
Thiamine mg.	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Calcium gm.	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
Iron mg.	10	10	10	10	10	10	10	10	

Source: National Academy of Sciences, National Research Council, Washington, D.C., 1974

protein consumption 80% and lipid intake 30% of the recommended levels of intake. The diet contained insufficient amounts of thiamin, riboflavin and niacin, while vitamin C and carotenoid content were adequate.

Moderate malnutrition among 30% of the children, as indicated by anthropometric measurement (weight for height, height for age and skin fold), appeared to be the consequence of the various helminthic infestations (Haller, and Lauber, 1980).

#### NUTRITIONAL STATUS OF THE NIGERIAN SCHOOL CHILD

The measurement of height and weight, as part of anthropometry, provides a simple approach to the assessment of nutritional status of the community and individual (Jelliffe, 1955).

In a study of one hundred and eighty-six urban and rural school children in the Rivers State, Nigeria, biochemical method (prealbumin and PCV), nutritional anthropometry (height for age, weight for age, weight for height, Quetelet's index, Ehrenberg's Relationship and arm circumference measurements) were used for assessment of their nutritional status. No significant statistical differences were found between the two groups with most of the parameters used (Hart and Atins, 1980).

Mean plasma albumin levels in both groups were found to be below the normal range. PCV values showed that 20% urban and 43% rural children had values which suggested the occurrence of varying degrees of anaemia.

Height and weight for age measurements showed that more than 50% of the children in each group attained normal growth levels. The weight for height index showed the most favourable results, with the rural children performing better than the urban.

The nutritional status of the children was best demonstrated by Quetelet's Index and Ehrenberg's Relationship. These indices showed large deficits in the growth of the younger age group when compared with standards, the gap becoming narrower in the older children 10-14 years. Using Quetelet's Index, 20% of the children exceeded the standard, 40% were normal and 36% had mild to moderate reduction (Hart and Atieno, 1980).

These investigations indicated that the school children in the Rivers State, Nigeria, had accepted growth levels, while a small percentage of them especially in the younger age group, had mild to moderate reduction in growth.

Many school children do not take an adequate diet. It is common to find angular stomatitis, sore tongue and other signs of malnutrition among school children in the Ibadan area. In particular, the diet tends to be mainly starchy foods with few animal products and vegetables (Lucas, 1968). Malnutrition

will affect the growth of a child, his ability to concentrate and his power to resist infection. It is, therefore important to ensure good nutrition for these children.

The children of the primary school in Sadeku, a small village with a population of 2,394 and situated about 27 km. north of Ibadan, the capital of Oyo State, Nigeria, have almost all the weight for height values below the third centile of the British Standard. Few children were very underweight (Oyemade, et al, 1981).

As many of the physical requirements of a growing child have been identified and the application of such knowledge by the health professionals, has resulted in effective control of the common infectious and parasitic diseases in childhood. But in Nigeria and most of the developing nations, however, such effective preventive measures have so far been limited to the under-fives. The primary school child still has to face the hazards of malnutrition, parasitic and other infections and accidents which shorten his life or prevent him from becoming a healthy adult (Oyemade, et al, 1981).

Children of primary school age (usually 5 to 15 years) in developing regions do not normally show significant serious illness, still less mortality, from malnutrition. They have passed through the dangerous years of early childhood. They are growing more slowly, and are able to compete for, and digest, the full range of the adult diet. In rural areas, they may be

able to supplement their diets with wildfruits, berries, insects and small animals. Ordinarily, they will have, on the other hand, achieved a substantial immunity against at least some of the prevalent infections and parasites, particularly malaria (Jelliffe, 1966).

Jelliffe further outlines that school children in developing regions are often undernourished, with positive clinical signs and subnormal anthropometric measurements, such as a low weight for height and thin subcutaneous fat, but without sufficient symptoms to warrant attendance at hospital or health centre. This is particularly likely to happen when children walk long distances to school with little, if any, breakfast, when no school meal is provided, and when assistance with heavy manual household chores, such as chopping wood or herding domestic animals, is expected of them when they return home in the evening.

In Mokola and Bodija, both areas of Ibadan City, have low weight pattern of the children, if compared to the Harvard Standard. Though a comparison of Bodija children only with the standards reveal that the children measure well, reasons being that they are mostly from elite groups of the University of Ibadan, and other whites living in and around Bodija, whose socio-economic standards are high. Also parents know what to give to their children for proper growth and development than those of Mokola who are from mixed groups - both elites and



Summary population of the community who do not know anything about good nutrition and proper growth. Other factors could be that children from schools travel long distances to school with little or no breakfast, this causes energy expenditure, hence extra food is needed, or growth is likely to be retarded. Also, time limitation on mother's part, leaving early for markets without cooking for the children. The 15-20 kobo given to buy school meal is not adequate for proper growth and development. (August, 1980).

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TABLE 2.0

AVERAGE HEIGHTS OF 9 YEAR AND OLDER SCHOOL CHILDREN  
OF IBA DAN AS COMPARED TO THE HARVARD STANDARD

AGE (YEARS)	HARVARD STANDARD	MEAN HT. OF YOKOLA	STD. DEV. NET	MEAN HT. YOKOLA (I.)	STD. DEV. NET	MEAN HT. BODIJA	STD. DEV.
9 YEARS	134.1	128	95	129	96	131	98
10 "	139.5	138	98	137	95	137	98
11 "	144.5	139	96	139	96	140	97
12 "	150.1	144	94	144	95	143	95
13 "	156.1	149	95	149	95.1	148	95
14 "	161.2	150	92	150	93	150	93

Source: G. A. Anuquo, Technical Report, Dept. of Human Nutrition, University of Ibadan. 1980.

TABLE 2.5

AVERAGE WEIGHTS OF 9 YEAR AND OLDER SCHOOL CHILDREN OF IBADAN AS COMPARED TO THE HARVARD STANDARD.

AGE (YEARS)	HARVARD STD. Kg.	MEAN HT. OF IKOJOLA (M)	% STD. MET	MEAN HT. OF IKOJOLA (L)	% STD. MET	MEAN HT. BODIJA	% STD. MET
9 YEARS	29.4	25.6	87.1	25.2	86	28.1	96
10 "	32.3	27.4	84	28.2	87	30.3	94
11 "	35.5	32.1	90	31.7	88	32.5	92
12 "	39	34.7	89	34.7	89	35.1	90
13. "	43.9	39.2	89	40.1	91	39.4	90
14 "	49	42.3	86	44	90	40.1	82

Source: G.A. Aduquo, Technical Report, Department of Human Nutrition, University of Ibadan, 1980

TABLE 2.5

AVERAGE WEIGHTS OF 9 YEAR AND OLDER SCHOOL CHILDREN OF IBADAN AS COMPARED TO THE HARVARD STANDARD.

AGE (YEARS)	HARVARD STD. KG.	MEAN WT. OF YOKOLA (M)	% STD. MET	MEAN WT. OF YOKOLA (L)	% STD. MET	MEAN WT. BODIJA	% STD. MET
9 YEARS	29.4	25.6	87.1	25.2	85	28.1	96
10 "	32.3	27.4	84	28.2	87	30.3	94
11 "	35.5	32.1	90	31.7	89	32.5	92
12 "	39	34.7	89	34.7	89	35.1	90
13 "	43.0	39.2	91	40.1	91	39.4	90
14 "	49	42.3	86	44	90	40.1	82

Source: C.A. Anuquo, Technical Report, Department of Human Nutrition, University of Ibadan, 1980

TABLE 2.6

AVERAGE HEIGHTS AND WEIGHTS OF PUPILS (6-8 YEARS)  
OF IBADAN COMPARED TO THE HARVARD STANDARDS

SEX	AGE (YRS)	BODIJA		MOKOLA (I)		MOKOLA (II)	
		WT.	HT.	WT.	HT.	WT.	HT.
MALE	6 YEARS	80.8%	97.3%	89%	95%	91%	97.9%
FEMALE	6 YEARS	80.8%	101.4%	94%	99%	98.8%	99.7%
MALE	7 YEARS	89%	96.8%	88%	92.8%	88%	93.6%
FEMALE	7 YEARS	91.4%	97.9%	87%	96.5%	90.4%	94%
MALE	8 YEARS	91.4%	98%	87%	93.5%	91%	96%
FEMALE	8 YEARS	97%	96.9%	92%	95%	89%	100.9%

Source: M.A.N. Igbuzor, Technical Report, Dept. of Human Nutrition, University of Ibadan, 1980

None of the three schools in Ibadan, Mokola (H), Mokola (L) and Bodiya met with the Harvard Standard, right from 9 years old upwards. However, since height and weight are acceptable criteria for proper growth, apart from genetic control, good nutrition has a direct effect on growth of which height and weight are parts of such measurements (Adegun, 1980)

The children of Mokola (L) primary school (6-8 years) are better in weight and height, than the children of Methodist Primary School, Bodiya. But on the whole, the school children of Ibadan City (6-8 years) compare favourably well with the standard for reference (Harvard) (Adegun, 1980).

In Ibadan as in most parts of Nigeria, parents give their children money to buy the school meals. A low income family, with about four school children will spend up to N6.00 (Six Naira) per week on school meals. According to calculation, the cost of feeding each child per day at school, varied from 20 kobo to 34 kobo (Olusanya, 1976). As one of the objectives of the school meal programme is to meet 1/3 of the child's nutritional requirements, and because of the little amount of money taken to school, this objective is seldom met.

Malnutrition is one of the major health problems of the school children. Most of the children are stunted in growth when compared with their counterparts from more privileged homes and they exhibit various signs of vitamin deficiencies such as angular stomatitis. Another form of malnutrition is

now becoming a major health problem among children from elite homes; a great proportion of them suffer from dental caries, a condition which is partly related to the consumption of refined carbohydrates and low flouride intake (Oduntan, 1976).

Oduntan further stresses that, the poor nutritional status of the Nigerian school children is the combined effect of poverty, ignorance, traditional cultural practices and multiple infections. A great proportion of the children are from relatively low income, polygamous homes with large families. Their diet consists mostly of cheap starchy staple foods, such as cassava and yam and very little protein. For example, only 2% of Ibadan school children take milk regularly whilst fruits are eaten only occasionally. In urban areas, a large proportion of families are depending more on food hawkers, who invariably are only interested in the amount of profit they make not on the nutrient value of the food they sell.

During a survey carried out among schools in Ibadan Area, 41% of the children attending free primary schools usually go to school without breakfast. Similar findings have been reported from other parts of the country. Many children also walk appreciable distances to school everyday and usually on an empty stomach. All these factors coupled with the high rate of parasitic infections must be influential in producing the present nutritional status (Oduntan, 1976).

Because of growth requirements of the child, adequate food and adequate protein should be given him. Balanced diets in sufficient quantities should be given following the principles of multimixes. Such practices are observed by the school meal vendors of Ibadan city, and when patronized by the child a balanced meal is assured him on each school day. The school meal programme may be of great value not only in improving school performance but also in remedying deficient nutrition, but two conditions must be fulfilled:

- the child at school must not be regarded as privileged and thus be deprived of a meal at home.
- the meals should be adapted to local food production and the programme should include education for an improved and better balanced diet (Olusanya, 1980).



### CHAPTER THREE

## DEVELOPMENT AND ORGANIZATION OF THE SCHOOL MEAL PROGRAMME

The credit for starting the school meal goes to a Frenchman, Victor Hugo. In the year 1865, he financed the provision of hot meals for the children in a school in Guernsey, France (Kashiru, 1960). In 1868, an enactment directed all communes (the smallest local administrative units) in France to establish school fund committees to provide meals for the children who were unable to pay (Kashiru, 1960). As from this year, 1983, all school children in France will be given free apple juice as part of the school meal programme (Radio France International, Feb. 1983).

Pardua in Italy was one of the first cities in which some efforts were made to plan the school meals scientifically. The Director of Medical Inspection laid down the principle that the meals should contain 75 percent of what were then held to be a child's daily requirements of protein and fat (Kashiru, 1960).

The school food service was first given legal recognition in the Netherlands. "The Netherlands Education Act of 1900" authorised the municipalities to provide food for all children at school who were unable to attend regularly, because of lack of food (Janne and Greene, 1978).

... school total

Sample Size and Sampling Procedures:

There were 110 trained school food vendors in the three training sessions of the summer of 1982, at the Jericho and Oniroko Health Centres, Ibadan. All the trainees were included in the experimental design focused on the training.

A list of all primary schools in Ibadan was obtained from the Ministry of Education, The Secretariat, Ibadan. With the aid of a map of Ibadan, the schools were divided into three respective zones, namely:

Suburbs

- West - (SW9)
- North - (N5 and 6)

Transitional

- South West - (SW7 and 8)

Inner Core

- South West - (SW1 to 6)
- South and Central
- North West - (NW1 to 6)
- North - (1 to 4)
- East zone - (E2 to 9)

(Aduniyi and Brieger, 1981).

The sample was stratified by zones and within each zone cluster samples were taken. With a total number of 276 primary schools a 10% sample of 30 schools was taken. Each zone's school total

and the number of schools the percentage represents were selected. The list is as follows:

TABLE 5.1  
IBADAN ZONES AND NUMBER OF SCHOOLS

Zoned	Number of Schools	Percentage to the total No. of Schools	Number of Schools selected
South and Central	35	12.7%	4
SW1 to 6	15	5.4%	2
NW1 to 6	58	21.0%	6
North1 to 4	17	6.2%	2
East 2 to 9	61	22.1%	7
SW7 to 9	58	21.0%	6
North5 and 6	32	11.6%	3
<b>TOTAL</b>	<b>276</b>		<b>30</b>

All schools were stratified and cluster samples taken with the help of random number tables. The food vendors in these schools formed the cross section of practicing school food vendors; a total of 178 interview subjects.

INSTRUMENTS AND METHODS USED FOR DATA COLLECTION

Questionnaires

A standardized questionnaire was used, i.e. questions were presented with exactly the same wording, and in the same order, to all respondents. This was developed after consultations with

the research supervisors. The reason for standardization, ofcourse, is to ensure that all respondents are replying to the same questions.

Open-ended questions were used, so that a free response from the subjects would be permitted rather than being limited to stated alternatives.

The questionnaire was translated into Yoruba by a Yoruba speaking Health Educator. It was later reviewed for translation errors by two Yoruba speaking medical students of the University of Ibadan, U.C.H. Translation into Yoruba was necessary to enable the interviewers to read in Yoruba so as to avoid wrong and varied explanations of the questions.

Pretesting of the questionnaire was performed on 25 food services personnel of the Alexander Brown Hall and the Nurses' cafeterias, U.C.H. Amendments and restructuring of a few questions were made on the advice of the supervisors; which were later translated and reviewed.

A week later the questionnaire was re-administered to 20 of the 25 former respondents and their answers were almost the same as in the first administration. This ensured the reliability of the questionnaire.

The training of field staff in sampling and data collection procedures is necessary to ensure that standard procedures are followed. Training will minimize some of the pitfalls for testers, observers, conductors and interviewers (Anderson et al,

1976). A Yoruba speaking undergraduate student at the University of Ibadan, and three Yoruba speaking high school graduates awaiting their G.C.E./W.A.E.C. examination results were hired as interviewers in the administration of the questionnaire. They were given a three day training and they practiced amongst themselves to ensure familiarity with the questionnaire. Two Yoruba speaking Health Educators at the Jericho Health Centre, Ibadan, who volunteered to help administer the questionnaire were also trained.

The questionnaire was administered to each of the 110 trainee meal vendors before the training session started (pre-test), and the same questionnaire administered immediately at the end of the training session (post-test). It was also administered to the 123 practicing school food vendors at the randomly selected schools.

The questionnaire was aimed at finding out the following:

1. General background information;

Personal data

Experience in the sale of food

Reasons for wanting to become a school meal vendor

2. Knowledge on nutrition;

The foods children need to grow healthy

An ideal lunch for a school child

The benefits one gains in eating the foods commonly eaten in Oyo State.

3. Skills in food preparation;

How different foods are cooked

What to add to other foods to make a complete meal

4. Practices and attitudes towards hygiene;

Ways of keeping cooking areas clean

How to keep foods and utensils clean

How to dress to keep oneself tidy

Diseases that could be contacted from eating  
unclean foods.

See sample questionnaire in Appendix

Observation

Some of the information concerning what partake at the training session and at meal times in the primary schools was obtained through observations. By consultation with the supervisors, an observation form or check-list was developed, which was used in all the 30 randomly selected schools.

With the use of checklist the relevant activities, behaviours, and conditions were known prior to being in the field; thus it was a structured observation.

Perhaps an obvious advantage to observational methods is that an individual using them records ongoing behaviour as it occurs (Sollitt, Claire, et al. 1976). In many occasions, subjects observed in the field are not aware of their roles as subjects, and unobtrusive or disguised observational methods in the field are advantageous.

Vendors' attire and utensils used, the condition of the selling areas, teachers' and pupils' participation at meal times, were all observed. See sample observation form or checklist in Appendix.

Trainers' behavioural response to the programme and to the trainees, punctuality and the response to duty by both trainee and trainer, trainee-trainer relationship, presentation of programme materials and extra time given to the trainees who needed it were also observed at the training sessions.

#### Interviews:

Head teachers and teachers responsible in supervising the school meals were interviewed. The interviews took a less structured approach and as such were informal. However, areas covered included points in the observation form/check list, to buttress the validity of the observations and interviews. Also the following were topics discussed:

1. Teachers' attitude towards the school meal services.
2. The role of the Parent/Teachers Association in the school meal services.
3. Instructional input to helping the children know the food is best for their growth, development and health.

For an increase in the validity of the measuring instrument (interview), teachers and head teachers were not given notice of the interviews. This was to reduce as much as possible

susceptibility to influences, in the form of preparation or consultation between teachers or between teachers and vendors. However, surprises could work against intentions, as such pains were taken to develop and maintain a good relationship prior to the discussions.

### LIMITATIONS TO THE STUDY

#### Language:

As a non-Yoruba speaking researcher in a Yoruba speaking area, it was all the time necessary that the researcher be introduced to the vendors and his mission explained. It would have been more advantageous if they heard the explanations from the horse's mouth, or if the researcher understood what they were told.

The administration of questionnaires to those who understood English, gave the researcher a better insight into their level of understanding the questions and what they thought of them.

#### Use of Interviewers:

Anderson (1976) states that no two people will ever administer a test (or other instrument) in exactly the same way. Though the interviewers were trained, the respondents may have realized different influences.



Distance:

Some of the schools were far away and getting to them took quite some time. This resulted in getting to a few schools after the school meal break. As such, some vendors in those schools were interviewed without prior knowledge of our mission, but the rest were interviewed in the following days. This time, difference may have allowed the vendors interviewed to discuss the questions asked with the un-interviewed vendors, and so influence the answers of the latter group.

Not Seeing Home Environment

Time and the unavailability of the vendors' addresses didn't permit the researcher to visit the vendors' homes where the foods are prepared. This would have aided in obtaining data as to the environmental conditions of the food preparation areas.

## CHAPTER SIX

### EVALUATION OF TRAINEES AND PRACTICING SCHOOL MEAL VENDORS

Two groups were represented in this study and three sets of questionnaire results were obtained. The first group of 110 trainees had a pre-training test and a post-training test, while only one questionnaire was administered to the practicing vendors. It should be noted for purposes of some analysis that five practicing school meal vendors who took training as a refresher course were not counted with the new entrants.

Responses were manually tabulated on graph papers and numbers and percentages worked out with a hand calculator. Scores of the respondents to questions answered correctly were also counted and mean scores for each group were calculated using a hand calculator.

#### Demographic Profile

All the trainees and vendors involved in this study are women. The ages of the five refresher trainees range from 34 years to 41 years and they are all married.

The 105 new entrants' ages range from 22 years to 40 years. Two of them are widows, three are single and the rest are married.

The 128 practicing school meal vendors are married except three widows and a spinster. Their ages range from 23 years

to 43 years.

This profile shows that almost all the participants are responsible adults in their households and try to help themselves economically.

### Knowledge Scores

As noted in the previous section, certain questions on the questionnaire were scored and totalled to indicate how much knowledge respondents had concerning nutrition and food hygiene. The maximum possible score was 37. Table 6.1 shows that not only did the newly trained vendors have the highest mean knowledge score <sup>22.3,</sup> but they also had the largest percentage of members "passing the test" that is scoring above 50%. It is also obvious from the results that practicing vendors are more knowledgeable than new recruits, but that some knowledge has "worn off" since their initial training. It is important to note that these intergroup differences were significant.

One should observe that only the newly recruited trainees' knowledge scores were used in this analysis. The five experienced trainees who came for refresher course had a mean score of 19.0. This is quite comparable with the mean score of 18.4 of the practicing vendors.

### PERCEIVED ATTRIBUTES OF FOODS

The trainees and vendors perceived foods as necessary ingredients to life, and their values help in bodily functions.

In traditional Yoruba society, the main meal(s) of the day consists of Okale (carbohydrates) as the centre piece which are enhanced by soup, vegetables and meat. Fruit eating is naturally determined by season. Even though the people's perception of the foods and their functions do not directly correspond to scientific thought, they are still able to conceive of healthy and healthy meals based on their traditional diet (Brieger, to be published).

### Carbohydrates

For all the carbohydrates mentioned a majority in all groups of respondents thought these provided strength, and a large number felt these foods helped the body grow. Although the latter may be true for rice (which contains some protein) it is not correct for starches like yam and garri. These results are evident in Tables 6.2, 6.3 and 6.4.

### Protein Foods

There was noticeable improvement in perception of the value of protein foods after training. While previously, most respondents had no idea of the purpose for eating meat or beans, after training they knew that meat contributed vitamins, growth and strong blood. While beans were seen to supply vitamins and to foster growth (see Tables 6.5 and 6.6).

TABLE 6.1

Knowledge Scores for Trainees  
and Practicing School Meal Vendors

Group	n	$\bar{x}$	sd	Total Pass <sup>a</sup>
Trainees (present)	105	14.9	15.5	20 (19.1%)
Trainees (post-test)	105	72.5	23.5	44 (70.5%)
Practicing vendors	126	18.4	11.8	53 (38.4%)

$F = 39.212$   $df = 2:335$   $P < 0.001$

<sup>a</sup>Pass mark based on scoring atleast 50%

TABLE 6.2

BENEFITS OF EATING YAM AS PERCEIVED BY UNTRAINED,  
TRAINED AND PRACTICING MEAL VENDORS.

Group (n)	PERCEIVED BENEFITS*			
	Strength	Vitamin	Growth	No response or Don't know
Pre-training (110)	51.0%	1.8%	24.1%	20.0%
Post-training (110)	66.4%	1.8%	36.4%	3.6%
Practicing Meal Vendors (128)	64.0%	4.5%	41.0%	2.3%

\*Multiple benefits were perceived by some respondents

TABLE 5.3

BENEFITS OF EATING GARI AS PERCEIVED BY UNTRAINED, TRAINED AND PRACTICING SCHOOL MEAL VENDORS

Group (N)	PERCEIVED BENEFITS*			
	Strength	Growth	Blood	No response or Don't know
Pre-training (110)	65.0%	55.5%	1.8%	22.3%
Post-training (110)	79.6%	40.0%	-	8.2%
Practicing Meal Vendors (129)	77.0%	34.5%	-	15.5%

\*Multiple benefits were perceived by some respondents

TABLE 8.4

BENEFITS OF EATING RICE AS PERCEIVED BY UNTAINED,  
TRAINED AND PRACTICING SCHOOL HEALTH VENDORS

Group (n)	PERCEIVED BENEFITS*			
	Strength	Vitamin	Growth	No response or don't know
Pre-training (110)	43.5%	-	46.2%	41.3%
Post-training (110)	68.3%	3.6%	71.1%	3.0%
Practicing food Vendors (128)	71.1%	5.3%	57.0%	2.3%

\*Multiple benefits were perceived by some respondents



TABLE 6.5

BENEFITS OF EATING MEAT AS PERCEIVED BY UNTRAINED,  
TRAINED AND PRACTISING SCHOOL MEAT VENDORS

Group (n)	PERCEIVED BENEFITS <sup>a</sup>				
	Strength	Vitamin	Growth	Strong blood	No response or Don't know
Pre-training (110)	2.0%	6.5%	3.4%	14.8%	73.3%
Post-training (110)	16.4%	40.0%	65.4%	47.3%	1.3%
Practising Meat Vendors (120)	21.5%	58.3%	70.0%	78.3%	2.5%

<sup>a</sup>Multiple benefits were perceived by some respondents

TABLE 6.5

BENEFITS OF EATING BEANS AS PERCEIVED BY UNTRAINED,  
TRAINED AND PRACTICING SCHOOL MEAL VENDORS

Group (n)	PERCEIVED BENEFITS*				
	Strength	Vitamin	Growth	Strong Blood	No response or I don't know
Pre-training (110)	14.2%	1.7%	18.2%	1.0%	63.0%
Post-training (110)	20.2%	27.0%	66.0%	-	1.8%
Practicing Meal Vendors (128)	18.0%	75.0%	41.3%	-	6.3%

\*Multiple benefits were perceived by some respondents

Fruits and Vegetables

It is evident that the respondents perceive vitamins as a benefit gained and that fruits and vegetables help in digestion. To them 'digestion' may imply bowel movements. A large number perceived taste as benefit from vegetables.

Greenleaves help in providing nutrients for blood cells, but only very few mentioned that it gives blood (see Tables 5.7, 5.8, 5.9 and 5.10). One wonders whether the vendors actually know what a "vitamin" is.

Oil

Nutritionally fats and oils provide the body with a concentrated supply of energy (King, 1978), but tables 5.11 and 5.12 show the respondents' perception focuses on growth. This may be due to their belief of associating growth with energy, as seen by their thoughts on carbohydrates.

IDEAL BALANCED DIETS

Another way of looking at the effects of training was to ask respondents what constitute an ideal meal. It is common for people to consider the starch as the centre piece of a meal, so it was interesting to see (Table 5.13) how many women mentioned other meal components. In fact, there is a positive association

TABLE 6.7

BENEFITS OF EATING GREEN LEAVES AS PERCEIVED BY  
UNTRAINED, TRAINED AND PRACTICING SCHOOL MEAL  
VENDORS

Group (n)	PERCEIVED BENEFITS*				
	Taste	Vitamin	Growth	Helps in Digestion	No response or Don't know
Pre-training (110)	32.1%	2.7%	14.5%	2.5%	1.2%
Post-training (110)	26.4%	85.1%	26.4%	67.3%	0.0%
Practicing Meal Vendors (129)	20.1%	74.5%	20.9%	58.2%	5.3%

\*Multiple benefits were perceived by some respondents

TABLE 6.8

BENEFITS OF EATING TOMATO AS PERCEIVED BY UNTRAINED,  
TRAINED AND PRACTICING SCHOOL MEAL VENDORS

Group (N)	PERCEIVED BENEFITS*				
	Taste	Vitamin	Gives Blood	Helps in Digestion	No response or Don't know
Pre-training (110)	27.3%	1.3%	7.1%	-	79.2%
Post-training (110)	36.4%	24.2%	-	43.2%	0.0%
Practicing Food Vendors (128)	16.4%	51.7%	-	13.0%	12.6%

\*Multiple benefits were perceived by some respondents.

TABLE 6.9

BENEFITS OF EATING PEPPER AS PERCEIVED BY UNTRAINED,  
TRAINED AND PRACTICING SCHOOL, Kiosk VENDORS

Group (%)	PERCEIVED BENEFITS <sup>a</sup>					
	Taste	Strength	Vitamin	Growth	Helps in digestion	No response or Don't know
Pre-training (110)	39.1%	34.6%	-	36.3%	-	3.6%
Post-training (110)	51.0%	41.1%	42.8%	4.3%	-	1.8%
Practicing Kiosk Vendors (128)	62.5%	47.8%	56.4%	-	10.4%	7.3%

<sup>a</sup>Multiple benefits were perceived by some respondents.

TABLE 5.10

BENEFITS OF EATING FRUITS AS PERCEIVED BY UNTRAINED,  
TRAINED AND PRACTICING SCHOOL HEALTH VISITORS

Group (N)	PERCEIVED BENEFITS*				
	Strength	Vitamin	Growth	Helps in Digestion	No response or Don't know
Pre-training (110)	-	14.4%	5.0%	4.5%	83.6%
Post-training (110)	3.3%	94.0%	66.0%	68.4%	10.0%
Practicing Health Visitors (128)	5.2%	93.3%	64.3%	59.2%	8.6%

\*Multiple benefits were perceived by some respondents

TABLE 6.11

BENEFITS OF EATING GROUND NUT OIL AS PERCEIVED BY  
UNTRAINED, TRAINED AND PRACTICING SCHOOL  
HEAL VENDORS

Group (N)	PERCEIVED BENEFITS*			
	Strength	Vitamin	Growth	No response or Don't know
Pre-training (110)	15.3%	-	18.5%	86.4%
Post-training (110)	89.1%	8.4%	72.1%	52.4%
Practicing Food Vendors (125)	58.4%	9.1%	16.3%	63.1%

\*Multiple benefits were perceived by some respondents



TABLE 6.12

BENEFITS OF EATING PALM OIL AS PERCEIVED BY UNTRAINED,  
TRAINED AND PRACTICING SCHOOL NEAL VENDORS

Group (n)	PERCEIVED BENEFITS*			
	Strength	Vitamins	Growth	No response or Don't know
Pre-training (110)	16%	11.8%	31.4%	68.2%
Post-training (110)	68.3%	41.0%	65.4%	1.8%
Practicing Food Vendors (128)	60.0%	32.3%	52.1%	3.1%

\*Multiple benefits were perceived by some respondents

TABLE 6.13

AN IDEAL LUNCH FOR A SCHOOL CHILD AS DESCRIBED BY UNTRAINED, TRAINED AND PRACTICING SCHOOL HEALTH VENDORS

Group	F O O D S			Total
	Starch	Starch & Protein	Starch, Protein and Vegetables	
Pretraining	7	68	37	110
Posttraining	3	7	100	110
Practicing Health Vendors	11	32	85	128
Total	21	105	225	348

$\chi^2 = 86.186$ ,  $df = 4$ ,  $p < 0.001$

between training and knowledge of a balanced diet.

Foods added to the starches (rice, yam and garri) have been categorized under 'vegetable and protein'. In Tables 6.14, 6.15 and 6.16, respondents reveal a higher knowledge level gained from training, which is more noticeable with the post-training respondents. The practicing meat vendors show a drop in knowledge level, but higher than the pre-training respondents. Significant statistical association exists between the level of knowledge gained and training, as  $P < 0.001$ .

#### FORBIDDEN FOODS AND FOODS CAUSING SICKNESS

In many parts of the world, there are beliefs, customs and attitudes towards foods. Some are obstacles or blocks to better nutrition (Kiny, 1971). Some of these surfaced in Tables 6.17, 6.18 and 6.19 as when respondents said that beans cause too much sleep and fofe (fried plantain) makes one stupid. It is a belief in Oyo State that children who eat eggs near up to become thieves or cause the girls to become barren (Kiny, 1978 and Oyanade, 1981), and this is reflected in the above mentioned Tables. It is interesting to note that though training has quite an effect in making meat change such beliefs and attitudes, but some still cling to

TABLE 6.14

FOODS ADDED TO COOKED RICE TO MAKE A COMPLETE MEAL AS DESCRIBED BY UNTRAINED, TRAINED AND PRACTICING MEAL VENDORS

Group	FOODS				TOTAL
	Protein	Vegetable	Protein and vegetable	No response: Don't know	
Pretraining	5	38	33	34	110
Posttraining	2	13	87	8	110
Practicing Meal Vendors	11	29	76	12	128
TOTAL	18	80	196	54	348

$\chi^2 = 59.924$ ,  $df = 6$ ,  $P < 0.001$

TABLE 6.14

FOODS ADDED TO COOKED RICE TO MAKE A COMPLETE MEAL AS DESCRIBED BY UNTRAINED, TRAINED AND PRACTICING MEAL VENDORS

Group	FOODS				TOTAL
	Protein	Vegetable	Protein and vegetable	No response Don't know	
Pretraining	5	30	33	34	110
Posttraining	2	13	87	8	110
Practicing Meal Vendors	11	29	76	12	128
TOTAL	18	80	196	54	348

$\chi^2 = 59.924$ ,  $df = 6$ ,  $P < 0.001$

TABLE 6.15

FOODS ADDED TO COOKED YAM TO MAKE A COMPLETE MEAL AS DESCRIBED BY UNTRAINED, TRAINED AND PRACTICING SCHOOL MEAL VENDORS

GROUP	F O O D S				TOTAL
	Protein	Vegetable	Protein and Vegetable	No response/Don't know	
Retraining	36	39	26	9	110
Postretraining	6	8	96	0	110
Practicing Meal Vendors	40	36	50	2	128
TOTAL	82	83	172	11	348

$\chi^2 = 104.845, df = 6, P < 0.001$

TABLE 6.16

FOODS ADDED TO EBA TO MAKE A COMPLETE MEAL AS DESCRIBED BY UNTRAINED, TRAINED AND PRACTICING SCHOOL MEAL VENDORS

GROUP	FOODS				TOTAL
	Protein	Vegetable	Protein and vegetable	No response/Don't know	
Pretraining	35	42	21	12	110
Posttraining	5	18	81	6	110
Practicing Meal Vendors	46	32	48	2	128
TOTAL	86	92	150	20	348

$\chi^2 = 85.441$ ,  $df = 6$ ,  $P < 0.001$

TABLE 6.17

REASONS A CHILD SHOULD NOT LAY WITH SEASONS GIVEN BY 110 PRETRAINING RESPONDENTS

REASONS	REASONS					
	Beans	Dust	Search	Heat	Fear	Other
Too heavy	-	10.0%	10.0%	-	-	-
Causes too much sleep	1.8%	17.3%	-	-	-	-
Causes stealing	-	-	-	-	16.4%	-
Causes Fatness	16.4%	-	18.2%	1.8%	-	-
Makes one stupid	-	12.7%	-	-	-	-
Is a Victim	-	5.5%	-	-	-	16.4%

\*Multiple reasons were given by some respondents



TABLE 6.19

REASONS WHY A CHILD SHOULD NOT EAT CERTAIN FOODS  
AS GIVEN BY 110 POST-TRAINING RESPONDENTS

REASONS	F O O D S			
	Beans	Dodo	Starch	Eggs
Too heavy	-	5.4%	10.0%	-
Causes too much sleep	-	2.7%	9.1%	-
Causes stealing	-	-	-	24.5%
Causes Fatness	3.6%	-	14.5%	-
Makes one stupid	-	1.8%	-	-
No vitamin	-	-	41.0%	-

\*Multiple reasons were given by some respondents

TABLE 6.19

REASONS WHY A CHILD SHOULD NOT EAT CERTAIN FOODS  
AS GIVEN BY 128 PRACTICING SCHOOL MEAL VENDORS

REASONS	F O O D S			
	Dodo	Starch	Eggs	Okro
Too heavy	33.5%	19.1%	-	-
Causes too much sleep	-	32.0%	-	14.8%
Causes stealing	-	-	24.2%	-
Causes fatness	17.1%	41.4%	-	-
Makes one stupid	3.9%	-	-	-
No vitamin	-	-	-	8.6%

Multiple reasons were given by some respondents.

Food as a possible causative factor of sickness is known by the majority of the trainees, as shown in Table 3.20. However, the post-training results, and the practicing food vendors' results reveal that all persons passing through training accept this idea.

#### INTERVIEWS

Teachers responsible for supervising the school meal programmes on site gave their views towards the school meal programme. All the teachers interviewed were in their schools for at least one academic year. Of the 14 teachers interviewed, 21 of them think that the programme could be improved by external aid through the World Health Organization (WHO), UNICEF, UNESCO or UNDP. Such bodies, they feel, help other developing nations in their school meal programmes, and wondered why not Nigeria. This would allow each child to have more than what is being eaten now, and at a lesser cost.

It is the belief of all the teachers interviewed that the training programme for the vendors is of great service to Oyo State. This to them is beyond the functions of the schools and help from the Jericho and Ogboshe Health Centres has given better organization to the school meal programme. Vendors' uniform and standards for their shops, but plates, stools and

TABLE 4.20

KNOWLEDGE REGARDING THE ROLE OF FOOD IN THE  
CAUSATION OF DISEASE

Group (n)	FOODS CAUSE DISEASE		
	Yes	No	No response or Don't know
Pre-training (110)	82	4	23
Post-training (110)	110	0	0
Practicing Meat Vendors (128)	128	0	0

utensils have encouraged the teachers to be buying meals from them. Generally teachers feel services have improved a lot over the years.

On the idea of building kitchens and canteens in the schools, twenty-three of the teachers commented on the inavailability of space within the schools' premises, while four others suggested a central preparation area for each district. From these centres, vans could be loaded with the meals to be taken to the schools. Theoretically, it is a noble idea, but when purchasing cost, personnel salaries and administrative cost are considered, it is not feasible under the present economic situation of the state.

Asked whether the vendors are continuously observed while selling in the schools, all the teachers responded in the affirmative. Head boys and girls help in observing the vendors. It was through such vigilant watch that three schools had the services of four vendors terminated for persistent engagement in unhygienic practices.

On the quality of the food served, thirty teachers feel that it is good. Consideration should be given to the economic status of the vendors, i.e. low income status, and the high prices of foods, they concluded. However, four of the teachers said that the foods need to be improved both in quality and quantity, even if it means more money from the children.

The Parents/Teachers Associations have little influence on the school meal programme, as only three teachers said the programme has been discussed in their PTA meetings in the 1981/82 session.

### OBSERVATIONS

The observations were carried out by the researcher without the knowledge of those observed; the vendors, teachers and pupils. The observations were made at the time when the food sellers were at work in the schools.

It was observed that all the 128 vendors wore uniforms while selling food to the children. Only four of them had dirty uniforms at the time of the observation. The food was always covered and all the vendors brought their own plates to sell with.

The dishing-out spoons were not of a uniform size. This is contrary to the fact that during training, the nurses showed them a standard spoon to use. All vendors brought plates, but in no case were these enough to accommodate all customers. Also some children were seen to bring their own plates, which after personal use, were shared with classmates. Not at any one time did the researcher observe these plates being washed before re-use.

All the vendors observed the recommended school menu.

The school play ground was most commonly used for the selling area, except in eight schools where vendors go to meet the pupils in their classrooms. The play grounds of the twenty two schools were for most of the time dusty. However, all the foods sold were put in basins and put on stools well above ground-level.

Although when interviewed, all the teachers said that the vendors are continuously supervised, the researcher observed this to be non-existing in eleven schools. In the said schools, teachers nor pupils monitor the sale of food to the children. Therefore the foods are not inspected before sale. In the 19 schools where vendors are observed by either pupils or teachers, foods are inspected before sale.

It has also been observed that teachers buy food from the vendors in all the schools except in two, where teachers bring along their own lunch.

In almost all the schools, the children were orderly while buying of the meal. Although some, for one reason or another, have been observed to be engaged in soccer and other games all through the lunch period.

The primary purpose of evaluating an educational or training programme is to provide decisions about the programme. The results should be useful for programme-improvement decisions.

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At the time of the Boer War (1899-1902) England discovered that three out of five men who presented themselves for military service, were physically unfit. An investigation showed that such poor physical conditions were due to malnutrition during childhood. The final outcome of this discovery was the introduction of the school lunch programme on a national scale through the passing of the "Provision of Meals Act of 1906" which gave the local school authorities the power to use school funds to establish lunches for under nourished children (Kashira, 1960).

In India, the facilities now made available for providing school meal to children under the school meal programme differ in various states. Nutritious local foods dominate the menus, and consideration is given to the buying power of the parents. Some of the foods in some states are seasonal, as a result the menu changes by the season. International bodies such as the FAO, UNICEF, UNICEF and voluntary organizations such as the Red Cross give tremendous aid towards the school meal programme. Egg powder, milk powder, cod-liver oil, vitamin tablets, etc., form the bulk of the items donated to the States of India (Kashira, 1950).

The Federal School Lunch Programme of the United States of America was first established in the 1930s to get rid of surplus food and make work for needy women who might prepare it. In 1943, standards were set up by the government for a full Type A

meal designed to give a child one third to one half of his daily nutritional requirement. In 1946, the National School Lunch Act was passed (Memir and Schaller, 1975).

At present three types of lunches are provided. They are as seen in Table 3.1.

TABLE 3.1

U.S.D.A. RECOMMENDED TYPES OF LUNCHES

	Constituent	Type A	Type B	Type C
1.	Milk (whole)	$\frac{1}{2}$ pint	$\frac{1}{2}$ pint	$\frac{1}{2}$ pint
2.	Fresh or Processed Meat	2 ozs.	1 oz.	" "
3.	Beans (cooked)	$\frac{1}{2}$ cup	$\frac{1}{4}$ cup	" "
4.	Egg	One	Half	" "
5.	Vegetables and Fruits (raw, cooked or canned)	6 ozs.	4 ozs.	" "
6.	Bread	One portion	One portion	" "
7.	Butter and Margarine (fortified)	2 teaspoons	2 teaspoons	" "

The basic United States Department of Agriculture (USDA) school breakfast programme regulations require that schools:

- A. Operate the breakfast programme on a non-profit basis for all children regardless of race, colour or national origin.

- B. Serve breakfasts that include: milk, fruit, full strength fruit or vegetable juice, bread or cereal. Schools are encouraged to serve a meat or meat alternate as often as possible.
- C. Provide breakfast free or at a reduced price to children whom local school authorities find are unable to pay the full price. Children getting free or reduced price breakfasts must not be identified or discriminated against in any way.

National school lunch programme regulations require that lunches also be served free or at reduced rates to the poor and that if lunch is offered by the school, it be offered to all students. In addition, lunches must conform to the Type A pattern; that is, they must include milk; meat or meat substitute. Vegetables, fruits or both, and bread and butter or margarine. On the average lunches are expected to meet one third of the recommended dietary allowances established by the National Research Council of the National Academy of Sciences (U.S.A.D. publication, 1970).

The "Oslo breakfast" introduced into schools in Norway in the late 1920s, shows how a combination of objectives can be achieved. The meal consists of milk with sandwiches made of rye biscuits or bread, vitaminised margarine, whey cheese, cod-liver paste and raw carrot, an apple or an orange according

to the season or availability (Kashiru, 1960).

A comprehensive school meal programme covering the entire school going population is currently in operation in Japan. Over 60 per cent of the primary school children are now participating in this. Of these, about 90 per cent receive a mid-day meal including milk while others are provided with a glass of milk and snack (Ibid, 1960).

In consultation with senior officials of the Ministries of Health and Education, Lagos, it has been said that school meal services in Nigeria started in Lagos in the 1950s, by the Department of Education. It was a pilot project catering for few schools.

In 1964, two central catering centres were built to help cater for 105 primary schools in Lagos. Private vendors were also allowed to sell food to the children when certified by the school inspectors.

In 1966, the project catered for only 0.5% of primary school children. The Food Control Section and the School Health Service carried out inspections of school kitchens and school meals and advice on the choice of food stuff and their preparation (Adeniyi-Jones, 1966).

Mrs. K.A. Adoley (1983), Principal Assistant Inspector, Home Economics Division, Ministry of Education, Lagos State, expressed that presently in Nigeria, all states encourage schools to participate in the school meal programme, either through the school authorities or by private arrangement.

In Sweden and Denmark, the meals are served free to the children. Free milk is also served in New Zealand (Kashiru 1960).

## OBJECTIVES OF THE SCHOOL MEAL PROGRAMME

If children are to study well throughout the day, they should have something to prevent hunger. This could be a small meal provided either by the parents or by the school, if funds are available, or if they can be collected from the parents. A school meal also provides an opportunity for making sure that each child gets what might be missing from his diet, especially protein and vitamins. The foods given should always be ones that are locally suitable and can form part of the normal home diet of the child (Jelliffe, 1980).

The last observation has been amply demonstrated in underprivileged areas of the United States where the national school lunch programme has been in existence. Participating children have improved not only in health, but in academic achievement. In needy districts where a free breakfast of cereal and milk is provided, absenteeism definitely decreased (Memir and Schaller, 1975).

Jeene and Groene (1976) also agree that two school programmes - food services and physical activity, facilitate growth and development directly to some extent if properly conducted. It is not to be expected that these programmes will fully compensate for genetic, home or community deficiencies. Their positive effects are not always readily apparent after short periods of participation in them. Their goal is to help establish patterns of dietary and exercise behaviour that will

promote not only growth and development but also positive health in adult life.

School meals should enable children to acquire a taste for the right kinds of foods, and foods could be introduced which are either new or prepared in a novel way.

School meals are also valuable in the teaching of manners and social graces, such as using clean eating utensils or washing the hands clean before eating. In fact, the most valuable lesson that can be learned at school meals is the vital importance of cleanliness - not only of the food itself, but of the hands and utensils (Jenne and Greene, 1976).

The objectives of the school meal programme as idealized by the United States Department of Agriculture are:

- a. To provide nutritionally balanced and well-cooked school lunches.
- b. To develop desirable food and eating habits in children and youth, and indirectly to improve food habits of all members of the family.
- c. To develop an appreciation and understanding of nutritional needs of varying ages of individuals.
- d. To develop habits and appreciation of cleanliness and knowledge of the matter of selecting, storing, preparing and serving food.
- e. To improve the general health of the school-going population through such measures as can approximately

be taught.

- f. To provide, through the eating of food, a learning situation by which the child gains educational and social experience.
- g. To provide for the child such school lunch room facilities as are necessary to create and develop an appreciation for a quiet, clean, happy, and peaceful environment while eating.

(Newir and Schaller, 1975).

The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association affirms:

The school lunch, contributing as it does to the child's nutrition, is a fundamental factor in the general health of that individual and, therefore, necessarily becomes a part of the school health programme and of the educational programme as a whole (ibid, 1975).

## CHAPTER FOUR

### TRAINING FOR FOOD VENDORS

Training programmes, as contrasted with broader educational programmes, are ordinarily thought of as having relatively immediate and limited objectives; e.g. to help the trainee gain the competencies needed for work, military service, or other defined roles in society (Anderson, 1976).

Education is primarily concerned with opening out the world to the student so that he can choose his interests and mode of living, and also his career. Training, on the other hand, is primarily concerned with preparing the participant for certain lines of action which are delineated by technology and by the organization in which he works. Education helps the student choose and decide his activity. Training helps the participant improve his performance in it. Training deals mostly with understanding and skill (Lynton and Pareek, 1978).

All training programmes are best conducted with guidelines. These may be in the form of objectives, do's and don'ts, requirements etc. The following cardinal guidelines lead all training programmes to their successes or otherwise:

1. Becoming aware of, and defining the need for improvement of some aspects of institution's operation.
2. Choosing from among alternative solutions for overcoming deficiencies.



3. Implementing a planned programme to correct the deficiencies.
4. Following up to evaluate whether desired outcomes are achieved.

(King, 1976).

Training can also be based on concepts and guides for achieving objectives. This school of thought is echoed in contemporary training programmes and is quite favourable to the Jericho/Onireke School Meal Vendors training programme.

Three health education concepts are valuable in designing the training. First, training should be based on perceived and expressed needs. Second, trainees must be involved in the planning and execution of the programme to ensure that training meets their needs and is relevant to their background. Third, the design must seek realism so training matches expected duties of the trainees and is congruent with the social and cultural setting where they must work (Brieger and Akpovi, 1982).

Training programme guidelines may also be criteria to be met or observed to enhance the achievement of desired outcomes. To this end Havelock and Havelock (1973) have given fifteen guiding principles as noted below:

A. Structure

A training programme is a system with goals, a division of labour (trainer-trainee) and a definable set of a rational and orderly structuring of activities

and/or experiences.

B. Relevance

Training should be relevant to the objectives and to the trainee's needs, wishes, background and back home situations.

C. Specificity

Goals, learnings, and training activities should be specified and, where appropriate, stated in behavioural terms.

D. Generality

As trainees may have diverse backgrounds and will be returning to diverse work settings, training content must be general enough to benefit a range of people and situations.

E. Reinforcement

Reward for appropriate response and the training extent as a whole should be beneficial, worthwhile and enjoyable to the trainee.

F. In-Process Evaluation and Feedback

In process evaluation should be relevant, specific and built into the training experience.

G. Openness and Flexibility

A training event should be continuously responsive to unanticipated needs and circumstances, seek and make use of experience, skill and varied background of

trainees and other resources.

H. Linkage

The training design should link trainee to trainee and trainer to trainer for coordination, interpersonal contact, sharing and mutual help.

The linkage concept also applies to the content of training itself.

I. Involvement

The training experiences should actively utilize trainees' senses and behavioural skills, through reading, writing, listening, telling and by rotation of various task roles.

J. Cost Effectiveness

The selection, number and quality of trainers and trainees, the budget and time available should generally aim at providing the greatest benefit at a minimum cost.

K. Redundancy

For effective communication important points should be repeated via different media in different contexts.

L. Synergy

The training event should use a number of inputs or stimuli from different sources to cover prominent points.

M. Train for Psychological Wholeness of Learning

It is an important principle in training programme design to introduce the notion that attitudes, knowledge, skills and practices need to come together if the learning is to be adequately internalized.

N. Train for Transferability

The training design should give room for trying out and practicing behaviour under back home conditions, to facilitate the trainee's transfer of experience.

O. Compatibility

Training should be complete with the trainee's personal history, previous learnings, expectations, and probable future work situations.

FOOD SERVICE TRAINING

The relevance of training principles in any training programme cannot be underestimated, as they, to an extent, guide the course of the programme. While the principles may be adopted in various training programmes, the programme content makes the difference. A formal and well structured training programme for caterers exists at the College of Technology, Oyo, Oyo State, and the curriculum consists of the following:

Cookery Theory

Cookery Practical

Nutrition

Housekeeping

Food and Beverage Service

Trade Calculation

English

Home craft

Trade Science

(Oyedeko, 1983).

In a training programme for caterers such emphasis should be laid on hygiene: food hygiene, personal hygiene and hygienic working conditions (Hilton, 1979). Most of the outbreaks of food poisoning that occur from time to time throughout the world can be traced to food factories, cafes, restaurants and even occasionally to industrial canteens, school meal centres and the kitchens of residential establishments such as colleges, nursing homes and hospitals. Many of these outbreaks could have been avoided if a little more attention had been paid to kitchen hygiene and personal hygiene (Hilton, 1979).

For success to be realized by schools for catering and hotel management, trainers must be qualified caterers themselves. The City and Guild Certificate with at least two years of working experience should be the minimum qualification for a junior level trainer (Evans, 1974). Trainers should keep abreast with new developments, ideas, techniques, etc. in the trades and in

training, to ensure a continuous assessment and re-assessment of their programmes (Evans, 1974).

Concerning appropriateness of trainees for food vendors, Mrs. Akintoye (1983), Catering Officer, University College Hospital, Ibadan, feels that the training of school food vendors should not be left entirely in the hands of nurses. Teachers and home economists from the Ministry of Education should also participate in the training programme. This will help the vendors to know and appreciate what obtains in the schools. The nurses may be the best trainers in hygiene but not in nutrition and cookery practical. Because most of the supervision is done by the teachers, they should form part of the training staff. Moreover, training takes place only during the regular school holidays, so teachers can participate, she concludes.

The methods applied in a training programme go a long way to enhancing the success of the programme or the attainment of its goals. Such methods are varied as they are employed in different situations and for different people. However, no learner comes to a training programme with an empty mind, if the programme is about health, people and attitudes to healthful living, for he will have already developed his own attitudes towards them (Barton, 1962).

The food vendors training programme is partly aimed at influencing people's attitudes and attitudes can be very hard

to change. For an effective change on attitude, the discussion method is best. The lecture method, though popular, seldom achieves a change in the participant's attitude. It deprives the trainee responsible and effective self-directed action, and tends to make him more dependent on the trainer (Batten, 1962).

Training to influence attitude is the kind now commonly called orientation training. To deal with these attitudes, the trainer must first find out what his trainees think and this is why discussion methods are so useful in orientation training. Once the trainees feel free to state their own opinions and reveal their own attitudes they begin to participate in their own orientation. They are then influenced, not only by the trainer but also by what they say to each other (Batten, 1962, Johnson, 1978).

The imparting of information depends highly on the relationship which exists between instructor and trainee. It is clear to the observer at the vendors' training programme that the diffusion of information sails without inhibition at all times between trainer and trainee.

The trainee who to recognize and accept as his own, the problem being solved, will likely develop the right attitude toward his work (Dube, 1968).

## Training and Learning

Learning is a kind of action, and like other acts, it depends on many things. What is taught is only one of these. So the connection between what the trainer teaches and what the participant learns is at best indirect and impartial. To assume that teaching and learning are related simply, as cause and effect, in fact has a basic defect: It equates the trainer's point of view from which he teaches - with the participant's point of view - from which he learns. As trainer and participant work together, they may understand each other's view points better and take them into account. But proceeding on the assumption that the view points are the same in the first place is quite unrealistic (Lynton and Parook, 1978).

Lynton and Parook have written on a process of internalization of what is learnt in a training programme. The process is apt to favour many programmes of learning.

### i) Selection of Some Items for Learning

With whatever motivation and degree of readiness he comes, the participant, not the trainer, chooses the parts of subjects, people and atmosphere that affect him more than other parts.

### ii) Initial Trial of Experience

The participant explores and uses the selected items, thinks about them, and translates his interest into specific behaviour.



iii) Feedback From The Initial Trial

The experiments may be rewarding or discouraging to the participant, or merely open to further trials. The possibilities are affected by his own reaction to the trial, the reaction of the fellow participants and the reaction of the trainers.

iv) Reinforcement and Continued Practice

Satisfaction from a positive feedback reinforces the participant's new form of behaviour. Repeated satisfaction will result in establishing the new pattern of behaviour firmly.

v) Internalizing What He Has Learned

Learning based on repetition tends to be mechanical and barren till the participant ceases to be self-conscious about it and uses it routinely as a part of his habitual pattern of behaviour.

This process of digestion takes time. The new item, or the modification of an established habit, affects many parts of the participant as a person. It gets woven into his experiential texture, makes him a somewhat different person. In Erikson's scheme of thinking about these things, the most important learning requires a period of "moratorium", a period of withdrawal from everyday pressures and expectations. At such a time, a participant allows himself and his life to take on a new shape. At a much lesser depth, all learning has this essentially reflect-

tive, withdrawn stage. It ends when self-consciousness with the new ways has gone. The participant has then learned something new, he has made something new his own.

Hopefully the training programme will engender not just the learning of a few discrete items but generally induce strength and an orientation toward new experience in which further learning is attractive. So there is an overall cycle in which learning becomes enjoyable as a process. The participant will then be more open to learning in the future.

## CHAPTER FIVE

### METHODOLOGY

#### STUDY DESIGN

The design is a two-fold Pre-Experimental Design, i.e. there are two aspects to the survey:

1. The evaluation of training using the design called the "one group pretest - post-test design". It involves administering the questionnaires ( $O_1$ ) to the trainees before the training session ( $X$ ) and the same questionnaires immediately at the end of the session ( $O_2$ ):  $O_1 \times O_2$ . The design permits the researcher to measure change objectively (Anderson, S.B. et al, 1975, Campbell and Stanley 1966).
2. An evaluation of continued practice, i.e. a survey design of a cross section of practicing food vendors. Thus the design will be:

$O_1 \times O_2 \dots\dots\dots O_3$

#### STUDY AREA

Ibadan, the capital of Oyo State is the most populous city in Africa south of the Sahara. It has 276 primary schools, most of which participate in the government encouraged School Meal Programme (Ministry of Education, Ibadan, 1980).

The School Meal Programme in Ibadan became recognized by the government in 1958 (Jericho Health Centre Records, 1980). Since then, it has been progressing steadily, though all of it is presently done without government subsidy. The then Western State Government gave in about N5.00 for each training session, but stopped in 1974 (Jericho Health Records, 1980).

Presently in Ibadan, Nigeria, a formal and well organized school-feeding programme in the primary schools doesn't exist. Instead food vendors, who are all women, come to sell their foodstuffs to the children. This helps to ensure that while at school, the child has the opportunity of buying a nutritious meal.

Private persons apply to the head teachers of the schools they want to sell at, to become food vendors. The letters are forwarded to the health sisters at the training centre at the Jericho Health Centre, Ibadan.

The applicants later call at the Centre where they undergo a Medical examination. Any one found to be suffering from respiratory diseases; e.g. tuberculosis, is treated and her application withheld. Persons suffering from scabies or other skin diseases are also treated before being allowed to register for training. The screening procedure allows no person suffering from a communicable disease to register for the training programme. All those found to be physically healthy are permitted to register for training.

The School Meal Programme in Ibadan became recognized by the government in 1958 (Jericho Health Centre Records, 1960). Since then, it has been progressing steadily, though all of it is presently done without government subsidy. The then Western State Government gave in about ₦5.00 for each training session, but stopped in 1974 (Jericho Health Records, 1980).

Presently in Ibadan, Nigeria, a formal and well organized school-feeding programme in the primary schools doesn't exist. Instead food vendors, who are all women, come to sell their foodstuffs to the children. This helps to ensure that while at school, the child has the opportunity of buying a nutritious meal.

Private persons apply to the head teachers of the school they want to sell at, to become food vendors. The letters are forwarded to the health sisters at the training centre at the Jericho Health Centre, Ibadan.

The applicants later call at the Centre where they undergo a medical examination. Any one found to be suffering from respiratory diseases; e.g. tuberculosis, is treated and her application withheld. Persons suffering from scabies or other skin diseases are also treated before being allowed to register for training. The screening procedure allows no person suffering from a communicable disease to register for the training programme. All those found to be physically healthy are permitted to register for training.

The nurse-trainers register the 'healthy' and make unannounced visits to their homes or food preparatory areas. The following are looked into, as to their suitability in food preparation:

1. kitchen and its surrounding
2. sources of water supply
3. utensils used
4. toilet facilities

Any of the above found unsatisfactory is sufficient to disallow the applicant from attending training for that session. Talks are given to vendors in their homes or in the areas the foods are prepared, with a view to improving the conditions. Sometimes applicants are advised to look out for more suitable areas for preparing their wares, if they want to attend the training session.

#### TARGET POPULATION

The trained food vendors, the practicing school food vendors in the randomly selected schools, the head teachers and teachers responsible for the school meals and the pupils of the said schools, formed the target population of this study.

not just for decisions about continuation or termination (Anderson et al, 1976).

Though most of the data collected for this study is from participants; and human behaviour, including that exhibited in such programmes is complex and multiple, it could be safely said, that the meal vendors training programme meets most of its goals and enhances the maintenance and growth of the school meal programme in Oyo State. This will be discussed in detail in Chapter Eight.

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## CHAPTER SEVEN

### ASSESSMENT OF THE TRAINING PROCESS

Training is often equated with theory and practice with experience, and Lyttel and Parson (1974) saw nothing so practical as a good theory. Both factors (theory and practice) are short of a better outcome or results in the absence of a suitable process. That is, the methods used in the learning process in no little measure influence the outcome or results.

#### The District Health Centre Schedule

These training sessions for animal health vendors in a year take place during the traditional school holidays, Easter, Christmas and Summer. The Christmas session is seldom held, due to the low number of applicants at this time and the few days given for the holidays. The guide at what training takes place, helps the veteran vendors to register for their refresher sessions. This is important as not only new applicants are needed, but also the veteran vendors are continuously encouraged to attend as refresher.

The training used used to be a two-week session, but due to the large number of 100 to 150 trainees to just 1 or 2 trainers, it is now conducted for one week.

#### Organization and Structure

Successful applicants are required to subscribe an amount of their own money towards the buying of the books and materials.



ments to be used in the training programme. All participants are required to buy a washing bowl, dish-cup plates, serving spoons and two hand-towels before training starts. As the training sessions are not subsidized by government, the buying of the working apparatus by the trainees helps in the foundation for trainee participation and involvement. It also means that demonstration with real life objects is a basic training tool towards imparting training content and achieving training objectives.

All practical lessons take place at the training centres, Ibadan, where kitchens have been built for the purpose. The participants are housed at the Ibadan Health Centre, where they are trained in the programme, and are asked to select their own representatives to collect their assignments and to do the buying of the tools to be used. The course-trainers send the dishes to be used in the sessions and later ask them to come to the house and help to be bought. The suggestions given are noted, and if any important item is left out, trainees are advised of it. From the start, the trainees demonstrate clearly that they are given and receive guidance and that actual projects, tasks and collaborative support are given in which the programme takes. This approach is what sets off the learning in well-directed health programme imparted in response and national effort.

not just for decisions about continuation or termination (Anderson et al, 1976).

Though most of the data collected for this study is from participants; and human behaviour, including that exhibited in such programmes is complex and multiple, it could be safely said, that the meal vendors training programme meets most of its goals and enhances the maintenance and growth of the school meal programme in Oyo State. This will be discussed in detail in Chapter Eight.

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## CHAPTER SEVEN

### ASSESSMENT OF THE TRAINING PROCESS

Training is often equated with theory and practice with experience, and Lester and Patrick (1971) have pointed out that a good theory, with factors (theory and practice) are about it is better evidence or practice in the absence of a suitable process. That is, the methods used in the learning process do not little direct influence the nature of results.

#### The Nigeria Health Centre Institute

Three training sessions for a total week were held in a year. Two were during the traditional school holidays, Easter, Christmas and summer. The Christmas session is a three week, due to the few number of applicants at this time and the few days given for the holidays. The purpose of each session is to give students the necessary training to register for their professional examination. This is important as not only new applicants are needed, but also the current students are continuously encouraged to attend as refresher.

The training is held in a separate building, but due to the large number of 100 to 120 students in part 5 or 6 courses, it is held in the main building for one week.

#### Registration and Assessment

Successful applicants are required to submit an account of their work and progress during the period of the course and during

ments to be used in the training programme. All participants are required to buy a washing bowl, dishing-out plates, serving spoons and two hand-towels before training starts. As the training sessions are not subsidized by government, the buying of the working apparatus by the trainees builds the foundation for trainee participation and involvement. It also means that demonstration with real life objects is a basic training tool towards imparting training content and achieving training objectives.

All practical sessions take place at the Onireke Health Centre, Ibadan, where kitchens have been built for the purpose. The participants assemble at the Jericho Health Centre, where they are briefed on the programme, and are asked to select their own representatives to collect their subscriptions and to do the buying of the foods to be used. The nurse-trainers name the dishes to be cooked in the session and later ask them to name the foods and condiments to be bought. The suggestions given are noted, and if any important item is left out, trainees are reminded of it. From the onset, the trainers demonstrate clearly that they are guides and resource persons and that mutual respect, trust and collaborative support are pillars on which the programme leans. This approach in which most of the learning is self-directed benefits a programme composed of responsible and matured adults.

### Content and Objectives

The training content centres on hygiene, nutrition, selection and preparation of foods, and emphasis is laid on the care of the school age child.

Cleanliness of home environment, especially food preparation areas, and personal hygiene are to be kept high at all times. Infection and illness for the most part takes advantage of low personal and environmental cleanliness, they are told.

The uses of some of the foods in the recommended school menu are highlighted. Beans, vegetables, oils, meat, yam, cassava, fruits are among the foods discussed. However, the researcher observed that not much is said of the nutritional benefits of such foods, and it is doubtful if the trainees know what is being talked of when words like vitamins are used.

The selection of food and its preparation are given due consideration. An uncompromising discrimination against mouldy and spoiled foods should be maintained, the trainees are told. All foods bought must be of the best nature, substance and best quality the vendor seeks. This may not be practicable due to the high cost of the best quality foods in the market. Therefore the vendor may likely settle for what her low economic status can provide.

The care of the school age child includes love and affection for the child's emotional stability, care of wounds and to seek prompt medical assistance in case of illness, help

in his school career and the provision of a better nutrition.

One of the senior nurse-trainers recalled that it was Mrs. Onagoruna, a Health Sister, that decided on having a menu for the programme. It is as follows:

- Monday - Ewa (cooked beans) mixed with palm oil and served with meat soup.
- Tuesday - Asaro (porridge) with chopped meat and soup.
- Wednesday - Rice and beans mixed together and vegetable and melon soup.
- Thursday - Dodo (fried plantain) with chopped panla (stock fish) vegetable soup
- Friday - Ewa (cooked beans) mixed with palm oil and served with soup.

From this menu the children are not given any cassava as they get enough of it at home (Jericho Health Centre Records, 1980).

The content of the programme is appropriate and suits the stated goals aimed at. Participants are better equipped after the programme towards the preparation and serving of foods, and as such contribute more to the growth and maintenance of the school meal programme.

The programme has no specific written and cut-out objectives, and as such much flexibility is realized. Participants sometimes have

problems in understanding one thing or another, such persons are helped separately. Also a few participants may be interested in areas that are not to be dealt with in depth, as in child care. They are also helped to achieve their desires. While a training event should be planned and structured in advance, it should also be continuously responsive to the unanticipated needs of individual trainees and to un-anticipated circumstances (Havelock and Havelock, 1970).

However, the senior nursing sister in charge of the training programme stated that the programme aims at achieving the following:

- a) To help the participant gain knowledge on foods, nutrition, personal and environmental cleanliness.
- b) To develop the participant's skills in food preparation.
- c) To help the participant utilize the knowledge gained in helping the school child get a balanced diet.
- d) To help the participant construct a positive attitude toward the selection, preparation and the serving of food and the school meal programme.

The above aims are positive guidelines to the programme and are not in conflict with the programme content.

### Approach and Methods

At the Onireke Health Centre, the trainees are divided into groups of 6 to 8, and each group takes the lead in the proper way of cooking one of the dishes. Only the foods recommended in the school menu are cooked. The leading group selects its leader who tells the participants the foods and condiments they should get ready by picking, selecting, washing and peeling. All done, the trainers work together throughout the process. The participants are reminded of cleanliness at all times, and to use only the best foods and condiments. The non-directive worker does not tell the members of the group what he thinks they ought to do because this would deprive them of the opportunity of learning to think realistically for themselves: but he will try to structure, systematize, and enlarge the scope of their thinking, and in this way help them to reach a good decision for themselves. He will also hope that the thinking they do will help them further to develop their potentialities as persons (Batten and Batten, 1975).

Three health education concepts surface in the training programme. First, training is based on community perceived and expressed needs. Second, the trainees are involved in the planning and execution of the programme. Third, the design seeks realism so that training matches expected duties on the



trainees and is congruent with the social and cultural setting where they must work (Akpcvi and Brieger, 1980).

A variety of methods are used in the training session; discussion, demonstration, role plays, songs and proverbs. The trainees' participation in discussions helps the group to reach conclusions, and as guides make sure that rational conclusions are met, i.e. to ensure as far as possible that the conclusions trainees reach as a result of their thinking are practical and relevant to their need.

Each trainer takes the lead in a topic, and is often aided by other trainers and 'team teaching' results. Interest is stimulated by songs and both trainers and trainees participate in the activities. This method helps in maintaining the interest already stimulated. Their role as mothers is emphasised and therefore should contribute their best towards the child both at home and at school as school meal vendors. At the end of each day trainers and trainees dine on the food prepared.

#### Evaluation and Certification

No formal evaluation of the trainees is done. Ongoing evaluation prevails throughout the session, but is hardly observed unless a participant is being guided or is asked to repeat important points over and over. An assessment of the meals is done at the end of each day and participants get

involved in discussing the nutritional value of the food. Any item missed in the preparation or added where not appropriate, a song is composed at the spot. This helps in restoring the missed point.

Nurse-trainers request participants to recite the recommended school-menu, and questions pertaining to training are also asked during the certification ceremony. This is the only time when participants are openly evaluated by the trainers.

Certification of vendors takes place on Friday afternoons at the Jericho Health Centre. All graduates are dressed in the recommended uniform; a blue frock, white apron, and a white head-scarf. Recommended serving spoons to be used in dishing out food to the children and hand towels are brought along. Songs, dances and prayers follow the graduation address by the Senior Nursing Sister. It is a beautiful setting and all are gay and full of life when in the dance.

Before the presentation of the identification cards, the participants take an oath and pledge to sell only clean and good food to the school children, and not to start on good ways just to change afterwards. They are also urged to come for refresher courses and those on their refresher courses are showered with prizes. Emphasis is placed on the vendors' cooperation with the schools' staff in which they are to sell.

and that nurasa' visits to the schools are unannounced. The head teachers of the schools have the right to recommend for the withdrawal of the identification card of any vendor who indulges in unhealthy practices or selling portions of food below the usual amount.

Finally, each vendor is called upon to receive her identification card (see figure 7.1) which bears her picture. When all receive their cards, more dancing and singing go on. In their well tailored and immaculate uniforms, it is a delight to the eye to see how happy and proud the vendors are.

FIGURE 7.1

OYO STATE OF NIGERIA  
MINISTRY OF HEALTH/EDUCATION

SCHOOL-HEALTH-SERVICE

IDENTIFICATION CARD

Particulars

PHOTO

Name: -----

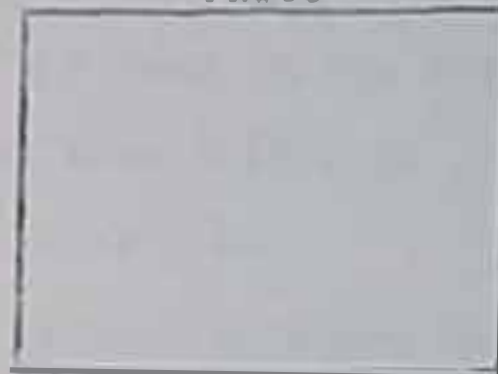
Age: -----

Marital status: -----

Address: -----

Occupation: -----

Place of work: -----



-----  
Headmaster

-----  
School Medical Officer

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## CHAPTER EIGHT

### DISCUSSION OF RESULTS

The study has revealed that the school meal vendors training programme influences the vendor's knowledge level and practices, and indirectly their attitude and beliefs. Such an influence enhances the maintenance of the school meal programme in Ibadan.

There is a significant increase in the knowledge scores of the trainee vendors in the post-training administration of the questionnaire. This is as a result of the training as the low pre-training scores depict that the trainees knew little on nutrition and some aspects of hygiene (see table 6.1).

The practicing meal vendors' knowledge scores as shown in table 4.1 is lower than the post-training scores of the trainees. This is an evident of the wearing off of the knowledge gained from training, (but this study didn't investigate the degree of the drop in knowledge level as to the number of years after training). It is therefore important that more incentives be made available for vendors to attend refresher courses. Only 5 of the 110 trainees in this study availed themselves for refresher courses; this is not a big volunteer rate. It may be more encouraging if the refresher programmes were different from the new entrants' programmes, as this will eliminate the monotony of doing the same programme again.

Though there is a drop in the knowledge level of the practicing meal vendors, their job performance is unaffected. All the

vendors observed adhered to the recommended school menu, and all wore the recommended uniform. This may be due to the fact that the content and methods applied in the programme are adequate and suitable. Trainees deal with the real foods they work with in the job situation, eliminating the need for teaching aids for illustrating purposes. The use of memory, practice and repetition in the process make the content become engrained in their experiences.

Specific aspects of the knowledge accrued on perceived benefits of certain foods and the composition of ideal meals reveal that some of the vendors fail to associate the foods with the benefits gained. Ground-nut<sup>oil</sup> is perceived by some to help the body grow (see table 5.11). This is not so, as oil contributes to heat and energy and not to growth. Ironically they never mentioned that green vegetables help the body as they contribute to cell growth. However, even though a balanced meal knowledge may decline, they still keep to the recommended menu. So even though knowledge is an advantage, it is not a necessity in this case.

With all its advantages and gains, the training programme needs an integrated approach. Teachers, caterers and home economists should join the training team of nurses. As they will all work hand in hand, a programme of excellent quality will be a definite result. Such a team will curb the deficiencies that

may result from the programme methods and content. As Mrs. Abintoye (1982) states, the nurse may know more on personal hygiene and child care, but doesn't know more on nutrition than the home economist. Likewise the teacher does the supervision of the vendors in the school and therefore should know what goes on and be part of the training programme.

On the job supervision is an important aspect of the school meal programme. Though the vendors are required to use uniform sized spoons for the selling of the meals, the researcher observed that this is not practiced. Those who don't use the recommended spoon size estimate the quantity sold to the school child. Whether the estimated amount contains the minimum required nutrients in quality, nature and substance, is beyond the scope of this study. Yet it is an important area for further investigation and study, as it has a direct relationship with the objectives of the school meal programme and the health of the school child.

Vendors are asked to take along their own plates to school, though not for each child, as a result some pupils take along plates or little plastic bowls for their meals. The researcher did not find in any of the 10 schools visited the practice of washing plates before re-use. This may be due to the shortage of portable water in many parts of Ibadan. But even if the vendors washed the plates before re-use, there

is the likelihood of contamination as the pupils use unclean hands to eat their meals.

To this end, teachers should make sure that personal hygiene is effectively put to practice by the pupils. Where possible, schools should provide water for little but important practices as the washing of hands before and after eating.

The lack of supervision in some of the schools visited was noticed, but there is no significant difference between the vendors' performance and the pupils' participation in all the schools. However, it is advisable that there be continuous supervision of the vendors and pupils during the school lunch hour. Lack of it can give room to laxity and negligence. The unsupervised vendor can go at length to do what she likes, and the school child can do little or nothing to effect change if such practices develop, as a result constraints on the aims of the school meal programme are likely to develop. It is also advisable to include such likely developments in the content of the training programme, and for participants to discuss within themselves ways and methods of correcting such developments.

Group work is given more emphasis in the training programme and lecture methods are used to a minimum. As participants work in groups, they learn from one another, and it is all the more outstanding as the trainers join the groups as participants do. Such encourages people to



develop themselves, and it is by thinking and acting for themselves, that they are most likely to do so. Moreover the programme is designed to produce some change for the better in people's lives. Thus two kinds of betterment result, and change in people and change in their environment go hand in hand (Batten and Batten, 1975).

The possibility of the acquired knowledge and skills in influencing or altering the participant's attitudes, beliefs, values and practices toward the selection, preparation and serving of food, both at home and in the school cannot be ruled out. Where this exists, then the school meal vendor's training programme will embrace areas beyond its immediate concern: a formidable achievement. The participant leaves for home with whatever she has learned. If things have gone well, she goes back with a somewhat new pattern of behaviour, as a somewhat changed person. With her motivation heightened and new enthusiasm from the satisfactions of learning, she is eager to use on her job what she has learned. When she does so, she in fact behaves differently from the way she used to before she went for training (Lynton and Poreek, 1978).

The results of the study imply the effectiveness of the training programme in the level of knowledge gained and its influence on skills, attitude, beliefs and practices of the meal vendors. Such positivity is able to contribute to the achievement of the aims of the school meal programme in Ibadan.

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APPENDIX 'A'

QUESTIONNAIRE FOR TRAINEE SCHOOL MEAL VENDORS AND PRACTISING SCHOOL MEAL VENDORS

NAME (Oruko) - .....

AGE (Ojo-oni) .....

MARITAL STATUS (Ọlọmọde tabi Aṣaṣubo) .....

SCHOOL TO SELL AT (Ile-ẹsẹ ti o ti fi ọmọ ti ọmọ) .....

1. HAVE YOU SOLD FOOD BEFORE (Se oṣi ka ọmọ) .....
- b) WHERE (Nibi) .....
- c) TO WHOM (Fun awọn wo ni) .....

2. WHY DO YOU WANT TO BECOME A SCHOOL MEAL VENDOR (Kini oṣi ti o ti fi ọmọ ti o ti fi ọmọ ni) .....

3. WHAT IS THE PURPOSE OF TRAINING FOOD VENDORS (Kini idi ti o fi ọmọ ni) .....

4. WHAT DO CHILDREN NEED TO GROW AND BE HEALTHY? (Kini awọn nkan ti awọn ni to fun awọn ọmọ ti wọn wa ni ile) .....

5. DESCRIBE AN IDEAL LUNCH FOR A SCHOOL CHILD (Se alaye ni sọbi ni ọmọ onjẹ ti o ti fun ọmọ-ile-ẹsẹ ni atoko onjẹ-ọsan) .....

6. ARE THERE ANY FOODS A SCHOOL CHILD SHOULD NOT EAT? (Nje awon onje wa ti omo-ile-we ko gbode je)

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b) WHY (Kini idi-re)

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c) ARE THERE ANY FOODS A CHILD SHOULD EAT? (Nje awon onje kan wa ti omo-ile-we ni lati ma je?)

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d) WHY (Kini idi re)

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7. WHAT BENEFIT DOES A PERSON GAIN IN EATING? (Kini anfani ti eniyan ma nra-gba ninu awon onje bi)

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a) Green Leaves (Efo)

b) Yam (Iyamu)

c) Root (Eran Halu)

d) Tomato (Tomato, elefo)

e) Carri (Gaari)

f) Beans (Ewu)

g) Pepper (Kala)

h) Rice (Ingo)

i) Fruits (Eso jese)

j) Groundnut oil (Oloro-gba)

k) Palm oil (Epo-pa)

8. WHAT OTHER FOODS DO YOU ADD TO COOKED RICE TO MAKE A COMPLETE MEAL? (Kini awon onje mirasi ti o se kuru lẹsẹ sipe ti wa bi je onje pipe)

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9. WHAT OTHER FOODS DO YOU ADD TO COOKED YAM TO MAKE A COMPLETE MEAL? (Kini awon onje miran ti o fi kun Iba nise ti yio fi je onje pipe)

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10. WHAT OTHER FOODS DO YOU ADD TO EBA TO MAKE A COMPLETE MEAL? (Kini awon onje miran ti o fi kun eba ti yio fi je onje pipe)

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11. WHAT INGREDIENTS MAKE A GOOD SOUP? (Kini awon Ohun-elo fun oje ti yio se ara ni anfaani)

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12. HOW DO YOU PREPARE COOKED BEANS? (Kini o se wa nise eba)

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13 (a) DO FOODS CAUSE SICKNESS IN PEOPLE? (Nje onje wa nfa aisan fun eruyan)

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(b) HOW (Bayani)

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14. HOW DO YOU MAKE SURE THAT THE FOOD SERVED IS CLEAN? (Bawo ni oti se ni wipe onje ti o nabe fun eruyan wa ni imeloto)

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15. DO YOU KNOW ANY SPECIFIC DISEASE(S) CONTACTED FROM UNCLEAN FOODS? (Nje o mo awon erun labi lkan npatọ ti imi ti ipase onje aiso wa)

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16. HOW CAN WE MAKE SURE THAT CHILDREN DO NOT GET SICK FROM THE FOODS THEY EAT (Kini o se ni wipe awon omode ko ti ipase onje ti won je ko aisan)

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17. HOW SHOULD YOU DRESS WHEN YOU COME TO SCHOOL TO SELL FOOD? (Bawo ni oye ki o se mura niglali o ba fe lo ta onje na ila-ire?)

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f ----- f

18. DESCRIBE HOW THE FOOD PREPARATION AREA SHOULD LOOK LIKE (Se ajesuwe ni soki, ti awita ibi idana onje se ye ki o ni)

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19. HOW DO YOU MAKE SURE THAT THE FOOD YOU SERVE IS KEPT CLEAN (Bawo ni o se le ni wipe onje ti o ngbe fun eniyan ni ni inototo)

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20. HOW DO YOU KEEP THE PLATES AND UTENSILS YOU SERVE THE FOOD WITH (Bawo ni o se ni se itofu awon awo all ohun se awon ti o fi ngbe onje fun eniyan)

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21. HOW DO YOU KEEP THE UTENSILS AND PLATES CLEAN?

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22. WHY IS IT NECESSARY TO WEAR CLEAN DRESS WHEN SELLING FOOD (Kini idi ti o fi ye ki a ko ase ti o mo niglali a ba ni onje)

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23. WHY IS IT NECESSARY TO WASH UTENSILS WITH SOAP AND WATER (Kini idi ti o fi ye ki a ma fi oje aje onje fi fo awon abo ti a ni)

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24. DO YOU KNOW ANY DISEASE CHILDREN CAN GET FROM EATING UNCLEAN FOODS? (Nje o mo seun ki awon ti awon onode le ko nipa sise onje awo?)

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APPENDIX 'B'

OBSERVATION CHECKLIST

School \_\_\_\_\_

VENDORS

- Put on uniforms ..... All, Some, None
- Clean uniforms ..... Yes, No
- Own plates ..... Yes, No
- Food covered ..... Yes, No
- Use equal size dishing spoons ..... Yes, No
- Wash plates before re-use ..... Yes, No
- Observe recommended menu ..... Yes, No

SELLING AREA

- Classrooms, Play ground, or both
- Clean ..... Yes, No
- Dusty ..... Yes, No
- Food placed on ..... Stools, Ground

TEACHERS

- Supervise food vendors and pupils ..... Yes, No
- Inspect food before sale ..... Yes, No
- Buy food from vendors ..... Yes, No

PUPILS

- Own plates ..... Yes, No
- Wash plates before re-use ..... Yes, No
- Senior pupils supervise sale ..... Yes, No

APPENDIX 'C'

SELECTED QUESTIONS FROM THE QUESTIONNAIRE FOR KNOWLEDGE SCORES

1. WHAT DO CHILDREN NEED TO GROW AND BE HEALTHY? (Kini awon nkan ti awon ni lo fun idagila ake ki wun ba ni ilera)?

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2. DESCRIBE AN IDEAL LUNCH FOR A SCHOOL CHILD (Se alaye ni soki nipa onje ti o lo fun omo-ile-ike ni asoko onje-osan)

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3. ARE THERE ANY FOODS A SCHOOL CHILD SHOULD NOT EAT? (Nje awon onje kan wa ti omo-ile-ike ko gado je)?

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b) WHY (Kini idi re)?

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c) ARE THERE ANY FOODS A CHILD SHOULD EAT? (Nje awon onje kan wa ti omo-ile-ike ni lati ma je)?

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e) WHY (Kini idi re)?

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5. WHAT BENEFIT DOES A PERSON GAIN IN EATING? (Kini anfani ti eniyan ma ma-gba nipa awon onje ti)?

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a) Green leaves (Efo)

b) Yam (Iwu)

c) Meat (Ewa kalu)

d) Tomato (Tanni ekesan)

e) Carrot (Gara)

f) Beans (Eja)

g) Pepper (Ada)

h) Rice (Kasalu)

- i) Fruits (Eso /ise) -----
- j) Groundnut oil (Aroro-epo) -----
- k) Palm oil (Epopupa) -----

6. WHAT OTHER FOODS DO YOU ADD TO COOKED RICE TO MAKE A COMPLETE MEAL? (Keri awon onje watan ti o fi kun irin-oro si se ti yip fi se onje pipe)?

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7. WHAT OTHER FOODS DO YOU ADD TO EBA TO MAKE A COMPLETE MEAL? (Keri awon onje watan ti o fi kun eba ti yip fi se onje pipe)?

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8. WHAT INGREDIENTS MAKE A GOOD SOUP? (Keri awon Olun-elo fun oke ti yio se ara ni anfan)?

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9. HOW DO YOU PREPARE COOKED BEANS? (Keri o se ki nse eba)?

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10.a) DO FOODS CAUSE SICKNESS IN PEOPLE? (Nje onje ma nfa aisan fun eniyan)

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(b) How (Bawona) -----

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11. HOW DO YOU MAKE SURE THAT THE FOOD SERVED IS CLEAN? (Bawo ni oti se ki wipe onje ti o nge fun eniyan ni ni imototo)?

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12. DO YOU KNOW ANY SPECIFIC DISEASE(S) CONTACTED FROM UNCLEAN FOODS? (Nje o mo awon aisan labi labi ihon npato ti ba ti ipase onje (awo wa) -----

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13. HOW CAN WE MAKE SURE THAT CHILDREN DO NOT GET SICK FROM THE FOODS THEY EAT? (Keri ase ki ki wipe awon omode ki ti ipase onje ti wun je ko aisan)?

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14. HOW SHOULD YOU DRESS WHEN YOU COME TO SCHOOL TO SELL FOOD? (Bawo ni oye ti o se wata nigbati o bi fi lo la onje ni ile-ile)?

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15. DESCRIBE HOW THE FOOD PREPARATION AREA SHOULD LOOK LIKE (Se aṣẹṣunwe ni soṣi, ti aniba ebi idaya onje si ye ki o ri) \_\_\_\_\_  
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16. HOW DO YOU MAKE SURE THAT THE FOOD YOU SERVE IS KEPT CLEAN (Bawo ni o se le ri wipe onje ti o gbe fun eniyan nua ni inototo) \_\_\_\_\_  
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17. HOW DO YOU KEEP THE PLATES AND UTENSILS YOU SERVE THE FOOD WITH (Bawo ni o se nṣe itoju aṣiṣi aṣiṣi ati ohun cikiniran ti o fi ngbe onje fun eniyan) \_\_\_\_\_  
\_\_\_\_\_
18. WHY IS IT NECESSARY TO WEAR CLEAN DRESS WHEN SELLING FOOD (Kini idi ti o fi ye ki a lo aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi) \_\_\_\_\_  
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19. WHY IS IT NECESSARY TO WASH UTENSILS WITH SOAP AND WATER (Kini idi ti o fi ye ki a wa fi oṣe ati omi ti o aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi) \_\_\_\_\_  
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20. DO YOU KNOW ANY DISEASE CHILDREN CAN GET FROM EATING UNCLEAN FOODS? (Nje o mo aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi aṣiṣi) \_\_\_\_\_  
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