

**ASSESSMENT OF UNIVERSAL BASIC EDUCATION  
SCHOOL LUNCH PROGRAMME: ITS NUTRITIONAL  
VALUE AND RETENTION OF PUPILS IN FEDERAL  
CAPITAL TERRITORY, NIGERIA.**

*BY*

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**DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION  
FACULTY OF EDUCATION  
AHMADU BELLO UNIVERSITY, ZARIA.  
NIGERIA.**

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FACULTY OF EDUCATION  
AHMADU BELLO UNIVERSITY, ZARIA.  
NIGERIA.**

**JUNE, 2011.**

## **DECLARATION**

I declare that this work titled: "Assessment of Universal Basic Education school lunch programme: Its Nutritional Value and Retention of Pupils in the Federal Capital Territory, Nigeria was carried out by the researcher Umoru Mohammed Lawal in the Department of Vocational and Technical Education, Faculty of Education, under the supervision of Dr. (Mrs.) E.E Adamu and Dr. (Mrs.) E. Ike. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this Thesis was previously presented for another degree or diploma at any university.

UMORU, MOHAMMED LAWAL  
NAME OF STUDENT

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DATE

## **CERTIFICATION**

This Thesis titled: Assessment of Universal Basic Education School Lunch Programme: Its Nutritional Value and Retention of Pupils in the Primary Schools in Federal Capital Territory, Nigeria. By Umoru, Mohammed Lawal meets the regulations governing the award of the Degree of Masters in Education (M.Ed Home Economics) in Vocational and Technical Education of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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## **DEDICATION**

This work is dedicated to God Almighty Who helped me through this programme. Also, to my wife, Mrs. Rekiyetu Mohammed for her moral and financial support and endurance during my absence. To my children, Fatima and Hauwa Mohammed, whose love, blessing and inspiration have been the source of my strength. To my parents, Mr. and Mrs. Umoru Amanyi for their love, support and prayers. May God reward you all faithfully.

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## **ABSTRACT**

*The main purpose of this study was to assess the Universal Basic Education School Lunch programme: Its Nutritional Value and Retention of pupils in Federal Capital Territory, Nigeria. Six (6) objectives and six (6) research questions were formulated with four (4) associated null hypotheses. Related literatures were reviewed for the study. Descriptive research design using survey method was adopted. The population for the study was drawn from thirty (30) primary schools selected as pilot study for the lunch programme in Federal Capital Territory, Nigeria. The population consisted of five hundred and thirty seven (537) teachers. The same population was used as sample for this study, since they were the only primary schools used as pilot for the lunch programme. The instruments used were the questionnaire, archival record on pupils' enrolment, attendance and retention. The inspection of lunch served was done through observation for one week and was recorded. The data collected were statistically analyzed using t-test, ANOVA and Chi-square. The four null hypotheses were statistically tested at a significant level of 0.05 and it was observed that all the four null hypotheses were rejected. The result obtained from the study revealed that school lunch programme significantly improved pupils' enrolment, attendance rate and greatly promoted retention. The findings further revealed that the programme fell far below current dietary recommendation for school lunches. The lunch programme provided educational benefits than nutritional benefits. Further more, the study identified problems inherent in the lunch programme such as poor supervision, absence of criteria to guide the programme effectively, rations were not based on nutritional necessity, among others. Finally, the researcher recommended that Federal Capital Administration through Education Secretariat and UBE Board should build a consensus policy and objective that focuses on how school lunch can effectively improve education and at the same time meet the nutrition and health needs of the school age children.*



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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the study**

The provision of meals for pupils in schools has been a feature of the English education system since 1906. The concept of lunch provision via schools was until recently given attention across Nigeria. Consequently, the provision of meal in schools has almost exclusively been restricted to boarding schools. In contrast to the slow development of interest in school lunch provision in Nigeria, other countries have been providing school lunch programme for a relatively long time and more research has been undertaken abroad evaluating the impact of school lunch provision. However, it was largely positive research finding from abroad that began to be noticed in this country. As a result, the provision of lunch for school pupils started to attract interest in the 1990s.

Food is universally accepted as a basic need of life. It plays a significant role in the physical and mental development of every individual from birth to old age (Food Agricultural Organization, 1999). According to the report of World Food Programme (1999), more than 400 million school age children suffered from hunger. The majorities of these children were from developing countries and did not attend school. Global and national studies have confirmed that low income group (LIGS) mostly from local communities



were the most affected. Research finding as reported by Rajan (1992) indicated serious decline in pupils' retention in school, most especially, among the rural communities in India.

Retention is used in various fields of human endeavors without losing its meaning. For instance, employers of labour constantly seek staff retention to avoid the high cost of recruiting new staff. Employees also seek ways of their employment retention. In the same vein, Teachers and school authorities seek ways of retaining their pupils from beginning to the end of the day. Wordnet (2008) defined retention as the act of holding or keeping something. Relevant to the scope of this study is pupils' retention. This, therefore refers to the act of holding or keeping pupils till the close of every school day. It has been observed that schools in some communities are characterized by poor enrolment and retention.

This observation however showed that there is a general pattern of exclusion suffered by these local communities arising from the associated factor of poverty, hunger, demographic constraints and official neglect from government authorities. This situation is not only contrary to the tenets of Education For All (EFA) but also poses a great threat to the realization of the goals of Nigeria Universal Basic Education (UBE) programme and vision of being the 20<sup>th</sup> largest economy by the year 2020. Series of research studies have been conducted in attempt to look into a number of issues such as

hunger and poverty standing in the way of these groups of pupils. Children of age 6-12 years are the heart of Basic Education Programme in many countries of the world.

In Nigeria, the Universal Basic Education programme is fundamentally geared towards removal of all obstacles and impediments to educational participation such that all categories of learners will experience education of good quality (Tahir,2006).The need to ensure equitable education opportunities especially in developing countries was highlighted in Jamitien. Conference on Education for All in 1990. To achieve this goal, Universal Basic Education was therefore introduced in the country (Nigeria) in September, 1999 by the Federal Government of Nigeria to serve as catalysts to the entire Nigeria education sector. The long neglect of the basic education level by successive government has resulted to the near total collapse of the education system.

The Federal Government of Nigeria through the UBE Act of 2004 made a courageous attempt at closing the loophole by making Basic Education (6-years primary school and 3-years Junior Secondary School levels) free and compulsory to all school age children. The Government places high priority to Universal Basic Education on its National Agenda. This indicates that provision have been made to ensure a basic minimum requirement for primary

education programme. The government in her policy has equally paid attention to these tripods:

- i. Provision of infrastructure (buildings and teachers)
- ii. Formulation of a relevant curriculum and
- iii. An actively learning children (FGN, 2003)

The problem of hunger and poverty among the developing countries has been a matter of global concern. Many children died before school age and those that survive suffered from severe hunger, malnutrition and diseases which affected their learning abilities in school. Some children do not stay in school due to hunger and unfriendly school environment (WFP, 1996). These problems according to the Food and Agriculture Organization (1998) estimated that 300 million children, most of them in developing countries were chronically hungry. Without breakfast or lunch, pupils are mostly distracted in the classroom and hardly stay alert and concentrate during lessons. Studies in many countries suggested that hunger affected cognitive function and may therefore impair a child's ability to stay and benefit from schooling.

International Food Policy Research Institute (1999) identified hunger as a barrier to learning since a hungry child cannot concentrate. Therefore, a hungry child cannot perform and unlikely to stay in school and that school based feeding programme have proven effective in encouraging pupils to

attend and retain in schools. In fact, Nigeria is ranked internationally among the countries having 5-9 percent of its population undernourished (WFP, 1999). The school lunch programme as defined by IFPRD (1999) and USAID (2001) is the provision of at least one additional meal (breakfast or lunch) to the pupils at school in addition to the meals usually consumed by the child at home every school day. The programme has proven effective in encouraging enrolment, attendance, increasing attention spans and retention of pupils at school.

In response to the needs of actively learning children, the Federal Government of Nigeria constituted a Presidential Committee on School Lunch known as "Home Grown School Feeding and Health Programme (HGSFHP) with the aim of providing at least one additional meal to the pupils at school in addition to the meal normally consumed by the child at home every school day .The Federal Government of Nigeria (2005) highlighted the objectives of school lunch (HGSFHP) as:

- I. To reduce hunger among Nigeria school children
- II. Increase school enrolment and attendance particularly of the Children in the local communities
- III. Improving the nutritional and health status of school children
- IV. Enhancing comprehension and learning achievement of pupils for the successful implementation of universal basic scheme.

The pilot states selected from the six geographical zone included Enugu, Imo, Rivers, Cross River, Osun, Ogun, Kogi, Nassarawa, Bauchi, Yobe, Kano and Abuja .

Research reports from many parts of the world indicated serious decline in retention. Rajan (1992) reported that school lunch programme has not made positive impact on aggregate enrolment ,but did have a positive impact on attendance, dropout and retention in India .The benefit of the Home Grown School Feeding and Health programme(HGSFHP) according to Jaulmes (2005) is expected to improve the nutritional status of school children as well as increase their enrolment, retention and completion rate in primary schools, and therefore, contribute to Nigeria Universal Basic Education Programme. This study was carried out or conducted to assess the Universal Basic Education Lunch Programme: Its Nutritional value and Retention of pupils in the Federal Capital Territory, Nigeria.

## **1.2 Statement of the problem.**

The art of feeding is as old as creation itself. Although, many school lunch programmes have been conceived out of ideological, political and economics pressure, the prejudices of international or national, personnel or even commercial or other non-objective influences (WFP, 1996). Jaulmes (2005) stated that more than 400 million school aged children

around the world suffer from hunger. The majority of these children most of them from rural communities did not attend schools. Many Nigerian pupils suffer from undernourishment and may sometimes left home without being fed.

The preliminary investigation by this researcher showed that serving food at school do not only fight hunger among children but also helped to get them into schools and providing them with an important key to a better future. In the schools where feeding programme were offered, the enrolment and attendance rate increased significantly particularly among the local communities where poverty level is high. Pupils also stayed in school longer, their academic performance improved as well, and pupils with a full stomach concentrate better and comprehend materials more quickly (Levinger, 1999). A recent UNICEF report (2006) of survey conducted in Nigeria indicated that more than a million of children under five years died in Nigeria daily and that only 60% survive to attend school.

Many children especially children from poor homes and rural areas suffered from hunger while in schools and as such could not be retained. On the other hand, The Federal Capital Territory Administration (2004) observed that the primary schools in the local communities of the Federal Capital Territory have low enrolment, attendance and retention, despite the huge investment in the provision of infrastructure. This inform their partnership

with the Federal Government to introduce school lunch programme in selected five primary schools in each of the six Area Councils as its pilot phase. The major thrust of this study was to assess the lunch programme: Its nutritional value and retention of pupils in the schools used as pilot for the lunch programme with the view to provide suggestions to educators and assist the present and the future programme.

### **1.3 Objective of the study**

The major objective is to assess Universal Basic Education Lunch Programme: Its nutritional value and Retention of pupils in the school used in pilot phase of the programme in the Federal Capital Territory, Abuja. Specific objectives are:

1. Examine the effect of the school lunch programme on enrolment score of pupils in primary schools in the Federal Capital Territory, Abuja, Nigeria.
2. Determine the effect of school lunch programme on attendance rate of pupils in Federal Capital Territory, Abuja, Nigeria.
3. Examine the influence of the lunch programme on the retention rate of pupils in the primary schools in Federal Capitals Territory, Nigeria.
4. Examine the benefits of schools lunch programme in primary schools in Federal Capital Territory, Abuja, Nigeria.

5. Examine the problems that are associated with school lunch programme in primary schools in Federal Capital Territory, Abuja, Nigeria.
6. Assess the nutritional value of school lunch programme in primary schools in Federal Capital Territory, Abuja, Nigeria.

#### **1.4 Research Questions of the study**

The following are the research questions presented for the study.

1. What influence does school lunch programme has on pupils' enrolment rate in schools in each of the Area Councils in the Federal Capital Territory, Abuja, Nigeria?
2. What are the effects of school lunch programme on attendance rate of Pupils in primary schools in Federal Capital Territory, Nigeria?
3. What are the influences of school lunch programme on retention rate of pupils in primary school in Federal Capital Territory, Nigeria?
4. What are the possible benefits of school lunch programme to pupils in the Federal Capitals Territory, Nigeria?
5. What are the perceptions of teachers on nutritional value of school lunch programme in the primary schools in Federal Capital Territory, Nigeria?



6. What are the significant problems associated with the lunch programme in the primary schools in the Federal Capital Territory, Nigeria?

### **1.5 Research Hypotheses of the study.**

In order to achieve the stated research objectives, the following null hypotheses were formulated to be tested at 0.05 levels of significance.

1. There is no significant difference between pre-lunch and post lunch programme on enrolment scores in primary schools in Federal Capital Territory, Nigeria.
2. There is no significant difference between the pre lunch and post lunch programme on pupils' attendance rate in primary schools in Federal Capital Territory, Nigeria.
3. There is no significant difference between the pre school lunch programme and post lunch programme on retention rate of pupils in primary schools in Federal Capital Territory, Nigeria.
4. There is no significant difference in the nutritional value of school lunch served to the primary school pupils' in the Federal Capital Territory, Abuja, Nigeria.

### **1.6 Significance of the study.**

School lunch during the first six years of pupil's life is said to be beneficial in terms of promoting good nutrition, enrolment, attendance, and

retention of pupils. This explains importance of this study. First, school lunch programme is a trend that is receiving global attention. It is said to contribute positively and serve as the best strategy for pupils to stay in school. This study has made significant contribution to knowledge by determining the extent to which school lunch programme influenced enrolment, attendance and retention in Federal Capital Territory, Abuja, Nigeria. This would aid the school lunch advocates to plan better strategies for the promotion of the programme.

The outcome would help educate all especially Ministry of Education, Universal Basic Education Board in all states of the Federation on the benefits of school lunch programme, thereby strengthening the programme among the stakeholders leading to production of healthy educated people in the society.

Furthermore, the findings would help to encourage Governments (Federal, State and Local) to embrace and adopt school lunch programme as a method of promoting education.

The findings would guide various school heads on the proper ways to provide nutritional meals to the pupils. It is therefore expected that the finding has added to the body of literature useful for further studies on school lunch programme in Federal Capital Territory in particular and globally.

### **1.7 Basic Assumptions of the study**

This study was based on the following assumptions that:

- i. pupils are aware of school lunch programme.
- ii. the benefits of the lunch programme to both the pupils and parents are known to some respondents.
- iii. responses from the respondents to the questionnaire and the data obtained from school archival records and inspection of meals were as honest and accurate as possible.
- iv. there are other variables that can affect pupils' retention.
- v. findings of this study would not only be of peculiar significance only to Federal Capital Territory, but to all other primary schools in Nigeria.

### **1.8 Delimitation of the study**

The study was delimited to UBE primary schools in Federal Capital Territory, Nigeria. It covered school heads and teachers in thirty primary schools that were used as pilot for the school lunch programme in the six (6) Area Councils in the Federal Capital Territory, Nigeria. This is because they were in better position to give accurate information on the school lunch particularly as it affects primary schools. Since this study was delimited to only primary schools, the findings could only be applied to this group of schools in similar situation and for the development of educational programmes.

The researcher did not cover the structure of the programme as regards physical structures and chemical analysis of the food nutrients, because these areas could be covered by other future researchers if detail studies were to be carried out.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

This chapter reviewed the conceptual framework and empirical studies under the following sub- headings.

- 2.1 Concept of school lunch programme in schools
- 2.2 Enrolment and attendance of pupils in schools
- 2.3 Short term hunger and academic performance of pupils in school
- 2.4 Nutrition and health of pupils
- 2.5 Retention of pupils in school
- 2.6 Factor affecting retention decision of pupils in school
- 2.7 Obstacles to the participation of children in primary school
- 2.8 Problems confronting the implementation of the lunch programme in schools.
- 2.9 Nutritional value (standard) for school lunches.
- 2.10 Review of related empirical studies
- 2.11 Summary.

#### **2.1 Concept of school lunch programme.**

The school lunch programme (SLP) known as Home Grown School Feeding and Health Programme, (HGSFHP), initiated by the Federal Government supported by state government in 2005 started as a pilot

programme to provide food for schools in local areas and area where children had to travel greater distances to school. The intent was to provide a nutritious lunch to children who might otherwise not received one (FGN, 2004). The school lunch is the provision of one additional meal in schools in addition to the meal usually eaten by the child at home every school day. School lunch programme known as Home Grown School Feeding and Health Programme (HGSFHP) in Nigeria is a recent concept in education. USAID (2001) defined it as programme that helps to achieve optimal children nutrition through the promotion, protection and support for their future education.

The importance of a nutritious lunch is supported by several studies that have linked breakfast or lunch to improve dietary status and enhance academic achievement. More recent research suggested that providing school lunch to low-income children is associated with the great likelihood of eating a substantive lunch; improve school attendance and decreased tiredness (Pollitt and Mathews, 1998). In short, school feeding is among the most beneficial ways of using food aid for school children. It responds to an immediate need on the part of children and parents. It is well liked by beneficiaries. It is people centered and benefits directly the neediest part of the population.

In addition, it is a way of channeling food to a large number of needy children since it operates through one of the most extensively developed social services system, namely schools (Kennedy and Davis, 1995). School lunch programme as reported by Rosso (1999) helped increase interest in education and ensure at least some minimum schooling, particularly in disadvantaged areas where quality of education is often low. Rosso further added that children are fascinated by food and when exposed to a variety of food such children would develop positive attitude toward eating properly and eating properly would enhance children's well being.

According to World Food Programme (1993), school lunch programme at primary schools have always been the most common way of using food aid for the benefit of school children as it enhances growth, nutrition and energy. Levinger (1999) emphasized that healthy growth and development of children depend more upon good nutrition than any other factor. This opinion was shared by Runum (1994) who stated that children must eat in order to sustain themselves during the course of a school day, whether the food is brought from home or provided by the school. In response to the body of evidence suggesting that school lunch provide dietary and educational benefits, many observers argued that school lunch should be more widely available most especially in the developing countries.

Within this context, Federal Government of Nigeria in 2005 produced a national framework for the implementation of the school lunch programme, with the support of New Partnership for African Development (NEPAD) and the National Economic Empowerment and Development strategy (NEEDS) with the view to achieving the target of Education For All (EFA) of the Millennium Development Goals (MGDs). The school lunch is a Federal programme that provides States with financial assistance (and commodities) for lunch programme in schools. This serves as sign of her recognition of education as the bedrock for the Development of any nation.

It was a pilot programme that targeted children from low income home with the aims of providing free nutritious meal daily to take care of child hunger, malnutrition and enhance school enrolment, retention and completion, as well as improve their health status. In addition, this would greatly increased farm out-put by farmers selling more of their farm prудuce/ products, ensure steady income for the local farmers and create or impact in them a sense of participation in the education of their children. It will also stimulate development of small and medium scale enterprises towards eradicating poverty and hunger (FGN, 2005).



## **2.2 Improving Enrolment and Increase Attendance of pupils in schools**

In the poorest communities, where schooling has to compete with many other demands for children's time, parents know that by sending their children to school they would at least get something to eat, thus saving on the family budget. World Food Programmed (2001) reported that many schools in Malawi where the lunch programme was in operation, children dropped out when the lunch programme was suspended and only came back when the food was again available. Likewise enrolment in many schools increased significantly after the introduction of school lunch. Since little research had been done in this area, it is often more of a general experienced than a scientifically established relationship between food and enrolment and attendance.

This experience was shared widely and with strong connection by large numbers of teachers, parents and other educational personals who were to be involved in the operation of such programme for their effectiveness. It is important to target carefully those areas and population groups where enrolment ratios are lowest and school meals which may likely make a difference (King, 1994). A recent evaluation of on going school feeding programme in Burkina-Faso, found that school with canteens were associated with increased school enrolment, regular attendance and consistent lower

repeaters' rates. In addition it was associated with low dropout rates in disadvantaged province and higher success rates on national exams, especially among girls (Moore, 1994).

Niger Republic has one of the five lowest school enrolments in the world, as reported by World Food Programme, 1996. School feeding programme was intended to enhance attendance of nomad and transhumant families, particularly of girls. Evidence from past experience with the School Feeding Programme (SLP) showed that when canteens were closed, immediate high absenteeism followed and children withdrawn from schools. In areas with nomadic and transhumant populations, the school year did not commence until food stocks arrived (WFP, 1996). In Bangladesh, a programme of school based food distribution increased enrolment by 20% and a 2% decline in non participatory schools (Ahmed and Billah, 1994). According to the report of WFP (2001) a small pilot school feeding programme in Malawi showed that over a three months period, there was 5% increase in enrolment and up to 36% improvement in attendance and/ or absenteeism compared with control school over the same period.

### **2.3 Short Term Hunger and Academic Performance**

In fact in many industrialized countries, school canteens are normal part of services provided by educational institutions. In developing world,

providing school meals is even more important due to high poverty rate. In local areas, children often walked over long distances to go to school, and many of them on empty stomachs. Among the poorest population groups, children could not afford to bring food from homes to eat during school breaks. These children were distracted in the classroom and had problems staying alert and concentrate on the lessons. Many teachers had stories to tell of children falling asleep in classes and being unable to benefit from education provided them (Levinger, 1994).

Pollitt (1995) maintained that the number of hungry school age children was unknown, but was likely to be a significant problem in various circumstances. Many factors contributed to hunger in school children .The long distances children have to travel to school, cultural meal practices that included no or small breakfast or lack of family time or resources to provide adequate meals for children before and/or during the school days. Simply alleviating hunger in school children helped them to perform better in short term memory test and discrimination of geometric pattern was more pronounced in the nutritionally disadvantaged children as a result of school lunch. Pollitt further stated that the test scores of the children participating in the programme improved more than the score of non-participants. The attendance of participating children also improved.

In Jamaica, providing school lunch to primary school pupils significantly increased attendance and authentic scores. The children who benefited mostly were those who were wasted, stunted or previously malnourished (Simeon and Grantham-McGregor, 1989). Rosso and Marek (1996) revealed that school feeding programme served as a way to alleviate hunger in school children thereby contributed to educational progress of children. Short term hunger according to Levinson (1998) affected children cognitive functions and most likely their learning achievements.

#### **2.4 Nutrition and health of pupils in schools.**

In recent years, there has been increased international discussion and growing awareness on the link between children nutrition, health status, educational participation, and performances. The fact that educational development is concerned not only with improving the infrastructure of learning (school, teachers, text books etc.] but also with what has been called the children active learning capacity. School lunch programme according to Levinger (1994) would thus become part of larger school nutrition and health programmes, together with healthy and education or provision of safe drinking water and toilet at schools. School meal can also be supplemented with certain micro nutrient or vitamins if they are missing from children normal diet.

According to Jaulmes (2005) attention was being paid to nutrition needs of Nigeria school children with the aims of improving academic performance and their overall wellbeing. Joulmes added that feeding school children involves the provision of at least one meal breakfast or lunch for the pupils on every school day. Many Nigeria pupils suffer from undernourishment and may sometime leave home without being fed. Pollitt, Gersovitz and Gargiulo (2000) reported that school lunch programme can support the strategy of integrating learning, care and health needs of pupils more closely by providing school lunch for them. Pollitt et'al further stated that school lunch should be specifically aimed at providing good health and sound education to school children.

## **2.5 Retention of pupils in schools**

Retention is concepts that enjoy widely usage by people at various points in time. Retention is used in various fields of human endeavors without loosing its meaning. For instance, employers of labour constantly seek staff retention to avoid the high cost of recruiting new staff. Employees also seek ways of their employment retention. Also teachers and school authorities seek ways of retaining their pupils from the beginning of the day to the end. Wordnet (2008) defined retention as the act of holding or keeping something. Relevant to this study is pupils' retention, which is referring to the act of

holding or keeping pupils till the close of every school day. Retaining pupils is fundamental to the attaining academic goals of any school.

A high rate of attrition (the opposite of retention) is not only a fiscal problem to schools, but a symbolic failure of pupils to achieve their aims and objectives of schooling. Pupils' retention occurs when pupils who are enrolled in school attend classes till close of each school day. Bean (1990) confirmed that in the last decade, the rate of enrolment and retention of pupils in rural schools has declined considerably. Access and completion rate for rural pupils have always lagged behind urban pupils. That is, there is higher prevalence of illiteracy in rural areas than in urban areas.

### **2.5.1 Profile of pupils' retention**

Pupils whose parents are of high socio-economic and or educational advantages are the least likely to leave school, while pupils lacking these advantages are the most likely to leave. Advantaged pupils are also likely to attend the most elite schools and since these pupils are least likely to leave school before graduating, these schools do have highest retention rates. The reverse is true for pupils whose parents are poor and illiterates (Tinto, 1993). This position was also shared by John, Edward, Eaton, Shevewn and Bogan (2000) who considered rural schools regardless of their values as the lowest status school and have the lowest rates of retention. If it is said that the most

urban schools have the highest retention rates is partly a tautology, because one part of the definition of eliteness is the rate of retention.

Tinto (1993) reported that typical retention rate for urban schools may be 85 per cent or higher, for average schools above 50 percent, and for rural schools 15-25 percent while there may be exceptionally high or low rate of retention for individual school and individual pupils may defy expectation.

Tinto further gave these patterns of retention as follows:

- i. The higher the education of parents of the pupils, the higher the retention rates.
- ii. The higher the infrastructure available in schools, the higher the retention rates.
- iii. The older schools with longer traditions and larger endowments have higher retention rates.
- iv. Schools where the school lunch or breakfast programme is in place have higher retention rates. Predominantly urban schools that enroll a relative higher percentage of pupils will likely have lower retention rate than similar schools in rural areas enrolling few students from these groups. However, at many schools, urban pupils have higher retention than their rural counterpart. Lambert, Raidi, Carr, Safsii and Tidwell (2007) remarked that introducing school lunch or breakfast programme in rural schools will enhance the ability of

pupils to enroll and be retained till closing time. Typically retained pupils according to Bean et'al (1990) will enroll in school directly, attend, participate in all school activities and score well on standardized test.

In addition, such pupils will intend to graduate, have a major career goal clearly in mind and participate in numerous school activities. They will also be in school, fit in at school, and will have a positive attitude toward the school, academic and social life of the school. Good points to these claims were the expression of Braxton (2000) who pointed out that the effect of these characteristics or circumstances are cumulative. The fewer the attributes pupils have, the greater the chances of such pupils withdrawing from school.

Retention studies are important to institutions because schools can maintain or increase their retention rates, they can survive, and possibly prosper. Since pupils' retention is by a process that occurs overtime, its models according to Tinto (1993) tended to consist of several categories of variables that reflect both the pupils and school characteristics.

The model provides an explanation to why pupils leave school. The variables could either affect retention directly or it could affect some other variables that have a direct effect on retention. Tinto pointed out poverty, hunger, school performance and other economic or cultural factors to be



responsible for poor pupils' retention. The result of the study by Babu and Hallam (1989) in rural Tamil Nadu, India on the impact of the school feeding programme on children whose families have incomes below the poverty line indicated that food from the school feeding programme significantly increased school enrolment, retention and in continuing education beyond the elementary level.

## **2.6 Factors that Affect Retention Decision of Pupils in schools.**

Braxton (2000) identified some specific reasons pupils might leave school before closing time or graduation. Braxton noted that these specific factors affecting decision at schools varied from place to place according to gender and ethnicity. The researcher further stated that if the following factors were viewed positively by pupils, they enhanced retention, and when viewed negatively they decreased retention. Some of these factors are:

- i Background variables: These include parental support, parent's level of education income, educational goal, community support and the kind of friends attending schools.
- ii Organization factor: This include financial aid, orientation programme, rules and regulations, ease of registration and staff attitudes towards pupils role models in staff, and supportive environment

- iii Academic factors: These includes activities both in class and out of the class state of school resources and warm classroom climate and teacher as role models
- iv Social factors: Among the social factors affecting retention of pupils include one's close friends in school, peer culture, social involvement, and a position of intercultural environment.
- V Attitudes, Intention And Psychological Processes : These include self efficacy as a pupil, sense of self development, self confidence, eternal locus of control strategies, motivation to study , need for achievement, satisfaction, practical value of one's education, stress, alienation, loyalty, sense of fitting in, intention to stay enrolled and self validation

### **2.6.1 Programmes that can increase retention in schools**

Pupils' retention is valuable to schools and educational growth and development of children. Hosster and Bean (1990) mentioned some of the common programmes to include:

- Provision of school breakfast and lunch as the major factor in rural communities where poverty and hunger is high.
- Early programme to develop pupils' academic competencies
- Provision of free education at the basic level of education
- Programme for parents so they understand pupils' life
- Advising and psychological or social counseling

- Monitoring of pupils for early warning signs and intrusive counseling / advising
- Social programmes for informal socializing (parties, dances and community programme) and physical places for socializing (place to eat, study areas that allow talking in libraries) participation in school organization and activities.
- Programme celebrating events of particular interest to pupils (games and sport).
- Sensitivity of government to schools in rural communities.

In the light of the foregoing, Jaulmes (2005) revealed that providing each child with a complete meal that is adequate in energy, proteins, vitamins and minerals will not only help in making children ready for effective learning but will also stimulate or increase enrolment, attendance, retention and education achievement. According to Moore (1994) Catholic Relief Service (CRS) school feeding programme benefited children in the primary school (average age 6-12) years as each child was entitled to each lunch a day in some primary schools in northern Ghana. CRS/Ghana further observed that over the year's school feeding has proved to be beneficial in ensuring short term food security for children, siblings and parents, It increased enrolment, and promoted retention rate.

## **2.7 Obstacles to participation of Children in Primary schools**

Oxenhan (2005) identified obstacles to participation of children in school as poverty, hunger, rural residence and gender. These conferred on children characteristics which are quite at variance with ethos of the school establishment, thereby limiting access, retention and achievement of these children in schools. For these reasons, Bernard (2000) argued that obstacles to education may also arise from the rigid structure and organizational pattern of school establishment itself. Removal of obstacles may therefore entail putting in place practices that adapt to the peculiarities of children in their communities. School feeding, provision of textbooks and school uniform etc are examples of such adaptive initiatives to help educationally disadvantaged.

According to Oxenhan, local residence on its own was neither an absolute nor insurmountable obstacle to either enrolment or retention. There is possibility that inequality arise more as a result of official neglect or inaction toward needs of the local or rural areas in some countries. Oxenhan however, assented that there is the existence of structural relationship between rural residence and poverty and hunger in such a way that disparity in school enrolment between urban and rural areas is associated with wide spread poverty and hunger among residence of rural areas in Africa. Some of the indices of poverty in rural areas according to Okolo (2001) included poor

access to public services, illiteracy, ignorance, insecurity, poor health, food insecurity and other social exclusion.

Poverty makes it difficult for poor parents to bear the cost of educating their children and feeding them adequately. Birch and Lally (1995) observed that rural areas are typically associated with some of these demographic factors, many of which work to their disadvantage. These include:

- i. Difficult terrain and climatic condition that may make these areas inaccessible particularly at certain period of the year.
- ii. Little economic development as a significant number of people is largely engaged in small scale agricultural activities.
- iii. The family functions as autonomous and completely self sufficient economic unit. Children could therefore be valued more as vital sources of labour than as future citizens who must receive some basic public education.

Therefore, in sending their children to schools, poor parents have to make difficult choices between the perceived benefit of schooling and income earning potentials of their children's time and labour. Balogun (2006) captured some of these basic realities of school in rural / local communities as follow:

- i. Low pupil enrolment and retention in school
- ii. School in these areas may have very few teachers.

- iii. Lack of basic facilities in these schools.

Based on the combination of the constraints mentioned above, irregular attendance, repetition and dropout rates among school pupils are high. This may lead to repetition and subsequently dropout. After a careful review of the likely obstacles associated with the local residence and education of their children, the school lunch programme could be one of the intervention policies of government that will encourage parents to enroll their children in school.

## **2.8 Problems confronting the implementation of school lunch programme in schools**

Organization panameicana de salud (1995) identified the following problems confronting the implementation of school lunch /feeding programme.

- i. Inconsistence transfer of resources at all levels of government (Federal State and Local).
- ii. Poor or no supervision of the programmer at all levels of governance.
- iii. Lack of criterion to guide the programme effectively.
- iv. Rations provided were not on the nutritional requirement of the pupils.

- v. Inadequate resources to monitor and purchase the food on a regular basis.
- vi. Financial deficiencies including infrastructure and equipment inadequacies as well as ineffective programme administration.

## **2.9 Nutritional value (standards) for school lunches**

The responsibility for the nutritional well being of school children rests primarily on the children and their families. However, the educational system has not taken a passive stance in regard to the health and nutrition status of school children particularly those at the primary school level. The health and nutrition programme in primary school is primarily aimed at improving health and nutritional status of the entire school pupils (Worobey and Worebey, 1999). Malnutrition is one of the most endemic public health problems in Nigeria and a major cause of children morbidity and mortality. Nutrition is the area of health that focuses on planning a healthful diet and includes choosing a variety of foods (Linda, Philip, and Rand, 1996).

In view of the many nutritional problems affecting school children, Kennedy and Davis (1995) stated that the need to improve food combination given to the beneficiaries (pupils) so that the activity aimed at filling not only energy deficits but also inadequacies in nutrients, such as iron and vitamin A. In some cases, it may be necessary to provide nutrient supplement and other

services to the affected children so as to improve their health. This idea according to Kennedy and Davis is to view growth monitoring, supplementary feeding and other nutritional measures as part of a well-integrated system of health care for school children, rather than as separate activities.

According to Magnus (1981), providing school lunch was a key to developing and maintaining a state of health that is optimal for the development of children in school. The body needs to be supplied with the necessary nutrient: proteins, carbohydrates, fats, vitamins, water and roughages in sufficient amounts and proportions. Good nutrition as stated by Gordon and Kessle (2002) is essential for normal organ development, growth and maintenance for optimum activity level and working efficiently. However, nutritional deficiency results when ever inadequate amount of essential nutrients are not supplied to the body.

Okeke (2009) mentioned the basic five food groups that are suitable for children of age 6-12 years to include protein foods, carbohydrate rich foods, fruits and vegetables and fats. These food groups should be made available in any of the meal so as to ensure the optimum nutritive value. Anyakaoha and Eluwa (1999) indicated that for healthy living there is a need to eat meals that contain the different food nutrients in their correct proportions. Anyakaoha further stated that selection of different food stuff



rich in nutrients need one of these guides for grouping of foods in terms of their nutritional values. These include:

(1) Group I: - Leafy green vegetables such as spinach, lettuce, pumpkin leaves, cabbage. Foods in this group are rich in vitamin A and C and some of the minerals such as iron. Children need these at least three times daily.

(2) Group II: - Fruits: This group includes citrus fruits such as oranges, and guava, sour sop, pawpaw, mangoes, bananas, pineapples and tomatoes. These foods are rich in vitamin C and A. It is desirable to take fruits at least three times every day, preferably before or after meals.

(3) Group III:- Protein- Rich foods:- These include (i) the animal sources (first class protein ) for example meat, milk, egg, fish etc (ii) the plant sources (second classes protein) for example pulses such as beans, Soya beans etc each of the these daily meals must contain protein in sufficient quantities for the children.

(4) Group IV: - carbohydrate-rich food; Foods in this group are important sources of energy in the body. They include tubers such as yam cassava, sweet potatoes, cereals such as maize, millet, Sorghum, wheat and, bread and biscuits etc.

(5) Group V: - Fat-rich foods: Foods in this group provide the body with energy. They include foods from (I) animal sources such as butter, cordovan oil, margarine, coconuts, groundnuts etc.

The Education Nutritional Standard for School Lunches as recommended by Wales Regulation (2001) in relation to the provision of school lunch for pupils at school maintained by Local Education Authority in Wales for children include the following food groups.

**A. Fruits and vegetables:** - These include fruits and vegetables in all forms whether fresh, frozen, canned, dried or in the form of juice.

**B. Carbohydrates/starchy foods:** - These include bread, noodles, rice, potatoes, millet, cornmeal and yam.

**C. Protein foods:** - These include meat, fish, and milk and legumes in all forms.

**D. Fatty foods:** - These include margarine, butter, cooking oil and fats.

The study further indicated that nutritional requirements for pupils of school age at primary schools as provided in the regulations (Wales school lunches) recommended that.

1. On each day food from each group (carbohydrate, proteins, fats, vegetable and fruits) should be made available for the proper assessment of nutritional value in children.

(a) Within fruits and vegetable

(i) Fresh fruits, fruits tinned in juice or fruit salad shall be made available every day.

- (ii) Which does not fall with in carbohydrate / starchy shall be made available every day.
- (b) Within energy foods, fats or oil should not be used in the cooking process on more than two days in any week.
- (c) Within protein,
  - (i) Fish should be made available at least one day in a week.
  - (ii) Meat cuts should be available at least two days in any week.
  - (iii) Dairy sources of protein should be provided daily.

## **2.10 Review of Related Empirical Studies**

Literature search indicated that there are few studies on school lunch programme in Nigeria. The available studies are on going. Most of the similar studies were done outside Nigeria.

Rajan and Jayakumar(1992) concluded a study on the impact of noon-meal (lunch) programme on primary education in India. The purpose was to assess existing data (secondary data) in pre and post programme period to identify trends in enrolment, attendance and drop- out in participating primary schools. The study was exploratory. The result suggested that the programme had not had a positive impact on aggregate enrolment, but did have a positive impact on attendance and drop out. The present study shares similarities with the previous study in the use of archival records and

descriptive research design, though the present study, in addition, made use of questionnaire to collect the perception of teachers on enrolment, attendance, academic achievement and retention of pupils three years before and during the lunch programme. This study also used observation method by inspecting the food served to the children. This study differed from the previous study in terms of sample size, location and statistical tool used for data analysis. The recommendation on relevant issues were considered and used as guideline for the present study.

World Food Programme, WFP (1996) reported a pilot school feeding programme using evolution report in Malawi. A pilot study for a school feeding conducted in 8 schools (4 receiving the programme and 4 control studies) showed that the school feeding programme clearly had an impact on enrolment, school that participated in the programme provided children with cooked porridge (Soya and maize flour, iodized salt) providing one third of the daily recommended calorie intake during the morning of each school day. In school feeding programme reported there was an increase of about 5% in enrolment over three months; there was no increase in the control schools. The World Food Programme reported a greater impact on absenteeism of 1-2% in programme schools compared to 27-36% in control schools over the same period. In this study, the research design was experimental. The

sample comprised of 8 schools (4 experimental and 4 control groups) in Malawi.

However, it was observed that there was no Null hypothesis for this study and simple percentage was used to analyze the data. The present study however, looked into the nutritional value of school lunch programme and retention of pupils in primary school in the Federal Capital Territory, Nigeria. The research design used was survey. The sample consisted of 30 schools with 537 teachers. Inferential statistics was used to analyze the data. The present study used questionnaire as an instrument for data collection and secondary data were sourced through school archival records and nutritional value of lunch was assessed through observation. The cited study used evaluation method for data collection. Though the present study was related to the previous study in some aspects, useful to this research were some of the relevant issues such as enrolment and absenteeism in the reviewed empirical studies.

Simeon (1995) evaluated the Jamaica school feeding programme. Interview and observation methods were used to collect data. The results of the two evaluations of the impacts of school meal on academic achievement, attendance and growth were presented. Children in grade seven (12-13 years old) who had the lowest ability were selected to participate and were followed for two terms. Children received a school meal or nothing. The two control

groups were combined since no differences were observed. With breakfast, attendance and arithmetic improved; there was no change in spelling or child weight. Controlling for attendance, arithmetic improvement was still significant. In the second study, 9-10 years old children were studied and showed similar result.

The major differences in the two studies are that, the study used interview method while the present study used questionnaire and observation to collect data on teachers' perception on pupil's retention, archival records on enrolment and retention. Two control groups were used by the reviewed study but no control group was used in the present study. The previous study used pupils as respondents, while the current study used teachers and school heads as respondents. The researcher observed that no inferential statistics was used in the analysis of data, but only descriptive statistics was used. This did not make room for inferences to be drawn on the extent of the programme on attendance and academic achievement. The present study used both descriptive and inferential statistics to describe and make inferences on the perception of teachers regarding school lunch programme and the stated problems of the study.

A similar study was also conducted by Rogers et'al (1995). It was designed to study the impact of food and income subsidies on primary schooling in rural Honduras. Data collections were through a national

household survey of 2,700 households and 2,112 students from a random sample of 132 selected rural primary schools. The results showed that both programme had a significant impact on students' rate of academic progress. The effect of having school feeding available was to increase the rate of academic progress/achievement by over a quarter of a year among 6-13 years old children. The findings revealed that the programme had a significant effect on attendance rate among pupils.

The study found out the impact of food and income subsidies on primary schooling in rural Honduras. The current study assessed the nutrition value of school lunch programme, its effects on pupils' retention in primary schools in Federal Capital Territory, Abuja. The current study used 30 primary schools with 537 teachers as sample subjects, while the previous study used 132 primary schools and 2112 students as sample. However, both studies were similar because they studied primary schools and the two countries are developing nations with socio-economic similarities. However, the reviewed study did not look at the effect of feeding on enrolment and retention which was the focus of the present study.

Also, the present study shared similarities in the use of survey research design. Though, the present study made use of archival records on enrolment and retention of pupils. The previous study used household and students as respondents. The current study made use of only teachers and

school heads as respondents. The present study used t-test, and ANOVA, Chi-square to test the stated null hypotheses which were not stated in the previous study.

Agarwul (1987) in a study of health, nutrition, physical and mental competencies of 1,336 children, aged 6-8 years in the rural schools of Uttar Pradesh for a period of more than three years, found that the problem of malnutrition and ill-health could not be overcome by school lunch programme which provided less than 15% of the recommended daily allowance for calories. The study further revealed that programme aided improve school attendance and academic performance as well as reduce the dropout rate. The reviewed study used experimental design, while the current study used survey designs. The problem of ill-health of pupils not within the scope of the present study but was the major work of the reviewed empirical study.

The present study considered attendance and enrolments which are similar to the previous study. The study is related to this study but the study did not indicate statistical instruments used for data analysis. This omission was taken into consideration in the present study.

World Food Programme, WFP (1995) in the study titled "Thematic Evaluation of Long-term School Canteen Project in West Africa" aimed at assessing the value of continuing WFP support for school canteen programme in West



Africa. Four countries assessments-Mauritania, Gambia, Cape Verde, and Niger Republic were undertaken. Focus group method was used in the study. The study concluded that the impact of school canteens on enrolment was difficult. However, to ascertain its impact on attendance was easily and statistically ascertainable; the impact on pupils' learning capacity can be shown qualitatively through day-to-day activities.

On the negative side, the result suggested that no improvement in hygiene and nutrition education can be expected in the context and the school feeding did not appear to be a motivation for sending girls to school in situations where sociological prejudices against sending girls to school existed. The sustainability of school canteen programme in West Africa by government appeared unlikely given the slow rate of development in this area. The study has contributed to the direction of this current study most especially in the area of enrolment and attendance, but differed in terms of methodology. The current study did not consider socio- prejudices against the education of girls, but pupils' retention was the focus of the current study.

### **2.11 Summary**

In this chapter, the relevant concepts as well as the empirical works were reviewed. From the foregoing, the review of related empirical studies, the finding and observation of researchers can be summarized as thus:

Agarwul (1987), Rajan (1992), Simeon (1995), Rogers, et'al (1995) and WFP discovered in their various studies at different study locations in developing countries that school lunch/feeding programme has brought about significant improvement in pupils' attendance, enrolment, and academic performance. It has also reduced drop out rate and absenteeism significantly. However, Rajan (1992) and WFP (1995) discovered that school lunch/feeding programme children did not have a positive impact on aggregate enrolment among India population and it did not address the menace of malnutrition and good health status of pupils respectively.

It is therefore instructive to establish here that few empirical studies were carried out so far to ascertain the impact of school lunch programme in developing countries. The uniqueness of this study was mainly hinged on the fact that such works were either few or on-going in Nigeria. More also, the delimitation of previously related studies differed in terms of geographical coverage, sample size underscore the uniqueness of this study. Similarly, variation in differing findings of previous work on attendance, enrolment, retention, nutritive value and problems were the gaps that this study filled to either agree or disagree with the previous findings in a different socio-cultural study area.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

The descriptions of the process or methods employed in carrying out this research are outlined in this chapter. These were discussed under the following sub- headings:

- 3.1 Research Design
- 3.2 Population for the study
- 3.3 Sample and Sampling Procedure
- 3.4 Instruments for Data Collection
  - 3.4.1 Validity of the Research instrument
  - 3.4.2 Pilot study
- 3.5 Procedure for Data Collection
- 3.6 Procedure for Data Analysis

#### **3.1 Research design**

Survey research was used for this study. Survey research design according to Ndaji (1986) is suitable for identifying facts, attitude and behavioral self report from large sample size. This is inline with the perception of Ofor (2004), who opined that the design possess great relevance of adoption when a researcher intends to describe conditions that already exist and intends to determine reasons for their prevalence. These methods

therefore enabled the researcher to describe and explore teachers and head teachers' perceptions on the influence of school lunch programme on the retention of pupils in primary schools in Federal Capital Territory, Nigeria. The choices of these designs were based on their relevance to the research objectives and their economy in term of time and materials.

### **3.2 Population for the study**

There were six (6) Area Councils in the Federal Capital Territory, Nigeria as at the time this study was conducted. The target population for this study were 507 teachers and 30 school heads totaling 537 respondents in primary schools operating the school lunch programme as the population as shown in Table 3.1. The study however, concentrated on only five (5) primary schools in each Area Councils that were used as pilots for lunch programme in the Federal Capital Territory, Nigeria from the year 2005/06 – 2008/2009 academic sessions. The rationale behind restricting the population to only teachers and school heads was because this group appeared to be the population that could respond meaningfully to the research problems which focused on the effect of school lunch programme on the enrolment, attendance, and retention of pupils in primary schools in the Federal Capital Territory, Nigeria.

**Table; 3.2: Population for the study from six Area Councils and schools.**

s/no	Area council	Primary schools	School heads population	Population of Teachers	Total
1.	Municipal	a. Gidan mangoro primary school	1	5	6
		b. Kagini primary school	1	14	15
		c. Gwarinpa 1 primary school	1	15	16
		d. Ketti primary school	1	6	7
		e. Gosa primary school	1	25	26
2.	Bwari	a. Gwai primary school	1	9	10
		b. Katempe primary school	1	6	7
		c. Igu primary school	1	7	8
		d. Bwari Nomadi	1	15	16
		e. Deidei primary school	1	17	18
3.	Kwali	a. Bako primary school	1	17	18
		b. Dangara primary school	1	17	18
		c. petty primary school	1	8	9
		d. Kwaita Hausa primary school	1	15	16
		e. Nomandi primary school	1	2	3
4.	Kuje	a. Tukpeki (nomadic) primary school	1	16	17
		b. Kubin mangoro primary school	1	24	25
		c. Godoro primary school	1	19	20
		d. Gwaigwada primary school	1	19	20
		e. Buga primary school	1	16	17
5.	Abaji	a. Abaji primary school	1	40	41
		b. Yaba pilot primary school	1	30	31
		c. Agyana primary school	1	10	11
		d. Central primary school Gawu	1	16	17
		e. Pilot science primary school	1	17	18
6.	Gwagwalada	a. Tunga maje primary school	1	29	30
		b. Giri primary school	1	24	25
		c. Dobi primary school	1	26	27
		d. Pilot science primary school	1	39	40
		E. Nomadic primary school Gwako	1	4	5
Total	6	30	30	507	537

Source: FCT/UBE (School Feeding Unit, 2008)

From the Table 3.1, thirty (30) primary schools with the staff strength of Five Hundred and Thirty Seven (537) served as the entire population.

### **3.3 Sample Size and Sampling Procedure**

The thirty (30) schools were pilot tested for the lunch programme (That is, five primary schools each in each of the six (6) Area Councils in the Federal capital Tertiary. These schools consisted of thirty (30) school heads and five hundred and seven (507) teachers totaling five hundred and thirty seven (537) respondents as sample for this study. This was because these schools were the first set of schools used by the FCT/UBE Board for the implementation of the lunch programme. Therefore, all the schools served as samples.

**Table 3.3 Sample for the study from six Area Councils and schools.**

<b>s/no</b>	<b>Area council</b>	<b>Primary schools</b>	<b>Number of School heads</b>	<b>Number of teachers</b>	<b>Total</b>
1.	Municipal	a. Gidan mangoro primary school	1	5	6
		b. Kagini primary school	1	14	15
		c. Gwarinpa 1 primary school	1	15	16
		d. Ketti primary school	1	6	7
		e. Gosa primary school	1	25	26
2.	Bwari	a. Bwari primary school	1	9	10
		b. Katempe primary school	1	6	7
		c. Igu primary school	1	7	8
		d. Bwari Nomadi	1	15	16
		e. Deidei primary school	1	17	18
3.	Kwali	a. Bako primary school	1	17	18
		b. Dangara primary school	1	17	18
		c. petty primary school	1	8	9
		d. Kwaita Hausa primary school	1	15	16
		e. Nomandi primary school	1	2	3
4.	Kuje	a. Tukpeki (nomadic) primary school	1	16	17
		b. Kubin mangoro primary school	1	24	25
		c. Godoro primary school	1	19	20
		d. Gwaigwada primary school	1	19	20
		e. Buga primary school	1	16	17
5.	Abaji	a. Abaji primary school	1	40	41
		b. Yaba pilot primary school	1	30	31
		c. Agyana primary school	1	10	11
		d. Central primary school .Gawu	1	16	17
		e. Pilot science primary school	1	17	18
6.	Gwagwalada	a. Tunga maje primary school	1	29	20
		b. Giri primary school	1	24	25
		c. Dobi primary school	1	26	27
		d. Pilot science primary school	1	39	40
		E. Nomadic primary school Gwako	1	4	5
<b>Total</b>	<b>6</b>	<b>30</b>	<b>30</b>	<b>507</b>	<b>537</b>

**Source: FCT/UBE (School Feeding Unit, 2008).**

### **3.4 Instrument for Data Collection**

The instrument used for data collection in the course of this study were researcher-designed structured questionnaire and collection of school archival records on pupils enrolment, attendance, and retention before and during the school lunch programme, and also inspection of food served to the pupils. A researcher-designed questionnaire which was adapted from Pollitt (1995), Lenvinger (1994), Rajan (1992) and Ranum (1994) was based on the objectives, research questions and stated null hypotheses of this study. Data obtained from the school archival records (secondary data) were used to test Null hypotheses 1 to3 of the stated null hypotheses on pupils' enrolment, attendance and retention.

A set of questionnaire based on semantic differential scale and Likert scale were designed to collect data from respondents that is, the school heads and teachers regarding their perceptions or opinions on school lunch programme and its impact on the pupils. This was used in addition to the existing data obtained from the school archival records on enrolment, attendance and retention. The questionnaire was made of 39 items. This instrument had six sections. Section "A" was designed to collect information on Bio-data of the respondents, numbering 1-10 items, while section 'B' was drafted to support data collected from school records, especially on pupils



enrolment, attendance, and retention rate, numbering 11-16, using semantic differential scale of measurement.

The responses were rated from very high = 5 to very low = 1. The overall score in this scale was an indication of whether the respondents had high or low rate perception on the dependent variables. Section 'C' was called measurement of general perception and benefits of school lunch programme. It had 12 items, numbering 17-28, using likert type scale. The responses rated from Strongly Agree = 4, Agreed = 3, Disagree = 2, Strongly Disagree = 1 and Uncertain = 0. This was in line with Nworgu (1991) in Avwokeni, (2004). The overall score in this scale was given an indication of whether the respondents had positive or negative perception of the programme. Section 'D' was opinion on nutritional needs, consisted of 3 items from 29-31. Section 'E' was tagged to find out the problem of the programme. This had only six items, numbering from 33-37, using the same likert scale.

Section 'F' was tagged 'evaluation and recommendation'. This had only two questions, one was for the respondents to evaluate the programme, while the second was whether to recommend the programme to schools or not, numbering 38-39.

### **3.4.1 Validity Of the Research Instrument**

The items in the instrument were validated by three experts in Vocational and Technical Education Department. These were the researcher's

supervisors, and one expert in the field of Measurement and Evaluation. Their expertise inputs contributed in modifying and improving the content, face and construct validity of the instrument.

### **3.4.2 Pilot study**

In order to establish the reliability of the questionnaire, a pilot study was conducted in three schools namely, Gigbe, Agwara and Gui primary schools. A total of 20 respondents were used. The 20 Questionnaire were administered to teachers and school heads of the three schools. This number was said to be adequate for a pilot study according to Wimmer and Dimick, (1987) who recommended 15-20 respondents for a pilot study. The data obtained were used to compute correlation coefficient to estimate consistency of the items in the instrument.

Respondents score on individual items of the instrument was summed up using spilt half method. That was summing up the scores on odd and even items of the instrument separately and ranked accordingly. A correlation coefficient was obtained by applying spearman Brown Formula as:

$$\rho = 1 - \frac{6\sum D^2}{N(N^2 - 1)}$$

A correlation coefficient of 0.81 was obtained. Based on the correlation coefficient of 0.81, it can be said to have a satisfactory level of reliability.

### **3.5 Procedures for Data Collection**

The researcher obtained a letter of introduction from the Head of department, (HOD) Vocational and Technical Education Department of the University to each school visited for approval to collect data from school archival records on pupils' enrolment, attendance and retention rate from 2002-005(pre lunch) and from 2005-2008(post lunch) from school heads and teachers in order to test the stated null hypotheses. Inspection of the meal served for one week (5-school day) in each of the thirty (30) primary schools with the aid of three (3) trained research assistants was carried out to test the stated null hypotheses. In addition, a 5-point semantic differential and 4 point Likert rating scale type of questionnaire were used to elicit responses from the respondents. Data from the archival records and result of inspection of meal served were collected immediately after the completion of the questionnaire.

### **3.6 Procedure for Data Analysis**

The research questions of the study were answered using descriptive statistics such as percentages, mean and standard deviation. Specifically, simple percentages were used to answer research question 1-3, while percentages and weighted mean were used to answer research question 4, 5 and 6. The weighted mean score for Likert scale (x) was calculated using this formula:

$$X = \frac{4(SD) + 3(A) + 2(D) + 1(SD)}{\text{NO. OF RESPONDENTS}}$$

The average of weighted mean of 2.51 and above was considered as 'accepted' or 'agreed'. Less than 2.5 were considered rejected or disagreed. The standard deviation from the mean was used to check the closeness or wideness (spread) of the respondents' opinions.

The null hypotheses involved in the study were tested with inferential statistics. Specially, Null hypotheses one, two and three were tested with t-test statistics because two dependent groups (pre and post period) in the study. The number four null hypothesis was tested using ANOVA and Chi-square because of the five (5) independent groups (carbohydrates, fats, proteins, fruits and vegetables) involved. On the Chi-square analysis, all the five food groups were expected to be present in every day lunch. That is, each school should have provided each of the five food group 5 times for the 5 days, totaling 25 times. In order to accept null hypothesis 4 using goodness of fit test chi-square, the expected frequency was 50% of 25 times, which was 12.5 for each of the Food group for the six 6 Area Councils was =12.5 x 6 times =75 .Mean and standard of the five food groups to further asses the direction of the differences. All stated null hypotheses were tested at 0.05 level of significance for which null hypotheses were either accepted or rejected.

## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS AND DISCUSSION**

This chapter presented description of the findings and discussion of the data collected. The data were generated through questionnaire developed by the researcher; observation/inspection of the food served in schools, enrolment, attendance and retention rate of pupils were sourced from archival records of the schools. The data collected were analyzed, using frequencies, percentages, mean and standard deviation, t-test, one way analysis of variances (ANOVA), and chi- square. The four stated null hypotheses were tested at alpha 0.05 level of significance to be accepted or rejected. The results and discussion were organized based on the bio data, research questions and the null hypotheses as reflected below

#### 4.1 Bio-data Information

This section examined the age, status, teaching experience, and time school lunch stated.

**Table 4.1** Age in years of the teachers

Age in years	frequency (f)	percentage (%)
20 -29	30	5.5
30-39	310	57.7
40-49	200	38.7
50-55	97	18.1
Total	537	100

Table 4.1 revealed that majority of the respondents 310 (57.7 %) were within the age range of 30-39 years and 200(38.9 %) were within the age range of 40- 49 years respectively. The other respondents were distributed among other age that is, 97(18.1 %) of the respondents fell within the age range of 50- 55 years while 30(5.5 %) were within the age range of 20-29 years.

**Table 4.2** Status of teachers.

Status	frequency (f)	percentage (%)
Head teachers	30	6
Teachers	507	94
Total	537	100

Table 4.2 showed that 507(94 %) of the respondents were teachers while 30(6 %) were head teachers. This implied that wider opinions were obtained based on each items of the questionnaire from teacher who had daily and personal contact with the pupils.

**Table 4.3** Respondents years of teaching experience

Year	frequency (f)	percentage (%)
1-2	7	1.3
3-5	10	1.9
5-9	301	56.1
10-14	219	40.7
Total	537	100

Table 4.3 indicated that 301(56 %) of the respondents had a teaching experience of 6-9 years, followed by those who had 10-14 year experience by 19 (40.7%) of the other respondents. 10(1.9%) and 7(1.3%) had between

3-5 years and 1-2 years respectively. The findings showed that majority 96.9% of the respondents had enough teaching experience to respond to the questionnaire items properly and accordingly.

**Table 4.4:** Respondents number of years in their present schools.

Number of years	frequency (f)	percentage (%)
1-3	18	3.4
4-7	490	91.2
8-10	29	5.4
Total	537	100

Table 4.4 revealed that majority of the respondents 490 (91.1 %) had stayed in the school for up to 7 years, followed by those who stayed 10 years and 18(3.4% ) of the respondents up to 3 years. The Table 4.4 implied that majority (91.2%) of respondents witnessed the lunch programme and could accurately give account on how far it has been going on in the school. Their views or opinions on the lunch programme could be said to be based on their observations.



**Table 4.5:** Knowledge of respondents on when (year) school lunch started.

Academic session	frequency(f)	Percentage (%)
2003/2004	1	0.4
2004/2005	17	3
2005/2006	519	96.6
2006/2007	-	-
TOTAL	537	100

Table 4.5 showed that a high proportion of respondents 519 (96.6 %) agreed that the programme started in 2005/2006 academic session followed by 17 (3%) 2004/2005 academic session in their respective schools. This Table implied that majority (96.6) of the respondents had a good knowledge of the time the lunch programme started. Therefore, their opinions could be regarded as valid and reliable.

## 4.2 Answer to Research questions

**4.2.1 Research question 1:** What influence does school lunch programme have on pupils' enrolment in schools?

Table 4.6 gives responses of respondents on enrolment of pupils in schools.

**Table 4.6.** Responses of teachers on enrolment of pupils' pre and post lunch programme.

Enrolment	Low	%	High	%	Total	%
pre- lunch programme	450	73.1	87	16.2	537	100
Post- lunch programme	74	14.4	461	85.6	537	100

For convenience of the analysis, this data have been grouped into the following categories:

Very low +low = Low

Average + high and very high =High.

The data in Table 4.6 revealed that majority of the respondents 450 (73.1%) agreed that the enrolment rate of pupils was low before the introduction of the lunch programme, while the majority (73.1%) of the respondents had high positive opinion credited to school lunch programme. Out of 537 respondents, 461(85.6%) accepted that school lunch programme made pupils to enroll in schools.

**4.2.2. Research question 2:** What effect does school lunch programme have on pupil attendance in schools?

Table 4.7 gives the responses of respondents on attendance of pupils' in schools.

Table 4.7 Responses of respondents on attendance rates pre and post lunch programme.

Pupil attendance rate	Low	%	High	%	Total	%
pre- lunch programme	396	73.1	141	26.3	537	100
Post- lunch programme	61	11.4	476	88.6	537	100

The responses as indicated in table 4.7 revealed that majority of respondents 396 (73.1%) agreed that there was low attendance of pupils before the lunch programme was introduced, while 476(88.6%) of respondents agreed that the attendance higher high after the introduction of school lunch programme.

**4.2.3 Research question 3:** what are the influences of school Lunch programme on retention rate of pupils' in primary schools?

Table 4.8 gives the responses of respondents on retention of pupils in schools.

**Table 4.8.** Responses of respondents on retention rate pre and post lunch programme

Pupils Retention rate	Low	%	High	%	Total	%
pre- lunch programme	442	82.3	96	17.7	537	100
post- lunch programme	53	9.9	484	90.1	537	100

The data on Table 4.8 showed that majority of respondents 442 (82.3) responded that pupils retention was low before the lunch programme was introduced. On the other hand, majority of respondents 484 (90.1%) agreed that retention rate of pupils in school was higher after the introduction of school lunch programme. The implication of their responses was that the school lunch programme had a significant improvement on pupils' retention rate since its introduction.

**4.2.4 Research question 4:** What are the perceptions of teachers on the benefits of school lunch programme in primary schools?

Table 4.9 gives the summary of the benefits.

**Table 4.9** General perception of teachers on benefits of School Lunch Programme.

S/N	ITEM	SA		A		D		SD		TOTAL(N)		SA + A	D+SD
		F	%	F	%	F	%	F	%	F	%	F (%)	F(%)
1.	Increases pupils enrolment	431	81.3	39	7.3	27	5.1	33	6.3	530	100	470(88.7)	60(11.3)
2.	Makes pupil punctual in School	341	63.7	181	33.8	13	2.5	0	0	535	100	522( 97.6)	13(2.4)
3.	It encourages pupils to attend classes regularly	325	61.5	198	37.2	3	0.6	6	1.1	532	100	521( 98.0)	9(2.0)
4.	It makes pupils stay in school during breakfast	214	39.9	319	59.3	2	0.4	2	0.4	537	100	533 (99.3)	4(0.7)
5.	Pupils always participate in the school lunch	299	55.3	197	37.7	15	2.9	11	2.1	522	100	496 (95.0)	26(5.0)
6.	Pupils hardly return from breakfast to attend classes before the lunch programme	397	74.2	131	24.5	3	0.6	4	0.7	535	100	528 (98.7)	7(1.3)
7.	Most pupils hardly stay in school till closing time before the SLP was introduced	199	37.7	292	55.5	11	2.1	25	4.7	527	100	491(93.2)	36(6.8)
8.	Pupils now stayed till close of school day since SLP was introduced	411	78.6	121	22.6	2	0.4	2	0.4	536	100	532(99.3)	4(0.7)
9.	Hungry children are unlikely to stay in school	401	75.9	97	18.4	20	3.8	10	1.9	528	100	498(94.3)	30(5.7)
10.	the programme is a worthwhile method to keep pupils in school	408	76	93	17.3	31	5.8	5	0.9	537	100	501(93.3)	36(6.7)
11.	It improves pupils attentiveness in classes	119	24.0	297	59.9	63	12.7	17	3.4	496	100	416(83.9)	80(16.1)
12.	The food always reach the target children	197	37.2	289	54.6	30	5.8	13	2.4	529	100	486(91.8)	44(8.2)

Sources: Field work (2009)

KEY: F(%) = Frequency (Percentage), SA= Strongly Agree, A = Agreed, D = Disagreed, SD=Strongly Disagreed.

SA+A = Agreed, D+SD = Disagreed

The data from Table 4.9 revealed that the respondents had high positive opinion towards majority of the benefits credited to school lunch programme. 470 (88.7%) of the respondents accepted that school lunch programme increased pupils' enrolment in school, while 60 (11.3%) disagreed with this item. Majority of the respondents 522 (97.6 %) agreed that it made pupils punctual to school, while 13 (2.4%) disagreed with this statement. Also 521 (98.0%) of the respondents maintained that it encouraged pupils to attend classes regularly, while 11 (2.0%) of the respondents disagreed that it did not encourage them to attend classes regularly. Five hundred and thirty three (99.3 %) respondents agreed that it made pupils to stay in school during the breakfast period, while 4(0.7%) disagreed with the statement. Four hundred and ninety six (92.4%) of the respondents acknowledged that pupils always participate in the lunch, while 26 (4.8) disagreed with this statement.

Another accepted opinion according to 528(98.7%) of the respondents, were the opinion that before the introduction of school lunch programme, pupils hardly return from breakfast to attend classes, a statement that minority 7(1.3%) disagreed Majority of respondents 491(93.2%) agreed that most pupils hardly stayed in school till the close of school day before the programme was introduced while 36 (6.8%) of the respondents disagreed with this item. The next acceptable benefit according to 532 (99.3%) of the

respondents were that since the introduction of the lunch programme, pupils now stayed till the close of school day and this was disagreed by 4(0.7%) of respondents.506(93.4%) agreed that, hungry children were not likely to stay in school till closing time. As for accepting the programme as a worthwhile method of getting children to school, 501 (93.3%) of respondents agreed to this item. On item 11, a significant number of respondents 416 (83.9%) agreed that school lunch programme helped to improve pupils attentiveness in classes, while 80(16.1%) disagreed.

Majority of the respondents 486 (91.9%) responded that the food always reach the target children while 43(8.2%) disagreed with this statement. The weighted response score of teachers' perceptions on the benefits of school lunch programme is provided in table 4.11.

**Table 4.10 Four-point modified likert scale for decision making**

1.00- 1.50	1.51- 2.50	2.51 -30	3.51 -400
Highly negative	Negative	Positive	Highly positive

Table 4.10 showed the Four –Point Modified Likert scale for decision making. Using the scale, the weighted mean response scores of between 1-2.5 had negative responses to any item on the scale, while 2.51 -4.0 indicated positive response to items in scale.

Table 4.11 Weighted response scores of teachers' opinion on Benefits of school lunch programme

<b>s/no</b>	<b>ITEMS</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>Decision</b>
1.	Increase pupils' enrolment	1724	117	54	33	530	3.64	+VE
2.	Makes pupils' punctual to school	1364	543	26	0	535	3.61	+VE
3.	Makes pupils attend classes regularly	1300	594	6	6	532	3.58	+VE
4.	Makes pupil stay in schools	856	957	4	2	537	3.39	+VE
5.	Pupils always participate in the lunch.	1196	591	30	11	522	3.50	+VE
6.	Pupils' hardly return from break before the lunch was introduced.	1588	393	6	4	535	3.72	+VE
7.	Pupils'hardly stays in school till closing before the lunch was introduced.	796	876	22	25	527	3.26	+VE
8.	Pupils' now stayed till close of school time since lunch was introduced.	1644	363	4	2	536	3.76	+VE
9.	Hungry children are unlikely to stay in school.	1604	291	40	10	528	3.68	+VE
10.	The programme is a worthwhile method to keep pupils in school.	1632	279	62	5	537	3.68	+VE
11.	It improves pupils' attentiveness in classes	476	891	66	17	496	2.92	+VE
12.	The food always reaches the target children.	788	867	60	13	529	3.27	+VE
Total Weighted mean response scores							42.01	
Average weighted mean response scores per item							3.5	

KEY: SA = Strongly Agreed, A = Agreed, D =Disagreed, SD = strongly disagreed, X = Mean, +ve = positive.



$$\begin{aligned} \bar{X} &= \frac{4(SA) + 3(A) + 2(D) + 1(SD)}{N} \\ &= \frac{4(431) + 3(39) + 2(27) + 1(33)}{530} \quad \text{From table 4.9} \\ &= \frac{1724 + 117 + 54 + 33}{530} = 3.64 \quad \text{for item 1 and so on.} \end{aligned}$$

Table 4.11 revealed the weighted mean response scores of the respondents, contained 12 items. Using the four – point modified Likert scale for decision making on table 4.10.

Table 4.11 showed the weighted mean response scores of teachers' opinion on the benefits of school lunch programme. Item 1 which stated that school lunch programme increased pupils, enrolment had a weighted mean response score of 3.64 which was a positive response to the statement. School lunch made pupils' punctual in school had a weighed mean response scores of 3.61. This was also positive response. Item 3 which stated that it encouraged pupils to attend classes regularly had weighted mean response scores of 3.58 which were positive. Item 4 which stated that it made pupils to stay in school during breakfast had a weighted mean score of 3.34 was also positive. Another positive response was elicited by item 5 which stated that pupils always participated in the lunch programme, had a weighted mean score of 3.50. Item 6 which stated that pupils' hardly return from breakfast to attend classes before the lunch programme was introduced had a weighted

mean response score of 3.72. Item 7 which sought to find out if most pupils' hardly stay in school till closing time before the lunch programme was introduced had a weighted mean response score of 3.26. Item 8 which stated that, pupils now stay till the close of school day since school lunch was introduced had a weighted mean response of 3.76. Another positive response went to Item 9 which stated that, hungry pupils are unlikely to stay in school had a weighted mean score of 3.68 .Item 10 which stated that school lunch is a worthwhile strategy of keeping pupils in school had a weighted mean response score of 3.68. This result was also positive. Item 11 which stated that school lunch help pupils to be attentive in the class had a weighted mean score of 2.92. Item 12 which stated that food always reach the target children had a weighted mean score of 3.27.

From table 4.11, the sum of the weighted total mean response score of the 12 items was 42.01. The weighted average mean response score per item was approximately 3.50. Judging from the Likert scale for decision making on table 4.10, it could be said that respondents had a positive opinion on the benefits of school lunch programme.

**4.2.5. Research question five (5):** What are the perceptions of teachers on nutritive value of school lunch programme in primary schools?

Table 4.12 provides the summary of perception of teachers on nutritive value of school lunch.

Table 4.12.Perception of teachers on nutritional value of school of school lunch programme.

<b>S/N</b>	<b>ITEM</b>	<b>SA F(%)</b>	<b>A F(%)</b>	<b>D F(%)</b>	<b>SD F(%)</b>	<b>TOTAL F(%)</b>	<b>SA+A F(%)</b>	<b>D+ SD F(%)</b>
1	Rations are based on nutritional requirement of pupils.	23(4.6)	13(2.4)	103(19.2)	388(73.6)	527(100)	36(6.8)	491(93.2)
2.	Fruits and vegetables are provided to the pupils in every meal.	11(2)	40(7.5)	0(0)	486(90.5)	537(100)	51(9.5)	486(90.5)
3.	Variety of foods is served during the lunch period every day.	12(2.2)	50(9.4)	101(19.0)	369(69.3)	532(100)	62(11.7)	470(88.3)

Sources: Field work (2009).

KEY: SA = Strongly Agreed, A = Agreed, D =Disagreed D= Strongly Disagreed, SA+ A = Agreed, SD+D = Disagreed, N =no. Of respondents, F (%) = Frequency (Percentage)

Table 4.12 showed the perceptions of respondents on nutritive value of school lunch programme. From the table, the majority of the respondents 491(93.2%) disagreed that the rations provided were not based on nutritional requirement of pupils, while 36(6.8%) of the respondents agreed to this item. Majority of the respondents 486 (90.5%) disagreed that fruits and vegetables were actually provided to the pupils in every meal, while 51 (9.5% agreed to this item. Provision of varieties of foods during the lunch, majority of the respondents 470 (88.3%) disagreed with this statement, while 62(11.7%) of the respondents agreed varieties of food were provided during each lunch. Table 4.13 revealed the weighted mean response scores of respondents on nutritive value of school lunch, containing three items.

Table 4.13. Weighted mean scores of teachers' opinions on the nutritive value of school lunch programme

S/N	ITEM	SA	A	D	SD	N	X	DECISION
1.	Rations were based on Nutritional requirement of Pupils	92	39	206	388	527	1.38	-ve
2.	Fruits and vegetables were Provided to the pupils in every lunch	44	120	0	486	537	1.21	- ve
3.	Variety of foods were Served during the lunch period every day	48	150	202	369	532	1.45	- ve
Total Weighted mean response score							4.04	
Average Weighted Mean response score per item							1.35	

KEY: SA = Strongly Agreed, A = Agreed, D= Disagreed.SD = strongly disagreed, X = Mean, sd = Standard Deviation, -ve = negative

$$\begin{aligned} \text{Formula for weighted means } (\bar{x}) &= \frac{4(SA) + 3(A) + 2(SD) + 1(D)}{N} \text{ per item} \\ &= \frac{4(23) + 3(13) + 2(103) + 1(388)}{527} \\ &= \frac{92 + 39 + 206 + 388}{527} = 1.38 \end{aligned}$$

Table 4.13 presented the weighted mean response score of respondents on the nutritive value of school lunch programme. The Table

revealed that the weighted mean response score on Item I which stated that rations were based on nutritional requirement of pupils was 1.38. The weighted mean response score of Item II which stated that fruits and vegetables were provided to the pupils in every meal had a mean score of 1.21, while Item III on varieties of foods were served during the lunch programme every day had a score of 1.45. The total weighted mean response scores for the three items were 4.04 and average weighted mean response score per item was 1.35. Judging from Likert Scale for decision making on Table 4.10 showed that respondents' opinion on the nutritive value of lunch served was negative since the average mean score was less than 2.5 as stated in the Table 4.10 for decision making.

**4.2.6 Research question six (6):** What are the opinions or views of teachers on problems associated with the school lunch in primary schools?

Table 4.14 summarizes the problem associated with the lunch programme in schools.

Table 4.14: Teachers views on problems associated with the school lunch Programme.

ITEMS	SA		A		D		SD		TOTAL (N)		SA+A	D + SD
	F	%	F	%	F	%	F	%	F	%	F (%)	F(%)
1. The preparation of food is being done by professional cooks	1	0.2	19	3.6	311	58.9	197	37.3	528	100	20 (3.8)	508 (96.2)
2. Funds provided are adequate	0	0	6	1.2	91	18.7	390	80.1	487	100	6(1.2)	481 (98.8)
3. Fund provided are regular	61	11.4	83	15.3	301	56.6	89	16.7	534	100	144(27.0)	390(73.0)
4. Facilities are adequate available	0	0	39	7.4	191	36.0	300	56.6	530	100	39(7.4)	491 (92.6)
5. Lesson period are not affected due to service of lunch.	6	1.1	15	2.9	187	35.5	319	60.5	527	100	21(4.0)	506 (96.0)
6. There is guideline for programme Implementation.	15	2.8	13	2.5	313	58.8	191	35.9	532	100	28(5.3)	504 (94.7)

Sources: Field work 2009

KEY: SA = Strongly Agreed, A = Agreed, D=Disagreed, SD =Strongly Disagreed, SA+ A = Agreed, SD+D = Disagreed, N= No. of respondents.

The Table 4.14 showed the opinions of respondents on the opinion of respondents on the problems associated with the School Lunch Programme. Seven (6) items were used to solicit their opinions. Majority of the respondents 508 (96.2%) disagreed that the preparation of the food was being done by the professional cooks, while 20(3.8%) agreed to this item. Four hundred and eighty one (98.8 %) disagreed that the funds provided were adequate, while 6(1.2%) of the respondents agreed that funds were adequate. Majority of the respondents 144 (27.0) agreed that the funds provided were not adequate but disagreed by 390(73%) of the respondents. Facilities were adequately available for the lunch school lunch programme was disagreed by 491(92.6%) of the respondents, while 39(7.4%) of the respondents agreed to this item. Five hundred and six (96%) of the respondents disagreed that lesson periods are not affected due to service of lunch, while 21(4.0%) agreed to this item. Majority of the respondents 504(94.7%) disagreed that there is effective guideline for the implementation of the lunch Programme in the schools, while 28 (5.3%) of the respondents agreed to this statement. Weighted response scores of the Likert scale on Table 4.14 is presented in Table 4.15



Table 4.15: Weighted scores of teachers' opinions on the associated problems of school lunch programme

S/N	ITEM	SA	A	D	SD	N	X	DECISION
1	The preparation of food was done by professional cooks	4	57	622	197	528	1.66	-ve
2	Funds provided was Adequate	0	18	182	390	487	1.21	-ve
3	Funds provided were regular	244	249	602	89	534	2.03	-ve
4	Facilities were adequately available	0	117	382	300	530	1.51	-ve
5.	Lesson periods were not affected by the service of lunch	24	45	374	319	527	1.44	-ve
6.	Existence of guidelines for programme implementation	60	39	626	191	532	1.72	-ve
Total Weighted Mean Response Score							9.57	
Average Weighted Mean Response per item							1.60	

KEY: SA = Strongly Agreed, A = Agreed, D = Disagreed, SD = strongly disagreed, X = Mean, -ve = negative, N = no of respondents per item

Formula for weighted means ( $\bar{x}$ ) =  $\frac{4(SA) + 3(A) + 2(D) + 1(SD)}{N}$

N

$$\begin{aligned}
&= \frac{4(1)+3(19)+2(58)+1(198)}{528} \\
&= \frac{4+57+622+197}{528} \\
&= 1.66 \text{ (For Item I and so on.)}
\end{aligned}$$

The Table 4.15 revealed the summary of weighted scores of teachers' opinion on the problem associated with the lunch programme. Item I which stated that the preparations of food were done by professional cooks had a mean response of 1.66. This implied that respondents had negative response to this statement. As regarding adequacy of fund provided as stated in Item II had a weighted mean response score of 1.21. This revealed a negative response. Item III which stated that fund provided were regular had a weighted mean response score of 2.03 which was negative. Item IV which stated that, facilities were adequately available for the lunch programme had a weighted mean response score of 1.51 which was also negative. Item V which stated that lesson periods were not affected due to the service of lunch elicited a negative response of a weighted mean score of 1.44. This showed that lesson periods were lost due to the service of lunch. Item VI which stated that there was a guideline for the effective lunch programme implementation had a weighted mean response score of 1.72. This showed that there were no proper guidelines for the effective implementation of the lunch programme.

The sum of the weighted total mean response scores of the 6 items was 9.57. Therefore, the weighted average mean response score per item was approximately 1.60.

Judging from the scale on the Table 4.10, it could be said that respondents' opinions on the associated problems of school lunch programme were negative. That is, respondents disagreed with all the items.

### 4.3.0 TESTS FOR NULL HYPOTHESES

#### 4.3.1 Hypothesis one (1)

The first Null hypothesis stated that there is no significant difference between the pre school lunch and post school lunch programme on pupils enrolment scores. In order to test this Null hypothesis, the enrolment score pre and post lunch programme was subject to two tailed t –test analysis.

Table 4.16 gives the summary.

Table 4.16 two – tailed analysis for enrolment pre and post lunch programme

Enrolment	N	$\bar{X}$	SD	DF	SE	t-cal	t-tab
Pre-lunch programme	30	270	186.8				
				58	6.53	44.4	1.96
Post lunch programme	30	559.7	305				

N= number of schools, X= Mean, SD = Standard Deviation, DF = Degree of Freedom, SE = Standard Error, t-cal =t-Calculated, t-tab = t-table

From the computed data the number of observations stood at 30 schools pre and post lunch programme.

The mean ratings of 270 and 559.7 were recorded for the two groups respectively. This gave a difference of 289.7. The pre- lunch programme had standard deviation of 186.8 while the post lunch period had standard deviation of 305 at 58 degree of freedom. Based on this, the calculated t-value of 44.4 was found to be greater than critical t-value of 1.96 at 0.05 level of significance. The null hypothesis was therefore rejected. Thus, there was a significance difference in enrolment of pupils before and after the lunch programme. This result is logical because it confirmed the perception or opinions of teachers. To this point therefore it could be concluded that the lunch programme have significantly improved the enrolment of pupils in school.

### 4.3.2 Null hypothesis Two (2)

This Null hypothesis stated that there is no significant difference between the pre school lunch programme and post school lunch programme on pupils' attendance rate.

In order to test this Null hypothesis, two tailed t-test statistical technique was used. Table 4.17 presents the summary.

Table 4.17. Two tailed t- test for attendance rate pre and post lunch period

Attendance rate	N	$\bar{x}$	SD	DF	SE	t-cal	t-crit
Attendance rate pre lunch	30	47.1	5.29	58	1.47	26.8	1.96
Attendance rate post lunch	30	87.1	6.10				

N= number of schools, X= SD = Standard Deviation, DF = Degree of Freedom, SE = Standard Error, t-cal =t-Calculated, t-crit = t-critical.

Table 4.17 showed the mean attendance rate of pupils during the pre and post school lunch programme in primary schools. The result of the two tail t- test used in the conduct of the test showed that the mean score of post lunch programme (87.1%) was higher than that of pre –lunch programme (47.1%) with their standard deviation of 6.10 and 5.29 respectively with 1.46 as the standard error.

This gave rise to calculated t-value of 26.8 which is greater than critical t-value of 1.96 for a two tailed test at 58 degree of freedom. With the calculated t- value greater than t-critical ( $t_{\text{calculated}} > 1.96$ ) at alpha level of 0.05 with standard error of 1.47. It can therefore be stated that there was a significant difference between the pupils' attendance rate before and after the lunch programme. Thus, the null hypothesis was rejected.

### 4.3.3 Null hypothesis three (3)

This Null hypothesis stated that there is no significant difference between the pre school lunch and post school lunch programme on retention rate of pupils.

In order to test this Null hypothesis, two tailed t-test statistical technique was used. Table 4.18 presents the summary.

Table 4.18 t-test analysis on pupils' retention rate pre and post lunch programme.

Retention rate	N	mean	SD	SE	DF	t-cal	t-crt	Rmk
Pre-lunch programme	30	49.5	6.7	1.93	58	17.9	1.96	S
post-lunch programme	30	84.1	82					

Key:SD=standard deviation, SE=standard error, DF=Degree of freedom,t-cal= t-calculated, t-crit.= t-criticalvalue, RMK=Remark, N=Number of schools.

The Table 4.18 revealed that the post lunch period has the highest mean pupils' retention rate of 84.1 % compared to the pre lunch mean pupils' retention rate 49.5 %. The table further indicated that t-calculated value of 17.9 and t-critical value of 1.96 at alpha 0.05 level of significance for the two tailed test at 58 degree of freedom with standard error of 1.93. Since the t-calculated was greater than t-critical, the null hypothesis was rejected. Therefore, there was a significant difference in the pupils' retention rate before and after the lunch programme

#### **4.3.4 Null hypothesis four (4)**

There is no significant difference in the nutritional value of school lunch served to pupils.

The fourth Null hypothesis stated that there is no significant difference in the nutritional value of school lunch served to pupils'.

Table 4.19 present the summary of raw data on number of times each of the five food groups were provided in each of the six Area Councils for the five school days in a week.

Table 4.19: Raw Data of Food groups in take by 5 schools per area council.

Food group	No of times each food group served per area council per week ( 5 days)						TOTAL
	AB	MU	GW	BW	KJ	KW	
Vegetables	4	4	5	5	4	5	27
Fruits	3	4	3	2	4	4	20
Protein foods	11	11	12	12	10	11	68
Carbohydrate foods	21	19	18	20	19	20	117
Fat foods	14	14	15	14	15	16	88

Source: Filed survey (2009)

KEY FOR AREA COUNCILS:

- AB=ABAJI
- MU=MUNICIPAL
- GW= GWAGWALADA
- BW=BWARI
- KJ= KUJE
- KW=KWALI

Table 4.19 indicated the number of times each of the food groups were served by the thirty schools that were used as pilot for the lunch programme in one week (five school days). The table shows that, vegetables were provided 27 times, fruits were provided 20 times followed by protein foods 68 times. Carbohydrate foods were made available for 117 times while fat foods were provided 88 times all in the six Area Councils in the Federal Capital Territory, Abuja, Nigeria.



In order to test this Null hypothesis chi-square was computed as shown in table 4.20

**Table 4.20:** Goodness of fit test chi-square analysis of food groups served in the school.

<b>Food group</b>	<b>O(E)</b>	<b>DF</b>	<b>X<sup>2</sup>cal</b>	<b>X<sup>2</sup>crit</b>	<b>Remarks</b>
Vegetables	27(75)				
Fruits	20(75)				
Protein foods	68(75)	4	99.07	8.49	Significant
Carbohydrate foods	117(75)				
Fats foods	88(75)				

Level of significant = 0.05

KEY: O = Observed Frequency, E = Expected Frequency, DF = Degree of Freedom.

Table 4.20 showed the goodness of fit test chi-square among the various food groups. From the table, the calculated value of  $x^2$  is 99.07 at 0.05 of significance at the degree of freedom of 4. Since the  $x^2$  calculated of 99.07 is greater than  $X^2_{critical}$ (table value) of 8.49, the null hypothesis was thus rejected. Therefore a significant difference in the nutritional value of meal served among the various food groups existed. This indicated that the observed frequency differed significantly from the corresponding set of expected frequencies and not possibly the direction in which they differ. Also

to test further into the result of chi-square, one way Analysis Of Variance (ANOVA) statistics was used to test the hypothesis. As shown in Table 4.21.

**Table 4.21** One way analysis of variance (ANOVA) on differences among food groups

Source of Variance	sum of square	degree of freedom	mean of square	F-cal	F-crit	Remark
Between food groups	117.7	4	29.43	35.04	2.76	S
Error (within Groups)	20.9	25	0.84			
Total	138.67	29				

KEY: F-CAL=Fcalculated, F-CRIT=Fcritical(table value).

$F_{cal} > F_{crit} = H_0$  Rejected.

In Table 4.21, the Between Group and within group sum of squares were 117.7 and 20.9 respectively. Degree of freedom for the two sources of variance stood at 4 and 25 respectively Mean squares of 29.43 and 0.84 were respectively calculated from the source of variance .The value of the computed (calculated) F-stood at 35.04 at the alpha level of 0.05 and the F-critical (table value) was 2.76.

Since the calculated value of F (35.04) was greater than F-critical (2.76) at 0.05 alpha level at 4; 25 degree of freedom. The null hypothesis of

no significant difference was rejected. This result further proved that there was significant difference among the food groups served.

In order to test further into the result of Chi –Square and ANOVA statistics for the test of this hypothesis on the direction in which the food groups differ, the mean score and standard deviation of the five food groups were compared to test the level of significance discrepancy observed among the groups as shown in the Table 4.22

**Table 4.22** Comparism of food groups mean scores

Food groups	Count(N)	Mean	SD
Vegetable	27	4.5	0.05
Fruits	20	3.3	0.74
Protein foods	68	11.3	0.70
Carbohydrate foods	117	19.5	0.76
Fat foods	88	14.7	0.75

SD= Standard Deviation.

$$\bar{X} = \frac{N}{\text{No of Area Council}}$$

$$= \frac{27}{6} = 4.5 \text{ for vegetables and so on.}$$

Table 4.22 revealed significant differences in the mean scores of five groups namely proteins, fruits, vegetables, carbohydrates and fats. The Table indicated the significant differences existing between the various food groups.

The findings revealed that the means score of carbohydrate foods 19.5 as against fats with a mean score of 14.7. This showed differences of 4.8 (19.5 – 14.7) with standard deviation difference 0.11. Likewise, the proteins mean score 11.3 gave a difference of 8.2 (19.2– 11.3) compared with carbohydrate. It further revealed that mean of 4.5 and 3.3 for vegetable and fruits with the mean differences of 16 (19.5 - 4.5) and 16.2 (19.5-3.3) as compared with carbohydrate which were also significant respectively. This implied that a significant difference was noticed from the mean score of five food groups. This further confirmed the rejection of the null hypothesis. This result was logical because the differences observed considered the School Lunch Programme foods to be high in carbohydrates and fats with minimal protein, with little or no vegetables and fruits served along side the lunch.

#### **4.4 DISCUSSIONS**

The main objective of this study was to assess the Universal Basic Education School Lunch Programme: Its nutritional value and Retention of pupils in schools. From the result of the analyzed data, some variables emerged which could be considered significant assessment of the lunch programme.

First among the variable was enrolment of pupils in schools. The finding arising from the test of Null hypothesis one (1) revealed a significant

difference between enrolment at pre and post lunch programme periods. The result showed a positive impact of school lunch programme on pupils' enrolment. On the final analysis, the significant difference in the enrolment between the pre and post lunch programme was based on the result presented in Table 4. Sufficient evidences show that school lunch programme help in bringing more pupils to schools as revealed by related previous work. Such as the work of USAID (1982) in Brazil discovered that the lunch programme and school enrolment were strongly interrelated as it increased pupils enrolment in Brazil to about 60%.

Similar to this finding was the report of World Food Programme WFP(1996) where pupils' enrolment increased dramatically with the introduction of school lunch programme in Malawi. The finding of this study therefore confirmed the previous research by Moore (1994) who discovered that school feeding programme in Burkina Faso was associated with increased school enrolments. This finding was also in line with WFP (1996), Ahmed and Billah (1994) who stressed that school feeding programme increased enrolment by 30% in Bangladash and 36% in Malawi respectively. This similarity may be because these countries are developing nations with similar educational peculiarities. This finding however, was contrary to the finding of Rajan (1992) and WFP (1998) that discovered that school lunch programme did not have a positive impact on aggregate enrolment among India population .This contrary result

may be due to differences in geographical location and the value attached to education by the different countries.

The second finding revealed that school lunch programme has a significant impact on pupil's attendance rate. This Null hypothesis II was rejected. That is, there is a significant relationship between school lunch programme and pupils' attendance rate pre and post lunch programme. The researcher observed that significant impact might be due to the fact that pupils were usually fascinated when foods were provided. Also according to WFP (2001) children were motivated towards learning when they are not hungry. The above finding agreed with the result of studies by World Bank (1991) that there was strong evidence that school feeding programme in developing countries resulted in an increased attendance among recipients. This increase may have significant educational benefit in a long run as it ensures the exposure of pupils to the material taught in school. This finding also agreed with those of US Department of Agriculture and Food Nutrition services (2006) that school lunch programme has a broad range of students' outcomes including school attendance, classroom behavior and attentiveness. Pollitt and Mathews (1998) reported that school lunch programmed is associated with improved school attendance rate. This finding was also similar to those of Murphy, pagano, Nachmani, sperling (2005) agreed that students

who participated in breakfast programme performed better academically and had better school attendance than non participating students.

This finding was similar to pollitt (1992) who stated that the school lunch programme significantly improved rate of attendance. Similar report on pilot feeding programme in Malawi conducted by WFP (1996) showed that the school lunch programme clearly had an impact on attendance. The similarities with the previous findings could be attributed to the similarities in cultural behaviors of the people, poor attitudes to education, poverty and hunger by most developing nations. Hence school lunch could be seen as motivating factor for high attendance rate.

The third finding from the result of research question and Null hypothesis three (3) showed that retention rate of pupils at post –lunch programme increased significantly better than those of pre – lunch programme. The findings from the result also showed that the mean retention rate which was statistically significant led to the rejection of the null hypothesis. This finding agreed with the finding of Rajan and Jayakumar (1992) who reported that trends in pupil’s retention rate in Jamil Nadu, India increased significantly during the post lunch period. This showed that the lunch programme had positive impact on pupils’ retention rate. This result was in support of WFP (1996) who opined among other factors that school

feeding Programme adopted in Malawi affects positively the level of retention in the primary schools.

World Food Programme (2001) further stated that school lunch programme significantly promoted retention most especially in schools where socio-economic level of parents was low. This increase in retention may have significant educational benefits in a long run. The probable factors responsible for these similarities of result may include low socio-economic level of parents resulting to hunger among the children. Hence, the introductions of lunch programme may be seen by children as an avenue to satisfy their hunger and the same time receiving education.

The fourth finding from the Null hypothesis four showed that there was a significant difference in the nutritive value of food served in the lunch programme. The data analysis revealed that there was a significant difference between food groups with the comparison of food groups means as indicated in Table 4.22. This showed the direction in which the food groups differed significantly as shown in Tables 4.22. This result revealed that the food nutrients served were more of carbohydrates and fats with minimal proteins, fruits and vegetables were rarely provided by school observed/inspected.

A lot of inferences could be drawn from these findings. For instance, pupils consumed more of energy foods with less protein, minerals and vitamins



which are essential for proper development of children. Food served could be adjudged to be of low nutritional value.

This finding was similar to the report of Rosso (1999) who reported that carbohydrates and fats were more in mid day meals provided for children 6-12 years with fewer amounts of proteins, fruits and vegetables. The report further added that the school meal providers should ensure that, at least, all nutrients are adequately provided in the diet of children in order to obtain educational and nutritional benefits.

The present study however showed that the lunch provided to pupils under the scheme is of low nutritional value. Therefore, the nutritional benefits cannot be spectacular and the results seemed to be of educational benefits.

This consumption of energy giving food such as carbohydrates and fats in the school lunch could be attributed to the fact that these foods were easily accessible, affordable and serve as major staple food in Nigeria. Inadequate nutritional knowledge on the importance and consumption of vegetables and fruits in such diets even when they are available could be another major factor for their low consumption. The implication is that, school lunch programme may not have solved the intended nutritional problem which is one of the objectives for the introduction of the lunch programme despite the fact that pupils derived satisfaction for their hunger.

The present study however showed that the lunch provided to pupils under the scheme was of low nutritional value. Therefore, the nutritional benefits cannot be spectacular but the results seemed to be of educational benefits only. It could be said that it was intended to break the hunger of benefiting pupils.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

This chapter summarizes of the major findings of the study. It also presented the conclusion drawn from the study as well as the recommendations.

#### **5.1 Summary**

This study assessed the Universal Basic Education School Lunch Programme: Its nutritional value and retention of pupils in Federal Capital Territory, Nigeria. Six objectives, six research questions and four null hypotheses were formulated for this study.

Related literatures were reviewed based on both conceptual as well as empirical works. The aspect of the review covered concept of school lunch programme, enrolment and attendance of the pupils, nutrition and health of pupils, retention of pupil and factors affecting retention decision of pupils, obstacles to the participation of pupils in school, problems confronting the implementation of lunch programme and nutritional value of school lunches.

The design adopted for the study was descriptive design using survey method for the methodology of the study .The population for the study was Five hundred and thirty seven (537) teachers from thirty (30) primary schools in Federal Capital Territory. The same population was used as the sample since they were the only schools used as pilot for the lunch programme

across the six Area Councils. The instruments for data collection were the Questionnaire, archival records pre(2003-2005) and post(2005-2008) on enrolment, attendance , and retention rate and also inspection of lunch served for one week (5 school days).The data collected from questionnaire were used to answer the research questions. Similarly, the four (4) null hypotheses were statistically tested at a significant level of 0.05.Null hypotheses 1,2 and 3 were tested using t-test while null hypothesis four (4) was tested using one way Analysis Of Variance (ANOVA) and Chi Square.

It was observed that all the Null hypotheses 1, 2, 3 and 4 were rejected. With these results, the hypotheses can finally be interpreted as:

Null hypothesis one (HO1): There is no significant difference between the pre lunch and post lunch programme on enrolment scores. T-test was used to test this Null hypothesis as shown in Table 4.16.This Null hypothesis was found to be significant at 0.05 alpha because the t-value calculated 44.4 was greater than t-table value of 1.96.

Null hypothesis two (HO2): There is no significant difference between the pre lunch and post lunch programme on pupils' attendance rate. This hypothesis was found to be significant because t-value calculated of 26.8 at 0.05 was greater than t- table value 1.96. Therefore, this Null hypothesis was rejected.

Null hypothesis (HO3): There is no significant difference between the pre lunch and post lunch programme on retention rate of pupils. This Null hypothesis was significant with t-calculated of 17.9 greater than t- table value of 1.96. This Null hypothesis was therefore rejected.

Null hypothesis four (HO4): There is no significant difference in the nutritive value (food groups) of school lunch served to the pupils. This Null hypothesis was also significant with  $X^2$ -Calculated value of 99.07 greater than  $X^2$ -table value of 4.49 and also with F –calculated value of 35.04 greater than F- table value of 2.76 at 0.05 level of significant. This Null hypothesis was also rejected.

## **5.2 Major findings of the study**

The following were the major findings of the study.

1. It was obvious that pilot phase of the school lunch programme significantly improved pupils' enrolment, increased attendance rate and greatly promoted retention rate of pupils in schools.
2. Meals serviced fell far below current dietary recommendation of Wales (2001) guideline for school lunch.
3. The study also outlined a wide range of problems such as poor Supervision; rations were not based on nutritional necessity, absence of criteria to guide the programme effectively, inadequate funding,

infrastructure and equipment inadequacies as well as ineffective programme administration.

### **5.3 Limitation to the study**

Special effort were made towards making this study as objective as possible. The following limitations were confronted by the researcher.

1. The literatures reviewed were mostly based on the work done outside the country because insufficient/few documented materials on this topic in Nigeria. Therefore, the results of this study should be viewed in the light of these problems.
2. There was also difficulty in the collection of pupils archival records on retention in some of the schools as a result of improper record keeping. The researcher visited some of the schools number of times before obtaining the completed record for a particular school.

### **5.4 Conclusions**

From the foregoing analysis and findings of this study, the following conclusion were made

From the findings it was concluded that the school lunch programme provided educational benefits and gave satisfaction to pupils hunger, but low in nutritional needs or requirements of pupils' since attention was not given to the various foods groups in the preparation of the lunch

## **5.5 Recommendation**

Based on the findings of this study, the following recommendations were proffered.

1. Federal Capital Territory Administration through the Education Secretariat and the UBE Board should build a consensus policy and objective that focus on how school lunch can effectively improve education and to meet the nutritional and health needs of the school age children.
- 2 The UBE Board should identify and addresses the potential difficulties in implementation, such as the availability of supplies, other resources and the appropriateness of cooking practices.
- 3 Federal Capital Territory UBE Board should institute an evaluation system that focuses on lunch programme.
- 4 Federal Capital Territory UBE Board should integrate the lunch programme with other interventions that address the primary nutrition and health related problem of the school age population
- 5 The head of schools should ensure that Home Economics teachers or any nutrition related staff are used to monitor and supervise the cooking of school lunches.
- 6 The lunch programme should be introduced to all public primary school

in all the six Area Councils in the Federal Capital Territory, Abuja, Nigeria.

- 7 Standard Meal for school Lunches should include :
  - i. Beans crayfish, garnished with vegetables served along with fruits in season.
  - ii. Sandwiches served with milk along with fruits in season.
  - iii. Moi-moi, stuffed with vegetables and served with Pap along with fruit in season.
  - iv. Boiled yam with fish vegetables stew served with fruits in season
  - v. Fried yam and vegetables stew served with fruits in season.
  - vi. Indomine with egg, garnished with carrots or cabbage or any other vegetables served along with fruits in season.
  - vii. Tuwo (corn flour) or Eba (Garri) or Amala (yam flour) with Egusi (Mellon) or Okro with meat or dry fish or vegetable soup served along with fruits in season.
  - Viii. White rice or Jollof rice or fried rice, garnished with vegetables (carrots) served with fish or meat along with fruits in season.
  - xi. Rice and Beans jollof, garnished with vegetables, cooked with meat or fish served along with fruits in season.
  - x. Yam porridge, garnished vegetables cooked with fish or meat or Crayfish along with fruits in season.



- xi. Spaghetti, garnished with carrots or cabbage cooked with chicken or beef or fish served along with fruits in season.

## **5.6 Suggestion for future research**

It is suggested that future research should attempt to carry out study on the relationship between the school lunch programme and retention rate of girls in primary schools.

It is also suggested that future studies should attempt to assess the nutritional value of school lunch programme: It impacts on academic achievement of pupils in primary schools.

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## **APPENDIX 1**

Department of Vocational and Technical  
Education,  
Ahmadu Bello University,  
Zaria.

Dear Respondent,

### **REQUEST TO FILL QUESTIONNAIRE**

I am a postgraduate student of Home Economics in the above named Department. I am presently carrying out a research study on the assessment of the Universal Basic Education School Lunch Programme: its nutritional value and Retention of pupils in the Federal Capital Tertiary, Nigeria.

I am requesting you to kindly complete the attached questionnaire as accurately as possible. All the information you give will be treated confidentially.

Thank you for your co-operation.

Yours faithfully,

**Umoru, Mohammed Lawal.**



## APPENDIX II

### QUESTIONNAIRE

#### INSTRUCTIONS

This questionnaire is expected to be filled strictly by teachers and school heads of rural primary schools practicing school lunch programme in the Federal Capital Territory, Abuja only.

#### SECTION A: BIODATA

**Please tick ( ) or fill in the most appropriate column that applies to you.**

1. Name of school (optional): \_\_\_\_\_
  
2. Area Council:
  - (a) Municipal [ ]
  - (b) Kuje [ ]
  - (c) Abaji [ ]
  - (d) Bwari [ ]
  - (e) Kwali [ ]
  - (f) Gwagwalada [ ]
  
3. Gender:
  - (a) Male [ ]
  - (b) Female [ ]
  
4. Age Range:
  - (a) 20-29 [ ]
  - (b) 30-39 [ ]
  - (c) 40-49 [ ]
  - (d) 50 and above [ ]
  
5. Highest Educational Qualification:
  - (a) MSC/MED/MBA [ ]
  - (b) BSC/BSC(ED)/BA(ED)/HND/PGDE [ ]
  - (c) NCE/OND [ ]
  - (d) Others (specify) \_\_\_\_\_
  
6. Status:
  - (a) Head teacher [ ]
  - (b) Teacher [ ]

7. Years of teaching experience

- (a) 1-2 [ ]
- (b) 3-5 [ ]
- (c) 6-9 [ ]
- (d) 10 above [ ]

8. Years of teaching in your present school of posting

- (a) 1 [ ]
- (b) 2 [ ]
- (c) 3 [ ]
- (d) 4 [ ]
- (e) 5 [ ]
- (f) 6 and above [ ]

9. Which of the following classes do you teach?

- (a) Class one [ ]
- (b) Class two [ ]
- (c) Class three [ ]
- (d) Class four [ ]
- (e) Class five [ ]
- (f) Class six [ ]

10. When did school lunch programme start in your school?

- (a) 2004 [ ]
- (b) 2005 [ ]
- (c) 2006 [ ]
- (d) 2007 [ ]
- (e) 2008 [ ]

**SECTION B**

Opinions of respondents on the influence of school lunch programme on enrolment, attendance, and retention of pupils.

Kindly tick (✓) any score in front of each statement that best describes your view. Be as honest as possible as names of respondents are not required.

- Very High (VH) - 5
- High (H) - 4
- Average (A) - 3
- Low (L) - 2
- Very Low (VL) - 1

s/no	Items	VL	L	A	H	VH
11.	Enrolment rate of pupils before the programme					
	In 2003, the enrolment rate was					
	In 2004, the enrolment rate was					
	In 2005, the enrolment rate was					
12.	Total enrolment rate of pupils during the programme					
	In 2006, the enrolment rate was					
	In 2007, the enrolment rate was					
	In 2008, the enrolment rate was					
	<b>ATTENDANCE</b>					
13.	Rate of attendance of pupils before the school lunch programme					
	Attendance rate in 2003 was					
	Attendance rate in 2004, was					
	Attendance rate in 2005 was					
14.	Rate of attendance of pupils after the school lunch programme.					
	Attendance rate in 2006 was					
	Attendance rate in 2007 was					
	Attendance rate in 2008 was					
	<b>RETENTION</b>					
15.	Retention rate of pupils before the introduction of school lunch programme					
	Retention rate in 2003 was					
	Retention rate in 2004 was					
	Retention rate in 2005 was					
16.	Retention rate of pupils since the introduction of school lunch programme					
	Retention rate in 2006 was					
	Retention rate in 2007 was					
	Retention rate in 2008 was					

**SECTION C:**  
**Measurement of General Perception and Benefits of School Lunch Programme**

Please read and indicate any ticking (√) any of the boxes in front of each statement that best describes your view or opinion. Please be honest with your responses.

The options are scored as follows:

Strongly Disagree [SD]	=	1
Disagree [D]	=	2
Agree (A)	=	3
Strongly Agree (SA)	=	4

<b>s/no</b>	<b>Items</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
17.	School lunch programme has increased pupils enrolment in my school				
18.	Pupils are regular and punctual to school since the Introduction of school lunch programme.				
19.	School feeding programme in an effective way of encouraging pupils to attend class regularly.				
20.	Pupils did go home for breakfast every school day before the programme.				
21.	All pupils always eat the prepared meal on each school day.				
22.	Before the school lunch programme was introduced most pupils hardly return from breakfast to attend classes.				
23.	Most pupils were not stay in school till the closing time due to hunger before the programme was introduced.				
24.	Since the introduction of school lunch programme, pupils now stay till the close of school day.				
25.	Hungry children are unlikely to stay in school till closing time.				
26.	The programme is a worthwhile method of getting children to school.				
27.	School lunch programme improves pupils' attentiveness in classes.				
28.	The food always reaches the target children.				

## SECTION D

### Opinion on nutritional needs.

S/N	ITEM	SA	A	D	SD
29	Fruits and vegetable are provided to pupils every day lunch				
30	The ration provided is not based on nutritional Requirement of pupils.				
31	Varieties of foods are not provided in the diet				

## SECTION E

### PROBLEMS ASSOCIATED WITH THE PROGRAMME

32.	The preparation of the food is being done by professionals				
33.	Funds provided are adequate				
34.	Funds provided are regular				
35.	Facilities are adequately available for the implementation of the programme.				
36.	Lesson periods are not lost due to service of lunch				
37.	There is an effective guideline for the implementation of the school lunch programme.				

## SECTION F

### Evaluation/Recommendation

Rate the following two statements by ticking (✓) only an applicable response in the statement.

38. School Lunch programme is

- |              |     |   |   |
|--------------|-----|---|---|
| a. Very good | [ ] | = | 5 |
| b. Good      | [ ] | = | 4 |
| c. Fair      | [ ] | = | 3 |
| d. Bad       | [ ] | = | 2 |
| e. Very Bad  | [ ] | = | 1 |

39. I recommend the school lunch programme to:

- |                             |     |   |   |
|-----------------------------|-----|---|---|
| a. All primary schools      | [ ] | = | 1 |
| b. both primary / secondary | [ ] | = | 2 |
| c. All level of education   | [ ] | = | 3 |

### APPENDIX III

#### Goodness fit chi-square table for food groups

Food groups . No of times each food group served per area council per week ( 5 days)	AB	MU	GW	BW	KJ	KW	TOTAL
	O(E)	O(E)	O(E)	O(E)	O(E)	O( E)	O(E)
Vegetables	4(12.5)	4(12.5)	5 (12.5)	5(12.5)	4(12.5)	12.5)	27(75)
Fruits	3(12.5)	4(12.5)	3(12.5)	2(12.5)	4(12.5)	4(12.5)	20(75)
Protein foods	11(12.5)	11(12.5)	12(12.5)	12(12.5)	10(12.5)	11(12.5)	68(75)
Carbohydrate foods	21(12.5)	19(12.5)	18(12.5)	20(12.5)	19(12.5)	20(12.5)	117(75)
Fat foods	14(12.5)	14(12.5)	15(12.5)	14(12.5)	15(12.5)	16(12.5)	88(75)

O(E)= Observed frequency (expected frequency)

KEY FOR AREA COUNCILS:

- AB=ABAJI
- MU=MUNICIPAL
- GW= GWAGWALADA
- BW=BWARI
- KJ= KUJE
- KW=KWALI