EVALUATION OF UPPER BASIC HOME ECONOMICS CURRICULUM AND STUDENTS' COGNITIVE THINKING LEVELS IN RELATION TO THE EXAMINATION OF THE SUBJECT

BY

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CERTIFICATION

We certify that this thesis titled "Evaluation of upper Basic Home Economics Curriculum and Students' thinking levels in relation to the examination of the subject". Was dully presented by Hadiza Alami Musa (BSU/ED/Ph.D/09/3114) of the Department Curriculum and Teaching, Faculty of Education, Benue State University, Makurdi and has been approved by the examiners.

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DEDICATION

I dedicate this thesis to Almighty God whose strength and grace saw me through this academic programme.

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ABSTRACT

This study evaluated the upper Basic Home Economics curriculum and students' cognitive thinking level in relation to the examination of the [1]Subject in Benue State. The study was designed to find out whether there is match or mismatch between students' thinking Level, the Examination questions and the Home Economics curriculum. Seven research questions guided the study while two hypotheses were formulated and tested at 0.05 level of significance. The study adopted descriptive survey design. The study was conducted in Benue State using all schools offering Home Economics at the Upper Basic Level in the three Senatorial Districts. The sample of the study comprises 310 upper basic students in the 2015/2016 academic session from 31 schools through multi-stage sampling techniques. The sample also included 2013 upper basic home economics teachers from 206 schools offering home economics at upper basic level. Frequency, percentage, mean and correlations statistics were used to analyze the data for answering all research questions while t-test was used to test the hypotheses at 0.05 level of significance. Reliability co-efficient for CAT are: 0.96 for JS 1,curriculum objectives, 0.95 for JS 2 curriculum objectives, 0.96 for JS 3 curriculum objectives 0.94 reliability co-efficient was found for CAT for external examinations (JSCE). HEAT has reliability Co-efficient of 0.94 while the reliability coefficient of 0.86 was found for CRT. Kuder Richardson 21 ($K\text{-}R_{21}$) was used to analyze CRT while crombach alpha was used to analyze HEAT. The findings revealed that concrete reasoning level of cognitive development is more

noticeable than that of formal reasoning level. Result further indicated that students develop operations for the manipulations of objects rather than for the manipulation of hypothesis. JSCE Home Economics questions are conceptually loaded with questions that demands learners to develop logical thinking using concrete objects. There is mismatch between the students' cognitive reasoning, cognitive demand of their curriculum and JSCE questions which led to low performance in HEAT. The findings also indicated that formal operators perform better in HEAT than their counterparts who are concrete operators ([df=308]=25.40;p=0.05). Based on the findings it was recommended among others that there should be a balance between concrete and formal reasoning levels of students when setting questions for examination. It was also recommended that both examinations and the curriculum should match the students' cognitive reasoning level.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Home economics is not a new subject but one that has been on for a long time. Even the ancient Greek philosopher, Aristotle was concerned with the organization and management of household (Richarz, 1991). In modern times, efforts to formalize domesticity of household go back as far as the mid-1800s with one of the most influential early example being the Treaties on Domestic Economic for the use of Young ladies at Home (Beecher, 2009). As was encompassed then over 150 years ago, Home Economics embraces a wide range of applications and many diverse areas of life, both inside and outside of the home setting. According to Arcus (2008), the shared interest of home economics pioneers is the well being of the family and it is strengthening the home to benefit the broader society. Home economics deals with many subjects and draws knowledge from many other subjects.

When the missionaries came to Nigeria, they introduced formal education. They built schools. Their wives taught young women how to cook, sew and keep homes clean. This was called Domestic Science. It was taught in special centers and teacher training colleges. With time, the area covered in Domestic Science increased. It became more than just cooking, sewing and house-craft. Its name then changed to Home Economics. The curriculum was flexible, individualized, diversified and aimed at the provisions of good foundation to liberal arts. Today in Nigeria, Home Economics has become a very important school subject. It is taught at the

Basic Education level, that is, primary and junior secondary school levels. Today it prepares males and females for both home-making and different jobs that require home economics skills, knowledge and attitudes.

In order to improve the quality of examination questions and ensure that they make the intended demands on students, there is need to understand the psychological processes involved in answering questions. The process of understanding the question and answering it can be complex, but also the actual cognitive reasoning to answer the question can be just as complex and this is where abstraction comes in. When the concepts themselves are complex they are often highly abstract, but abstract concepts are more than just complex concepts, they are also complex in the way that they are represented in the mind. When students form a representation of a particular subject area it will involve representing some abstract concepts and some more concrete concepts. The abstract concepts may be represented in a different way from the more concrete ones. Abstract concepts are linked to representations of events, that is, particular concrete experiences which are represented using language, but they do not refer directly to concrete objects or events. This is because they are represented using language, these concepts have to be consciously learned and therefore they often have to be taught (Kintsch, 1998).

Research has also shown that the level of cognitive demand of the instructional tasks (not the written tasks) is associated with student gains on measures that target high-level thinking and reasoning. Consistent results over the past 25 years have shown that students learn best when they are in

classrooms in which a high-level of cognitive demand is maintained throughout lessons (Boaler & Staples 2008; Tarr, Reys, Cha'vez,Shih, Osterlind 2008). Therefore the present study intends to assess the Upper Basic Home Economics curriculum and students' cognitive thinking levels in relation to the examination of the subject.

There is an immediate need for Home Economics programmes to become relevant for learning to occur. Today Home Economics teachers are faced with challenges of balancing past roles with evolving needs. How can we best meet the current needs of the students? (Erwin, Moran & Mclnnis, 1996). The effective teaching and learning of Home Economics depends on the curriculum in use. According to Ikwuanusi (2011), teachers are to be highly competent with the relevant materials and pieces of information from their immediate environment. This to a large extent will assist the teachers to adopt the curriculum to the needs and aspiration of the student.

The implementation of the 6-3-3-4 system of education in 1992 brought many reforms into the education system in Nigeria. Among the innovation is the vocationalisation of the secondary school curriculum in many subjects including Home Economics, This initiative was intended to equip students with the necessary skills for self-employment (FGN, 2008). Three decades after the adoption of this initiative majority of Nigerian youth still remain idle and some involved in various antisocial behavior, this may be due to the fact that they are not well equipped with the requisite skills for self and paid employment. This situation calls for the evaluation of the Upper Basic Home Economics curriculum to ascertain its effectiveness.

The upper basic education curriculum for Home Economics is spread within Upper Basic I-3. The curriculum reflects depth, appropriateness and interrelatedness of the contents. Also Emerging issues which cover value orientation, peace and dialogue including human rights education, family life, HIV and AIDS education are included. Entrepreneurial skills are incorporated into the relevant contents of the new 9 years Basic Education curriculum. The contents of the curriculum are also organized around themes, home economics and the society, good grooming, family living, managing the home, introduction to clothing construction and clothing the family and feeding the family. These themes are arranged according to the classes. Home Economics is a field of study which when properly taught would help in producing well-adjusted and healthy individuals in a Nation. Being one of the vocational subjects, Home Economics affords the students the opportunity of developing manipulative skills thereby improving their dexterity. According to Federal Ministry of Education (2007), the objectives of teaching Home Economics at the Upper Basic Education level are to contribute to a healthy family; develop manipulative skills that will enable the learners to function effectively in the society; develop healthy and aesthetic values, attitudes and skills; develops a sense of inquiry and scientific approach to daily living; and appreciates the dignity of labour.

Based on the curriculum in use, the chances of achieving the stated objectives is not very clear, because most of the students now cannot retain what they have learned and thereby affecting their achievements in the subject. The causes of this may not be unrelated to the over loaded

curriculum question, high curriculum demands in terms of contents and questions raised.

In theory, the tasks found in the new curriculum should lead to more rigorous forms of thinking and learning. A key finding, however, was that these tasks often changed their character once unleashed in real classrooms settings (Boaler & Staples, 2008). In particular, teachers often lowered the cognitive demands of tasks by breaking them into smaller sub- tasks and/or focusing on the accuracy of procedures and answers rather than students' thinking and reasoning processes (Henningsen & Stein, 1997). Research has also shown that the level of cognitive demand of the enacted instructional tasks (not the written tasks) is associated with student gains on measures that target high-level thinking and reasoning. Consistent results over the past 25 years have shown that students learn best when they are in classrooms in which a high-level of cognitive demand is maintained throughout lessons (Boaler & Staples 2008; Tarr, etal. 2008). Research has shown, however, that the vast preponderance of tasks used in American classrooms are low level (Boaler & Staples 2008); as such, a common goal of much teacher professional development has been on learning how to select, set up, and enact tasks at higher levels of cognitive demand.

A number of studies aimed at investigating the likely causes of poor achievement by students in science in Nigeria and how such a problem could possibly be reduced have been conducted. However, not much appear to have been done in the area of ascertaining the conceptual demands made by the activities and objectives of the science

curriculum on students, particularly at the junior secondary school level, and, whether or not these conceptual demands are in tandem or at variance with students' cognitive reasoning levels as well as questions often asked in examinations. Cognitive development refers to the development of the thinking systems of the mind that involve language, mental imagery, thinking, reasoning, problem-solving and mental development. Bybee and Sund (1990) sees cognitive development having to do with students' operational stages and thinking abilities. These definitions indicate that cognitive development is concerned with the growth of knowledge and thinking abilities within a child as a result of his interaction with the environment. According to Piaget, in Ozoji (2014), cognitive growth occurs in stages, namely, sensorimotor, preoperational, concrete operational and formal operational stages. These stages have characteristic features that make them distinctly different from one another. A child at the concrete operational stage (about 7 to 11 years) for instance, can think in concrete terms, serialize or group ideas according to specific attributes such as size, weight and volume, but cannot engage in abstraction. Formal operational stage of cognitive development (about 12 years and above) is characterized by abstract and reflective thinking; deductive reasoning and systematic planning, among others. Some of the features of formal operational thinking otherwise known as higher order thinking skills are considered as vital for the understanding of mathematics and science concepts, many of which are abstract in nature. Incidentally, findings from studies conducted across the globe seem to show that a large proportion of secondary school students

operate below the formal operational level of thought (Ozoji, 2014.) It is against the fore-going, that the study assessed the conceptual demands of the Home economics curriculum and students' cognitive development and their performance in Benue State, Nigeria. Poor academic achievement in our school queries the nature of the curriculum contents and methods of instruction and thereby calls for an in-depth investigation with a view to establishing the relationship between curriculum, instructional methods and nature of examination question which reflects in students' achievement (Afuba, 2012).

The issue of cognitive demand is very important in learning at any level. Ausubel (1962) and Piaget (1970) emphasized on sequence of learning materials and experiences in a well organized environment so as to create order, meaningfulness and understanding, that is, learner-environment interacting meaningfully. The Ausubel's advance organizer hierarchically organized learning materials with progressive differentiation within a guided field of knowledge and of the opinion that learning should be in hierarchical form. According to him, learning of concept will lead to learning of several rules, which would lead to a higher order of rule or problem solving. One of the earlier theories propounded by Piaget suggests that for any meaningful learning to occur, instructional materials must be sequenced in line with what the learner can do at his particular cognitive level (Piaget, 1970). Home Economics curriculum at the upper basic level needs to be checked for its cognitive demand in order to detect level of match or mismatch

following the spread, the nature and the objectives of the existing curriculum and questions being raised therefrom.

1.2 Statement of the Problem

Students' cognitive thinking level is influenced by a number of factors. Male students for instance lack interest and this could be attributed to lack of ideas about what it entails. The level of awareness of the subject is not restricted to Male students or gender but a general society problem because people think home economics is just cooking and dress making. With this narrow perception and thinking level, students shy away from the subject and don't want to be identified with it. This has generally affected their performance.

The right to education by the youth of any nation is contained in the Universal Declaration of Human Rights adopted by the United Nation's General Assembly in December, 1948 (Ofoha, 2011). This implies that young people should be given the opportunity necessary for the acquisition of knowledge, skills, attitudes and values which will enable them lead happy and productive lives as members of the society. This realization led Nigerian Government to adjust its Secondary school system to encompass diversified curriculum that integrates academic with vocational and technical subjects, Home Economics inclusive. This was intended to empower the individual with requisite skills for self or paid employment (FGN, 2009).

Since the implementation of the 6-3-3-4 System of education in 1982, Home Economics Curriculum has undergone several changes and modifications including the vocationalisation of its secondary school

curriculum, Since the advent of this innovation, it is not known whether the curriculum of Home Economics at the Upper Basic level has been evaluated to determine students' cognitive thinking levels with examination of the subject. The present study sets out to fill this gap.

The main thrust of this research is to find out if there is match or mismatch of the students' cognitive development levels and the Home Economics Curriculum and Examination Questions.

1.3 Purpose of the Study

The purpose of this study was to assess the cognitive demands of Upper Basic Home Economics Curriculum and Students' Cognitive thinking levels in relation to the examination of the subject. Specifically the study sought to:

1. assess the pattern of cognitive thinking in home economics among Upper Basic Students in Benue State.
2. estimate the conceptual demands of the Home Economics Curriculum.
3. estimate the conceptual demands of Junior School Certificate Examination (JSCE) questions in Home Economics Examination.
4. compare the match or mismatch between students' cognitive thinking levels with cognitive demands of their Curriculum.
5. compare the match or mismatch between student cognitive thinking levels with cognitive demand of their examination Questions.

6. find out the relationship between student performance in home economics achievement test (HEAT) and their measure of cognitive reasoning
7. determine the difference between the mean performance of students who are concrete operators and those who are formal operators.

1.4 Research Questions

Based on the purpose of the study, the following questions were posed:

1. What is the pattern of cognitive thinking in home economics among upper Basic students in Benue state?
2. What are the conceptual demands of Home Economics Curriculum?
3. What are the conceptual demands of JSCE in Home Economics Examination Questions?
4. What is the level of match or mismatch between student cognitive thinking levels with cognitive demands of their Curriculum?
5. What is the level of match or mismatch between students cognitive thinking level with the cognitive demands of their examination Questions?
6. What is the relationship between students' performance in HEAT and their measure of cognitive reasoning?
7. What is the difference between the mean performance of students who are concrete operators and those who are formal operators?

1.5 Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. There is no significance relationship between students' performance in home economics achievement test (HEAT) and their measure of cognitive reasoning.
2. There is no significant difference between the mean performance of students who are concrete operators and those who are formal operators.

1.6 Significance of the Study

The findings of this study could be of significance to family, curriculum planners/developers, students, teachers, authors and researchers. It may also be relevant to examining bodies such as WAEC and NECO as well as administrators and policy makers.

The importance of home economics to the family cannot be overemphasized. It also has an extremely important place in our educational system. No other discipline in the curriculum especially in Technology education key learning area (TE KLA) at the junior secondary school level directly influences the lives of society like Home Economics.

Today Home Economics encompasses and integrates materials from, information and communication Technology, materials and structures, operation and manufacturing strategies and management systems and control as well as Technology and living.

This therefore exposes students to essential elements in computer literacy, integrated science, social studies as well as Arts and Design. It could help students acquire a holistic academic experience in terms of knowledge skills and attitudes.

A study of upper basic Home Economics curriculum analysis is particularly relevant to curriculum developers. Since interest of the learners should be uppermost, how appropriate the curriculum in use is to the learners should be constantly revisited and this can only be done well by experts in curriculum. The CAT could therefore be a relevant material for periodic review of home economics curriculum. The study is also relevant to curriculum planners/developers because it may bring their attention to the contents of the Home Economics Curriculum and as well as the student's cognitive demand level and the examination questions of the subject in order to see their match and mismatch.

The study may also be considered important to teachers because it could create awareness on the effectiveness of the Home economics upper basic curriculum. The teachers who are the arrow heads of the curriculum will hopefully come to understand the curriculum better since they are not always involved in curriculum planning. Such teachers may learn how to teach content of the curriculum in order to suit the learners and to achieve the aims/objectives of the UBE educational system. Home Economics teachers may benefit from this study by having a full picture of the Home Economics curriculum designed for students at the upper basic level. They may then be able to pass final judgment on the curriculum: (1) whether the contents of the curriculum and cognitive level of the students are adequate or not adequate; (2) whether it has effect on the students' achievement and (3) The teachers may also be in position to find a way of adjusting in order to suit their own use and achieve aims and objectives.

In particular, secondary school Home Economics teachers need to know the learning ability of their students. This study may also be of relevance to them since it reveals both the contents and the cognitive adequacy of the existing curriculum. Secondly, selection and teaching of contents from the curriculum in use could be done with carefulness to prevent lack of understanding as well as under achievement. As implementers of the curriculum, they should know if the curriculum is over loaded with 'difficult contents' as well as 'irrelevant contents' whose cognitive demands may be higher or lower than the cognitive level of development of the students.

If the current upper basic Home Economics curriculum do not match with the students' cognitive level then a review of the curriculum would be recommended. Such steps are only possible upon availability of empirical data from studies of this nature by school administrators and policy makers. Therefore this study may be relevant to school administrators and policy makers.

Textbook writers may find the findings of this study useful. Books have target users. When the content correctly address the target users the marketability is made easy. Therefore textbook writers may find this study useful as it may open a new direction for writing home Economics textbooks for Upper basic students.

The study may also be relevant to examination bodies such as WAEC, NABTE and NECO. This could be so because the weighting of questions, distributions according to demand levels and appropriate choice

of action verbs are to be determined by the action verbs used in the objectives and contents/outlines and these are clearly stressed by CAT. It may therefore open their eyes to hitherto neglected aspects or wrong emphasis.

1.7 Scope of the Study

This study focused on the contents of existing upper basic Home Economics curriculum as well as cognitive demand of upper basic Home Economics curriculum in relation to questions asked in external examinations. The study however, focused on all students of Home Economics at the upper basic level (JS 1-3) in Benue State and the curriculum which they use in teaching. The study was carried out in the three educational zones A, B, C of Benue State of in 2018. Zone A comprises of seven (7) local government areas, which are Ukum, Katsina-Ala, Konshisha, Vandekya, Kwande, Ushongo and Logo. Zone B comprises of seven (7) local government areas which are: Buruku, Gboko, Guma, Gwer-west, Gwer-east, Makurdi, and Tarka while zone C comprises of nine (9) local government areas which are Ado, Agatu, Apa, Obi, Ohimini, Oju, Ogbadibo, and Otukpo Okpokwu.

1.8 Operational Definition of Terms

In the context of this research study, the following terms are defined as used in the study.

Contents: Contents as used here is the Home Economics Curriculum objectives and topics to be taught at Upper Basic 1-3.

Cognitive thinking-: Level of thinking of upper basic three students in the study area, whether concrete or formal operators.

Examination Questions; Junior School Certificate Examination (JSCE) Questions in Home Economics.

Concrete Operators; are those students who are of lower order of thinking.

Formal Operators; are those students who are of higher order of thinking.

Evaluation; Assessing upper basic Home Economics Curriculum.

CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviews related literature and researches dealing with the major variables of the study. The review is presented in four sections: theoretical framework, conceptual framework, empirical studies and summary.

2.2 Theoretical Framework

This section addresses theoretical framework. Both Cognitive Theory by Piaget and Curriculum context, input, process, and product evaluation are discussed.

2.2.1 Piaget's Cognitive Theory (1980)

Cognitive theory was propounded by Piaget (1980). The theory suggested that for any meaningful learning to occur, instructional materials must be sequenced in line with what the learner can do at his particular cognitive level. His theory views intelligence as a form of adaptation. The child from birth progresses through some kinds of cognitive developmental stages interacting with his or her environment. Piaget also proposed that our thinking processes change radically, though slowly from birth to maturity because we constantly strive to make sense of the world. He proposed important influences on the way we make sense of changes that are genetically programmed. Parents and teachers have little impact on this aspect of cognitive development, except to be sure those children get the nourishment and care they need to be healthy. He stressed that before a child

can assimilate any learning material, the child should be matured enough. He went further to say that cognitive development of a child depends on his maturity age (Piaget 1956).

According to Enose (2010), Jean Piaget theory of intellectual development is considered a leading theory on cognitive development .Piaget's theory asserts that intellectual development is a direct continuation of inborn biological development. That is the child is born biologically equipped to make a variety of motor responses, which provide them with the frame work for the thought processes that follow. That is, the ability to think springs from the physiological base. Piaget maintains that intelligence is rooted in two biological attributes found in all living creatures: organization and adaptation.

Piaget eventually came to believe that intelligence is a form of adaptation where knowledge is constructed by each individual through the two complementary processes of assimilation. There are some basic conceptual assumptions in Piaget's theory. Two of these essential concepts are function and structure. Function remains invariant for the individual and these are employed in the cognitive manifestations of the children. Structure changes systematically during the growth period of the child with the new ones modifying or destroying old existing structures (Piaget, 1980). The development stages of cognitive growth of Piaget consist of:

1. Sensor-motor stage (from 0-2 years of age). At this stage the child's world consists of objects existing only when they can be seen, heard, touched, tasted or smelled. Sensing by touching and tasting are the

child's mode of learning. Actions are the only form of representation of the child's thought. He later develops the concept of object permanence and space (Piaget,1980). When the objects are removed from the child's immediate sensory experience, they cease to exist. One major achievement of a child at this stage is the acquisition of what Piaget calls the "object concept", the noting by the child that objects have a permanence and identity of their own, and that they continue to exist even when they are outside the child's immediate environment.

2. Pre-operational stage (2-7 years). At this stage, the child does not acquire operational thinking until the age of seven. The thoughts of a child at this stage are not reversible. The child masters the use of spoken language, use of concepts in incomplete and illogical ways. The child is ego-centric, concreteness, transductive reasoning culminating into much language and symbolic development (Piaget, 1980).

3. Concrete operational stage (7-11 years). This is a stage of activity in relation to the environment. At this stage, the child develops operation for the manipulation of objects rather that for the manipulation of hypothesis. At this stage, the child has the ability to conserve that is the child realizes that quality or amount remains invariant when nothing is added or taken away from the object or collection of objects despite change in form or spatial arrangement. The learner also develops logical thinking using concrete objects.

Concepts of conservation, differentiation, classification and ordering are also characteristics of this stage.

4. Formal operational stage (11- 15years). At this stage, the subject matter with which the child now deals with may be completely hypothetical and he can apply a formal set of rules of logic. This stage is characterized by the child's ability to generalize and abstract from his experiences of various sorts. He is able to formulate hypothesis from observation of events and Manifests proportional logic in his cognitive activity (Piaget, 1980). So based on Piaget theory, Home Economics curriculum contents at the upper basic level is spread according to the age and ability of children at that level. The implication of Piaget's theory to Home Economics is that the curriculum must be matched with the child's level of cognitive development for any lesson to be understood. The theory further implies that science teachers should identify the levels of cognitive development and individual child is operating on, in order to use appropriate instructional techniques to enhance the intellectual techniques for improved achievement outcomes in school subjects particularly science subjects.

Piaget theory is relevant to the present study since it deals with individual stages of development and cognitive development of a child. According to Piaget Theory, for a curriculum to be effective, it must be matched with the child's level of cognitive thinking for any lesson to be understood.

In conclusion, Piaget stated that for a curriculum development (including Home Economics), and education as a whole to take place, it should be organized and in a sequential order that will make learning meaningful. The curriculum should be instructed from known to unknown and sequenced from simple to complex if meaningful learning is to take place.

2.2.2 Curriculum Input, Process, and Product Evaluation Model (CIPP, 1960).

Curriculum Input, Process, and Product Evaluation **(**CIPP) model is a program evaluation model which was developed by Daniel stufflebeam and Colleagues in 1960s. CIPP is an acronym for Context, Input, Process, and Product. This Model is an evaluation that requires the evaluation of context, input, process, and product in judging the value of a programme. Stufflebeam summarizes the definition of this model with two key words "evaluation" and "decision". The evaluation aspect is ascertainment of value while decision is the act of making up one's mind.

a, Four Aspects of CIPP Evaluation Model

The aspects are Context, Input, Process, and Product. These four aspects of CIPP evaluation assists a decision-maker to answer four basic questions**:**

b, What should we do? (Context evaluation)

This involves collecting and analyzing needs assessment data to determine goals, priorities, and objectives. For example, a context evaluation of Home Economics Curriculum might involve an analysis of the

existing objectives of the Home Economics and Home Economics achievement test scores.

According to Ali (2006), context evaluation helps in the diagnosis of Programme or Curriculum problems in relation to the determination of efficiency, relevance and functional values of Curriculum objectives. In this stage, an evaluation relies on conceptual analysis and empirical studies as well as authoritative opinions and theory in order to delineate the problem areas to be solved. Information from context evaluation will help the evaluator to make decisions about the environment, the general goals to be sought and specific objectives to be achieved. When it is certain that these objectives are achieved, Curriculum improvement is made.

c, How should we do it? (Input evaluation).

This involves the steps and resources needed to meet the new goals and objectives and might includes indentifying successful external information and materials as well as gathering information (Ali, 2008; Akem & Aduloju, (2008).

d, Are we doing it as planned? (Process Model)

This provides decision-makers with information about how well the programme is being implemented. By continuously evaluating the program, decision- Makers learn such things as how well it is following the plans and guideline conflicts arising from staff support and morale strengths and weaknesses of materials delivery and budgeting problems.

e. Did the program work? (Product evaluation)

Product evaluation is done to measure and interpret attainments at the end of a curriculum cycle. This will help to provide information for major decision about the Curriculum. For instance, deciding whether to continue or terminate, Modify or introduce new changes. Example, a change may be introduced into the Home Economics Upper Basic Curriculum as a result of the students performance in public examination (Junior Secondary School Examination).

In Conclusion, Information from context evaluation in CIPP will help the researcher to make decision about Home Economics Upper Basic Curriculum, the general goals to be sought and specific objectives to be achieved while input evaluation help to determine how well resources are used for achieving Home Economics Upper Basic Curriculum objectives and Process evaluation in CIPP Model provide information for interpreting Home Economics Upper Basic Curriculum implementation outcomes based on how well the Curriculum is planned being executed to specification and expectation or not. While at the end, the product evaluation in CIPP Model helps in providing information for major decision about Home Economics Upper Basic Curriculum. For instance deciding whether to continue or terminate, modify or introduce new changes. The CIPP model is related to the present study because it deal with school curriculum contents.

2.3 Conceptual Framework

The following relevant concepts are reviewed. Home Economics as an academic discipline, Home Economics Curriculum generally and its

contents and Contents Adequacy of Upper Basic Home Economics Curriculum using Curriculum Analysis Taxonomy (CAT).

Home Economics as an Academic Discipline

According to the International federation for Home Economics (IFHE) (2008), Home Economics as an academic discipline often referred to the dimension of Home Economics as an arena of everyday living and its importance. Therefore, It is often emphasized that Home Economics as an academic discipline is mainly concerned with research drawing from and feeding into the everyday life of individuals, consumers, families and communities. Hence, the aspect of quality of life can helps to clarify challenges and problems. This interdependence also relate to the other categories of curriculum area and development policy.

By studying Home Economics, it allows one to learn the basic skills that may not be taught at home due to parent being busy at work. It provides the basic cooking and cleaning skills to children that are able to do so for themselves at home. Home Economics is a self-reliant subject, irrespective of quality and compromise. Self reliance can be achieved through possession of relevant knowledge, skill and right work attitudes.

Home Economics can assist others in adapting to change, as our political, social economics and technological system change. And economists are needed to promote quality of life for families and individuals.

According to Anyakoha and Eluwa (2010), it is a broad field of study that is primarily concerned with the improvement of the welfare of individuals and families. To them it deals with all aspect of family life. It draws knowledge from many disciplines such as biological, physical and

social sciences, humanities and art. It unifies the knowledge drawn and uses it to teach people how to determine the needs of individuals and families for food, shelter and clothing, in order to seek the means of satisfying these needs.

The Home Economics Curriculum and its Contents

Home Economics curriculum should be diversified so as to cater for difference in talents and to anticipate the variety of opportunities open to the student after completing their course of study. The curriculum should be designed to equip the students effectively in this modern age of science and technology. Home Economics is an aspect of vocational education that deals with the knowledge, skills, competencies and aptitude that fits one wholly and entirely for work or business, Home Economics curriculum is supposed to be designed in such a way that it will identify such problems like increasing unemployment, corruption, poverty among others, and deal with them appropriately and decisively.

Hall and Paolucci (2002), pointed out that the field of Home Economics was built upon the basic premise that man could realize his potential for effective family more easily and satisfactorily if three conditions were fulfilled.

1. A concerted efforts was made to utilize all known information and knowledge and to focus it on the family;
2. A pin pointed search for new knowledge was made to illuminate and alleviate blocks to gratifying home life and;
3. Productive means for communicating the knowledge found.

In fact, according to Taylor (2005), Home Economics deals with helping the people to cope with problems rather than changing situations. The author concluded that there is need to change the coping behaviours in the future.

Further research by Paolucci, (2008) has an opinion that Home Economists who are tough minded and tender hearted are needed in the world. Tender heart is required by Home Economist in order to recognize and sympathize with clients. He further stated that Home Economists need to become family advocates. Other groups are concerned with various aspects of the family life. It draws knowledge from many disciplines such as biological, physical and social science, humanities and art. It unifies the knowledge drawn and uses it to teach people how to determine the need of individuals and families for food, shelter and clothing in order to seek the means of satisfying these needs.

The mission of Home Economics in Africa is to facilitate the process of individual, families and communities becoming more responsible for improving their well-being in relation to their economic, social, cultural, political and physical environment Home Economics Association for Africa 2008 (HEAA).

The philosophy of Home Economics worldwide is centered on the acquisition of knowledge and skills that can be applied to purposeful living. Hence Home Economics characteristically has several opportunities for small scale businesses. This gives the individual opportunities for gainful self employment. Knowledge is power hence the emphasis on teaching of

Home Economics at every level of school system. Home Economics encourages the expansion of knowledge and development of skills in the following contents:

a, Food and nutrition

b, Clothing and textiles

c. Consumer education

d. Interior decoration

e. Home management

f. Good grooming

g, Home Economics and the society

A good Home Economics curriculum should aim at the following:

h. Training students for proficiency in specific occupation in the area of Home Economics.

i. Making student to acquire special skills that can make individual to be self reliant.

j, Training student to acquire n skills on how to float and succeed in a business enterprise (JHER, 2007).

In the Home Economics curriculum, contents like basic clothing construction, basic pattern drafting suppose to be done using free hand cutting instead of paper drafting. By doing so, these students will be able to establish themselves in fashion designing business. The natures of Home Economics as an academic discipline taught in private schools differ from that of government schools. In some government schools both human and material resources needed for the subject in the three areas (food &

nutrition, clothing and textiles and home management) are available but no proper utilization and supervision. While in non-government school (private) many don't employ qualified teachers and provide necessary items needs for achieving the aims of teaching home economics in schools.

Uga (1996) described content as the knowledge, skills, concepts, principles, attitudes and values to be learned. He went further to make it clear that content will be valid if it promotes the outcomes that are intended to be promoted. Any content chosen for the achievement of its objectives that fails to show any relationship with the stated objectives the content is not valid, useful, important, learn ability and interest. The content of the curriculum is made up of ideas, principles and concepts which we want students to learn but which are beyond their powers to master by themselves. According to Uga (1996)**,** for content to be selected for any curriculum, it should satisfy some criterion such as validity, utility (usefulness), learner ability and interest.

Home Economics in 21st Century (HE21C) describes Home Economics "as a curriculum content that facilitates students to discover and further develop their own resources and capabilities to be used in their personal life, by directing their professional decisions and actions or preparing them for life".

According to Fafunwa (2008), the recommendations of the National Curriculum Conference held in September, 1969 in Lagos, Nigeria, education should be geared towards self realization, better human relations; self and national economic efficiency; effective citizenship: national

consciousness; national unity; social and political progress; scientific and technological progress and national reconstruction. They also decided that there should be equality of educational opportunity for all Nigerian children so each can develop according to his own ability, aptitude and interests. Based on these recommendations, curriculum 0f Home Economics should be designed to achieve the stated aims and objectives of education. The National Policy on Education (Federal Republic of Nigeria, 2009) emphasized the educational activities which should be centred on the learner to really maximize self-development and self-fulfillment. To this end Salau (2003) in Ifeafor (2005) has this to say:

The goal of education should be to help develop in the youths, a well integrated person who is socially adjusted, morally dependable, mentally and physically alert, efficient, scientifically literate, vocationally, nationally and internationally oriented and culturally adjusted.

The Nigerian curriculum needs to be adjusted to produce more dynamic individuals that have been empowered to stand on their own. Regrettably, Esu (2009) noted that the Nigerian curriculum has not empowered its products with the skills to face life after schooling. According to the author, students are not taught appropriate skills, knowledge and values which will help them to be productive and self-dependent in the society. This observation led her to suggest a functional curriculum that will prepare students with life skills. This is where the pre-vocational educational comes in.

Wilosz (2000) has emphasized the uniqueness of secondary Home economics by referring to processes which many Home economics curriculum developers are incorporating. She identifies the ideas as:

1. Recognizing individual well being within the home and family;
2. Developing self-forming persons;
3. Reducing discrepancies between basic human goods and social/economic realities which prevent their accomplishment;
4. Using family action systems to accomplish valued ends; and
5. Learning critical thinking and practical reasoning skills that are related to the family/human action systems.

According to Glem Hass (1977) in Olowo (2000) curriculum materials; the subject matter taught to students; the course offered in a school; the planned experiences of the learners are under the guidance of the school.

Hass's explanation of the meaning of curriculum is in line with that of Doll (2005) who described curriculum as the formal and informal content and process by which learners gain knowledge and understanding, develop skills and other attitudes, appreciation and values under the spices of the school. Ibe (2010) also sees curriculum as the organized knowledge and learning activities which the society presents to the learners in order to achieve the pre-determined goals of education.

Home Economics as one of the vocational subjects in the Nigerian secondary school curriculum, with its interdisciplinary nature, it is evident

that it should have within its content the indigent skill acquisition and development, use and management of the individual, the family and the society. It follows that home economics is very interested in the important issues affecting everyday living of households and families. This also means that an individual fits into the world of work. Working provides income which requires for the provision of at least basic needs.

Education acquired at every level should be an enabling factor that will make the Home Economics curriculum at the junior secondary school level should be such that if a student cannot go further, he/she should fit into the world and make a living. The problem of dropping out of school is rampant and cannot be ignored.

According to Mkpa (2003) the curriculum of the junior secondary education level was designed among other purpose to cultivate in the students rudimentary skills of vocational type that could be perfected in the apprenticeship system or in any Vocational institution. Those that are academically oriented are meant to proceed to the senior secondary school level, then to the tertiary institution. The vocational subjects are supposed to be intensely practical so that those who would not proceed to any other form of formal education could perfect in the skills. Is the Home Economics curriculum content at the junior secondary school adequate for individuals who stop at that level? Does it provide adequate skills for the lower level of the labour strata?

Home Economics being a vocational subject would have within it curriculum content the necessary training in skills and abilities required for

employment, be itself or otherwise. The provision of vocational skills through Home Economics for employment cannot be over emphasis Lioeje and Ali, 2008). Such employment could be self or a third party. Student stopping after the junior secondary school ought to have acquired employable skills. Possible engagements for persons with the level of educations are in the areas of housekeeping, laundry, food and fabric selling, domestic and industrial cleaning, serving and so on. The curriculum provision therefore must equip the students for such jobs at this stage.

The content within home economics as a subject could address the needs of youth in a changing society. Jorgenson and Haley (1985) identified societal problems which home economics education could address, specifically: functional illiteracy, family abuse, adolescent pregnancy, economic social problem of changing family structures, alcohol and drug abuse, ethnic diversity, and an aging population. Even though these issues need to be addressed broadly in an entire school curriculum, Home Economics can assist others in adopting to change, as our political, social, economics and technological systems change, home economists are needed to promote quality of life for families and individuals.

Home Economics as a subject synthesizes knowledge drawn from physical biological and social sciences and the arts and applies these knowledge to improve the lives of families and individuals and concern with the following aspects of family living (Hatcher & Andrews, 2010).

- Family relationships and child development;

- Consumption and other economic aspects of personal and family living;
- Nutritional needs and the selection, preservation, preparation and use of food;
- Design, selection, construction and care of clothing and its psychological and social significance;
- Textiles for clothing and for the home;
- Housing for the family and equipment and furnishings for the household;
- Art of an integral part of everyday living;
- Management in the use of resources so that values and goals of the individuals, the family or of society may be attained.

They also stated that the areas of Home Economics can be expanded as follows:

- Child care guidance;
- Clothing and personal appearance;
- Food and nutrition;
- Health and home care of the sick;
- Housing, home furnishings, and equipment;
- Personal, family and community relationship.

Anyakoha (2010) further stated that curriculum content of Home Economics includes:

- Food and nutrition;

- Clothing and textiles;
- Home management;
- Consumer education;
- Home furnishing and interior decoration;
- Child development and family relations.

Apart from food and nutrition, clothing and textile, home management good grooming and Home Economics and society which are the major areas, any other contents stated by Hatcher and Andrew (2010) and Anyakoha (2012) fall under the major areas above in the existing upper basic Home Economics curriculum designed by NARD. They further stated that Home management as shown in Fig.1 draws richly from the principles and practices of the other components of Home Economics. It equips the learners with the knowledge, skills and attitudes necessary for effective management of the Home.

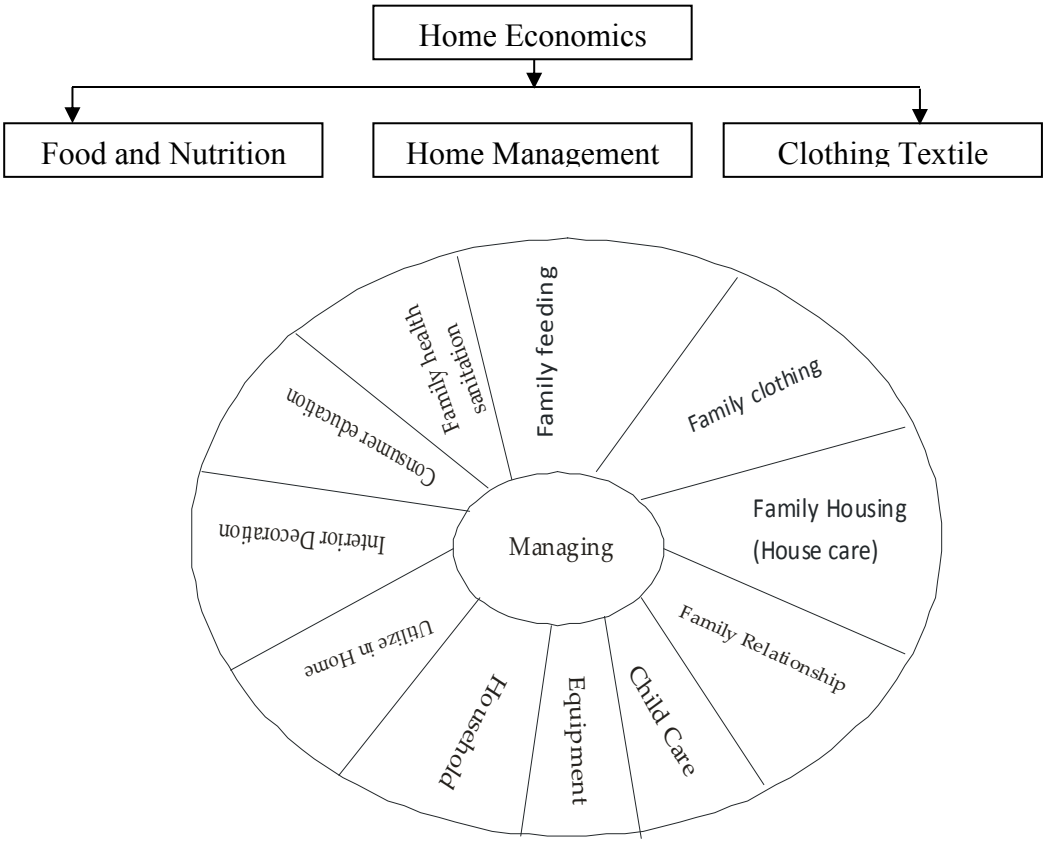

Fig 1: A Chart showing the contents of Home Economics (Nwankwo, 2010).

Nwankwo, (2010) stated that the earliest concept of Home Economics is simply cooking and serving. This was as a result of the narrow scope of its teaching at that time, as a home based affair. It is now clearly understood that Home Economics is far more than just cooking and serving. It is a broad field of study made up of interrelated subject contents. She pointed out that the three major (broad) areas of Home Economics are as follows:

- Food and nutrition which embraces knowledge of food, its production, selection, cooking and serving, food content and uses,

nutrition throughout the family lifecycle and therapeutic nutrition. The knowledge of nutrition helps one to feed and in the right proportion;

- Clothing and textile which covers the study of the manufacture of fabrics from fibres, sources of fibres, treatment in laundry, designing, sewing of garment and household furnishing. It deals with clothing for various occasions and functions. The knowledge of clothing and textile is very important to the individual because there are many fabrics and detergents in the market today and individual need to know how to use them and know the kind of garment that fits and to develop skills of sewing different garments;
- Home management: According to Nwankwo (2010), this content deals with the economic uses of all resources for more productive living standards. It also cover home sanitation, family relationships, organization of household and its equipment, work simplification techniques, family resource and uses, home nursing and child care.

According to Nwankwo (2010), the three main contents can be sub-divided into the following contents:

- Foods and nutrition;
- Nutrition;
- Clothing and textiles;
- Family living;
- Child development;
- Consumer education;

- Home Economics education and research;
- Population education.

The research's concern in carrying out this study is to investigate the effectiveness and adequacy of the above stated upper basic home economic curriculum contents.

For Home Economics curriculum contents to achieve adequacy in cognitive level, its curriculum must be an ongoing process, always adjusting to change which are up to date with newest happenings and changes (Clewry, 1976). Its existing curriculum has to be reviewed periodically to keep abreast of the trends. Otherwise old and out dated knowledge and process will be passed onto the students without realizing that they are outdated. Clewry (1976) advocated that curriculum should be written with the realization of the changes that are likely to take place in the foreseeable future. Its contents should be spread according to the learner's ability. With careful planning, Home Economics curriculum contents can provide such experience, which contribute to personal growth innovative leadership, self-confidence and cooperation of the students into the profession of teaching.

C) Examination

Maduka (1993) defined examination as a way to ascertain how much a subject matter in a particular field of study the candidate has mastered. Examination is also a determinant of a learners strength and weakness necessary for his/her academic adjustment.

Aminu (2007) defines an Examination as a formal test of somebody' knowledge or ability in a particular subject, especially by means of

answering question or practical exercise while Balogun (1999) also defined Examination as process through which students are evaluated or tested to find out the quality of knowledge they have acquired within a specified period. Examination could be internal or external .Internal examination are conducted within the schools and its differs while external (public) examinations common in Nigerian schools are common entrance Examination for admission into secondary schools ,school certificates examination and junior certificates examination are conducted by West African examination (WAEC) and National Examination council (NECO). The Joint Admission Matriculation Board (JAMB) and National Teachers' Institutions (NTI) conducted admission tests into tertiary institutions while National Business and Technical Examination Board (NABTEB) conducts professional examination for teachers and professional examination for teachers and technicians respectively. The outcome of examination is used as a basis for decision-making on the examinee's ability (Maduka 1993).

2.4 Empirical Studies

In this section of the review, various studies relating to curriculum assessment and cognitive thinking of students in relation to the demands of questions carried out by researchers and their findings are reviewed.

Ozoji and Mankilik (2015) assessed the conceptual demands of the basic science curriculum and students' cognitive development in Plateau State, Nigeria. A sample of 622 junior secondary three students, selected from 5,763 students in three senatorial districts of Plateau State was used for the study. The descriptive design was adopted in the study. The sample was

selected using proportionate stratified sampling technique. A curriculum Analysis Taxonomy (CAT) and Science Reasoning Tasks (SRTs) 11 were used for data collection. The independent ratings of the CAT showed a consensus of 87.00% while the reliability index of the SRTs 11 was 0.72. Two research questions and one hypothesis guided the study. The research questions were answered with frequencies and percentages while the hypothesis was tested with Chi square statistic. The results of the study showed that 64.00% of the concepts in the basic science curriculum were not understood by the students. Furthermore, a significant relationship was found to exist between the conceptual demands of the integrated science curriculum and students' cognitive development. The contribution of the study to education is for relevant stake holders to devise ways of enhancing students' cognitive development, to enable them understand the concepts in their basic science curriculum.

This study is relevant to the present study since the focus was conceptual or cognitive demand students' cognitive development or thinking level. of basic science curriculum. Home economics is an applied science and examined in this study at the basic level just like the study reviewed. The result from the present study therefore is expected to be similar to that of Ozoji and Mankilik. However, basic science is not the same in content as home economics and besides, the present study examines the demands of the curriculum and students' thinking level along with the kinds of questions raised at both internal and external examinations. On the one hand Ozoji and Mankilik left a gap which the present study addresses and other hand,

difficulty experienced by learners may be better addressed if questions set are matched with the curriculum demands to see the extent of match or mismatch.

Igbaria (2013) analyzed the six units of the 9th grade English textbook Horizons of Arab learners in Israel. The main objective of the study was to assess the importance of textbooks in developing students' thinking. A total of 381 WH-questions were chosen as the unit for analysis believing that questions are important for examining students' understanding for the taught material, and that through questions, students' thinking skills can be developed. The results revealed that out of the 381 WH-questions that the six units included, the percentages ranged from 29.66%-2.36% which related to the cognitive levels of comprehension and evaluation respectively. These results confirm the results that appeared in previous studies. The outstanding finding was that the analysis level appeared at a percentage of 23.36%, which is nearly equivalent to the knowledge level an indication of lagging behind. Though this study was an analysis of English textbook which is entirely different from home economics, the 9th grade learners used is equivalent of upper basic three and that the challenges learners face with tasks in most cases do not discriminate subjects and therefore similar results is expected in the present study. On the contrary English comprehension demand cannot be taken exactly as the same cognitive thinking as home economics. Secondly, the focus was to raise thinking skill of learners rather than matching the demands of curriculum, reasoning level of learners with demand in the questions.

Assaly and Smadi (2015) under took a study that evaluated the cognitive levels of the questions following the reading texts of *Master Class* textbook among Arab students in Israel. Two master textbooks and 135 questions were used for the study. A checklist based on Bloom's Taxonomy was the instrument used to categorize the cognitive levels of these questions. The cognitive levels of the comprehension questions were rank ordered. The results showed that the author of *Master Class* emphasized the cognitive level of *Comprehension* having 52% of the questions, which was much more than the expected frequency, while wrote only 3.7% and 6% of the questions on the cognitive levels of *Knowledge* and *Application* respectively. The frequency of questions on the cognitive levels of *Evaluation* and *Analysis* were much closer to the expected frequencies. The results indicated that about 40% of the textbook's questions emphasized higher-order thinking skills, which goes with the requirements of the revised curriculum. Evaluating and choosing a good textbook that goes with the goals of the curriculum is recommended. Such a study would shed light upon the role of textbooks in developing cognitive skills among Arab students. This study is similar in part to the present study in the sense that it examined higher and lower order questions in which it was found that higher order questions was 40% and consistent with expectations. What the study failed to do was if the learners answered correctly both questions in higher and lower order cognitive levels. Therefore Assaly and Smadi's study did not address the issue of mismatch which is a major component of the present study.

Jones and Taar (2015), analyzed probability content within middle grades (6, 7, and 8) mathematics textbooks from a historical perspective. Two series, one popular and the other alternative, from four recent eras of mathematics education (New Math, Back to Basics, Problem Solving, and Standards) formed the sample analyzed using the Mathematical Tasks Framework. Standards-era textbook series devoted significantly more attention to probability than other series; more than half of all tasks analyzed were located in Standards-era textbooks. More than 85% of tasks for six series required low levels of cognitive demand, whereas the majority of tasks in the alternative series from the Standards era required high levels of cognitive demand. Recommendations for future research are offered. Similar to the present study is the issue of cognitive demands of two textbooks in mathematics which were based on curriculum in use. The levels of demands found in the two books are part of what the present study intends to do with home economics curriculum. On the other hand home economics is quite different from mathematics and the fact that demand levels expected exist is not a guarantee to attainment, an aspect that the present study desired to address through questions raised from both internal and external examinations.

Kessler, Stein and Schunn (2015) studied model tracing tutors representing a technology designed to mimic key elements of one-on-one human tutoring in Pittsburg United State of America. The study examined the situations in which such supportive computer technologies may devolve into mindless student work with little conceptual understanding or student

development. This work was conducted at a small suburban public school district over the course of 3 weeks totaling 16 hours of student engagement with the tutor system. Given the tutor's use of robotics as a motivating context, the project was presented to students, grades 6–8, enrolled in the districts robotics club as a way to gain experience with robots, which were used as part of the district's competitive robotics team, and to build mathematics skills. In total, the twenty-seven students in the robotics club were contacted for participation in the program. Of the twenty-seven contacted, nine showed interest and six males and one female (M = 12.1, SD = .7, range 11–13) ultimately completing the program. Each of the seven students completed 8 units in the system consisting of approximately 10–18 tutor pages per unit. To analyze the support of student intellectual work in the model tracing tutor case, we adapt a cognitive demand framework that has been previously applied with success to teacher-guided mathematics classrooms. This framework is then tested against think-aloud data from students using a model tracing tutor designed to teach proportional reasoning skills in the context of robotics movement planning problems. Individual tutor tasks are coded for designed level of cognitive demand and compared to students' enacted level of cognitive demand. In general, designed levels predicted how students enacted the tasks. However, just as in classrooms, student enactment was often at lower levels of demand than designed. Several contextual design features were associated with this decline. Implications for intelligent tutoring system design and research are discussed. This study is similar to present one in the sense that individual

tutor tasks are coded for designed level of cognitive demand and compared to students' enacted level of cognitive demand and it was found to be at variance. Demand on students does not seem to vary much across subjects and therefore similar finding are expected in the present study. On the other hand, mathematics is seen to be very abstract and could therefore present a different result from what could find from home economics which applied science. It must be noted that the category of students used by Kessler, Stein and Schunn are primary 6 to upper basic 2 learners and are similar to upper basic learners considered in the present study. Cognitive development levels of these categories of learners ought to be the same and so much difference may not be expected in terms of their thinking levels.

Carollo (2013) examined the Common Core State Standards of Mathematics (CCSSM), a set of United State educational standards which has recently been adopted by 45 states which creates a more rigorous and coherent set of standards for American students and making elementary math anything but elementary. The adoption of these new standards formulates the research questions for this study: How well do current curricula match the CCSSM and how well do current curricula support teacher knowledge to implement the standards? In this study, three diverse curricula used in the United States, Prentice Hall, Singapore Math, and CK-12, are examined with three evaluation tools. These tools measure (a) the cognitive demands of the mathematical tasks in each curricula, (b) the mathematical coherency of an instructional unit, and (c) the resources in each curriculum that support teachers' understanding of mathematics.

Division of fractions is the topic of analysis because of its frequent occurrence in algebra which is the foundation for higher-level math. It was found that Singapore Math's problems reach higher-level cognitive demands more often than Prentice Hall and CK-12. Prentice Hall and CK-12's reliance on using the standard division algorithm inhibits conceptual thinking for both students and teachers. From a curriculum review tool, which focuses on teacher knowledge, it was found that Singapore Math is the closest to reach the division of fraction CCSSM when compared to Prentice Hall and CK-12. Resource tools for teachers can be developed that better support students' learning by combining characteristics from each curriculum such as word problems, manipulative/pictures, and samples of students' work. In the study being reviewed, it examined how well the current curricula match the CCSSM and how well it supports teacher knowledge to implement the standards and these are issues of comparison which is similar to comparing curriculum demands with the demands in internal and external questions. The striking difference lies in the fact foreign materials with different cultural background may compare exactly with what obtains in another cultural background like Nigeria and in different discipline.

Ferreira and Morais (2015) conducted a study which addressed the issue of the type and the level of complexity of practical work present in teachers' practices, at the level of high school science education. Two science teachers and their Biology and Geology classes of 10th grade students of high school (ages 15 – 16) participated in the study. Each one of

these teachers taught in one of two distinct public schools, located in distinct towns both of the West Coast region of Portugal using a convenience sampling. The level of complexity was appreciated by the level of conceptual demand of practical work, as given by the complexity of scientific knowledge, the complexity of cognitive skills and the degree of relation between theory and practice. The study also analyses the scientific inaccuracies that teachers may make when implementing practical work. The concept of osmosis was selected as an exemplary study to show how this framework may work when studying conceptual demand of practical work of teachers' practices. Two teachers of two distinct schools were selected. The results showed that the two teachers' practices have in general a low level of conceptual demand which is mostly a consequence of the low level of complexity of scientific knowledge and skills required and also of teachers' scientific inaccuracies. The type of practical work selected by teachers (laboratory activities generally illustrative) also contributed to lower the level of conceptual demand. In methodological terms, the conceptualization and procedures followed in the study constitute an innovative approach that gives greater rigor to the analysis. The study is similar in the sense that it examined and found two teachers' practices that have in general a low level of conceptual demand which is mostly a consequence of the low level of complexity of scientific knowledge and skills required and also of teachers' scientific inaccuracies in similar manner as the curriculum demands of home economics curriculum and thinking levels of the students will be related to the type of questions that are given to

the learners. However differences exist in the sense that how teachers reason may be different from how students reason. Though home economics may have practical contents, the two studies are approached differently by way of method and this may results in differences in findings.

Raheem and Babatunde (2005) conducted research on teacher' perception of the senior secondary school mathematics Curriculum (SSMC). The sample consisted of 60 mathematics teachers' professionals and non-professionals from 10 secondary schools in Oyo State. According to the researcher, professional teachers are holders of Nigeria Certificate in Education (N.C.E); Bachelor of Science Education (B.SC.ED); Bachelor of Education in (B.ED), Diploma in mathematics education, and similar qualification while the non-professional teachers are holders of Ordinary National Diploma (OND); Higher National Diploma (HND); bachelor degree in mathematics (BDM). The data were collected using a self-developed survey questionnaire. The survey consisted of 30 opinions and perception towards Senior Secondary Mathematics Curriculum (S.S.M.C). A pilot testing of the instrument was done using 20 secondary school mathematics teachers in Oyo West Local Government Area of Oyo state. A reliability of coefficient of 0.77 was obtained.

Data from the study was subjected to appropriate statistical analysis to draw up inference from it. T-test was applied to all the three hypotheses. The result of finding clearly showed that there is no significant difference between the mean S.S.M.C. The researcher also found out that there is no significant difference in the perception of professional male teachers and

non-professional male teachers on S.S.M.C. The result also revealed that there is no significant difference in the perception of female professional teachers to non-professional teachers on S.S.M.C.

Raheem and Babatunde's study has something in common with the present study. While the dissimilarity between them is that: Raheem et al focused on senior secondary mathematics curriculum contents while the present study focuses on upper basic home economics curriculum and students thinking level in relation to examinants of the subject.

A study conducted by Adache in 2006, on N.C.E Business Education curriculum in line with the ideal Business Education Program was analyzed. The study indicated that the ideal business education program is made up of six components of courses which include: General Education, General Business, Secretarial Subjects, Professional Education and Accounting, as well as teaching practice and industrial work experience .The study later indicates that the contents should be strengthening and it should be exposed to modern office equipment in order to allow graduates to meet the challenges of the new revolution in the world of work.

This study has something in common with the present study because both analyze curriculum contents but the difference between them is the subject area in which the curriculum contents is reviewed on. Adache's result obtained from the research was based on a self – analysis of the curriculum at hand while the present study is based on the perceptions of teachers teaching the reviewed subject (Home Economics).

Siddique, Nazir and Malik (2002) carried out a survey to asses "the perception of Home Economics students about their undergraduate curriculum". It is an explanatory study in which an equal number of 50 students were taken from all the classes of four B.Sc. Home Economics degree course. The data were collected from college of Home Economics degree course. The data were collected from college of Home Economics, Lahore degree course. The data were collected from 200 respondents was selected randomly for the study by taking 50 students from each class and was interviewed. Simple frequency and percentage methods were used to assess the results. The main parameters of the study were to find out the extent to which various topics were relevant. The result indicated that the majority of the students perceived subjects related to major areas of Home economics like clothing and textile and home management were considered as the most relevant by 12 and 20% respondents, respectively.

2.5 Summary

In this chapter, the researcher reviewed related literature on existing Home Economics curriculum at the upper basic level. The chapter is divided into two main parts viz: theoretical/conceptual framework and empirical studies. The first part concentrate on theoretical/conceptual formulations related to school curriculum content. Piaget cognitive development theory was reviewed because it dealt with the individual stages of development. According to him, effective teaching and learning cannot take place unless the child is matured. Secondly, the age of the learners determines what can

be handled. Cipp evaluation model was also reviewed. It is used in judging the value of a programme.

Related concepts such as Home Economics as academic discipline, Home Economics curriculum using CAT and Examinations both (internal and external) were reviewed. The empirical studies take care of the previous studies conducted on school curriculum by different researchers.. Previous studies revealed that many questions make lower conceptual demands on the learners compared with what exist in the curriculum. Secondly there appears to be a balance between number of higher and lower order questions being raised by teachers (e.g, 40:60 ratio). However, studies available are mainly in mathematics with a few in the sciences. The study by Ozoji and Mankilik (2015) seems to be most recent and most similar to the present study done in Nigeria. Studies in home economics dealing with curriculum demands and students' thinking levels in relation to questions are scarce as the researcher could not lay hand on any work both within and outside Nigeria. Ultimately, there is a gap to be filled in terms of providing empirical reports in home economics as well as addressing the issue of matching what is contained in the curriculum and what the learners have in their cognitive structure or thinking with the type of questions often asked.

CHAPTER THREE
RESEARCH METHOD

3.1 Introduction

This chapter describes the design of the study, area of study, population, sample and sampling, instruments, validation of the instruments and reliability of instruments. It also gives details of the pilot study, which were carried out for the purpose of refining the instrument for data collection, and it also describes method of data collection and data analysis.

3.2 Research Design

This study adopted a descriptive survey (expo-factor) design. Reasons for the adoption of this design is hinged on the fact that it is a strategy used in finding meaning and understanding of the present status of home economics curriculum with regards to its conceptual demands, cognitive thinking of learners and how they relate to the kind of question learners answer in external examinations.. The design provides an effective way of collecting data using various instruments methods from a fairly representative sample of a large population in order to make generalization on the entire population (Emaikwu, 2008).

3.3 Area of Study

This study was conducted in Benue State of Nigeria. This area is located in the Middle Belt Region of Nigeria covering a very wide geographical area. The area is divided into three educational zones. Zone A has seven local government areas, zone B also has seven local government areas while zone ‘C’ has nine local government areas. Each of the three

zones is further divided into district sub-zones based on ancestral relationship or geo-political consideration.

The state was created in 1976 and is made up of 23 local government areas. Benue State is located in the north central region of Nigeria with a population of 4.3 million in 2006 population census (Directorate of Planning Research and Statistics, Benue State teaching service Board Makurdi 2017).The state is popularly known as the Food Basket of the nation as it has fertile land that produces food crops, fruits and vegetables in abundance.

The state has two hundred and six secondary schools that offer home economics at both senior secondary and Upper Basic Education levels. The schools National curriculum for Upper Basic Education was developed by Nigeria Educational Research and Development Council. Examinations are written internally on terminal basis. However, the Junior Secondary Certificate Examination (JSCE) is an external examination organized by both WAEC and NECO and is written once in life unless a student fails to pass. The three educational zones in Benue state are zone A, B and C which are the study areas. Geographically, the three zones are described as, zone A known as North East senatorial districts, zone B is the Central senatorial districts while zone C is the South senatorial districts of Benue State. The study areas (Benue State) is bounded by neighboring states. Nasarawa at the northern part of Benue State; Kogi at the Western part and Enugu and Cross-river at the Southern part of Benue State.

The inhabitants of these senatorial districts are predominantly Tiv, Igede, Etulo, Idomas and Agatu. Other ethnic group includes the Igbos,

Yoruba, Hausas, Igalas and other Nigerian tribes. Benue state is predominantly agricultural area specializing in cash crops, and variety of potentials in human, capital and material resources and veritable source of raw materials for processing plants and manufacturing. The River Benue and River Kastina-Ala flow through Benue state enabling some people the state especially zone B senatorial districts to take fishing as their main occupation. The valleys of these rivers also make the large fertile, enabling the cultivation of seasonal foods such as yams, cassava, maize, millet, groundnut, guinea corn, and cash crops like soya beans, rice and beni-seed.

3.4 Population

The target population for this study is the entire upper basic students who offer Home Economics in secondary schools across the twenty-three local government areas of Benue State. From the statistical data made available to the researcher by the Department of Planning, Research and Statistics, Benue State Teaching Service Board (TSB) as of January, 2016, out of eight hundred and fifty three (853) secondary schools with the population of one hundred and thirty thousand, eight hundred and nine (130,809) Students in the study area, only two hundred and six (206) schools with the population of one hundred and fifty three thousand, three hundred and fifty two (153,352) students were found to offer Home Economics with the population of two hundred and thirteen(213) teachers teaching Home Economics.

3.5 Sample and Sampling

The sample for this study comprised 310 Students and 213 teachers. Schools, students and teachers were sampled from 206 schools offering Home Economics at the Upper Basic Level in the three senatorial zones A. B and C. A multi-stage sampling technique was adopted to select schools, students and teachers. First, Systematic sampling technique was used to select 31 schools from 206 schools offering Home Economics at the Upper Basic Level. Every fifth school on the list of schools in zone A and C presented in appendix G were selected, while every tenth schools were selected for zone B. A total of 6 schools each from zone A and C and 19 schools from zone B being the zone with the highest total number of schools (see Appendix G).

At the second stage, 310 students were selected from 31 sampled schools using a systematic sampling technique from school registers. 10 students were selected from each of the sampled schools in all the zones. In selected schools, every fifth student was selected from the class list in zone A and C while every tenth student were selected from zone B.

At the third stage, Purposive sampling technique was used to select 213 teachers from 206 schools offering Home Economics at the Upper Basic Level (See Appendix G for details).

3.6 Instrumentation

Three instruments were used to gather relevant data. They instruments are: teachers' Curriculum Analysis Taxonomy (CAT), Home

Economics Achievement Test (HEAT) and Cognitive Reasoning Task (CRT).

Curriculum Analysis Taxonomy (CAT)

CAT was constructed by the researcher and validated by other experts. It is used to determine cognitive demand level of Home Economics curriculum. CAT was applied to Upper Basic 1, 2 and 3 curriculums. It was also used for Home economics external questions. CAT was originally published Towards a Science Teaching (Shayer & Adey 1981, Bomide 1989, and Gyuse, 1989), similarly adapted it for use on Nigerian integrated science project book one and SS 1 chemistry curriculum (see appendix B for CAT details). The same CAT was used for external (Junior School Certificate Examination) questions in Home Economics as can be seen in appendix B and C.

Home Economics Achievement Test (HEAT)

Home Economics Achievement Test (HEAT) is a sixty items instrument for Junior Secondary 3. The items were simple objectives questions based on the curriculum from year 1-3. Find details in appendix C. There are marking schemes which have total score of 60. Therefore each question carries 1 mark each.

Cognitive Reasoning Task (CRT)

Cognitive Reasoning Task is an instrument which is adapted from Science Reasoning Task II developed by the team Concepts in Secondary Mathematics and Science at Chelsea College, University of London in the period of 1977/78. Specifically CRT is on volume and heaviness. There are

15 items with short answers. All the items are science related and since Home Economics is a science course and students offering it have some science background, the test is considered to be appropriate for the students. The items are based on common occurrences in our homes. It has marking scheme with each item attracting a mark and a total of 15. The rating or conversion scale is between 3.0 for early concrete (2A) to 9.0 for formal generalization. Details in the marking scheme and questions are in Appendix I. The level of adaptation is minimal involving title and preliminary information presentation format.

3.6.1 Validation of Instrument

The two instruments exposed to validation in this study are CAT and HEAT.

1. Curriculum Analysis Taxonomy (CAT): Copies of CAT prepared by the researcher were also given to research experts as well as Home Economist experts in the Department of Home Economics and Management, University of Agriculture Makurdi who were specialists in research methodology and test and measurement for face and content validation. CAT was drawn from the curriculum, and Junior Secondary School (JSS) external questions (See appendix B).
2. Home Economics Achievement Test (HEAT) was constructed by the researcher. This study has HEAT with the combination of upper basic 1, 2 and 3 respectively. Twenty items from each class (total of 60 items). HEAT was subjected to face validation by three experts:

one in home economics department, one in science education and others in Curriculum Studies. They were requested to examine, and construct, if there is ambiguity, grammar and if appropriate for the level and contents. Content validation was also carried out to ensure that items fall within the course outlines and in compliance with the loading or weight. The experts observed incoherence in some questions, disagreement in some level of demands and as well as grammatical corrections. These were all effected before proceeding on test for reliabilities.

3. Cognitive Reasoning Task (CRT) is an existing instrument and adapted with minimal modification and so it was not subjected to face and content validation by experts. However, it was subjected to reliability test since it has been in use for over many years. CRT were use to categorize students into various cognitive levels.

3.6.2 Reliability

A pilot testing was carried out on 30 students who offer Home Economics randomly selected from among the schools that were not part of the main study. The purpose of the pilot study was to trial test the instruments that were meant to be used for the main study, so that the researcher could ensure their reliability. The pilot study was also to enable the researcher obtain data concerning the test item characteristics as well as obtain the reliability coefficients for HEAT and CAT. Information for CAT reliability were obtained from the validated CAT.

Reliabilities were calculated for two of the instruments (CAT and HEAT) constructed by the researcher. CAT: The home economics teachers were requested to independently indicate the extent to which each objectives in the curriculum analyzed by the researcher matches the corresponding level of cognitive demand ascribed to it using a five point scale: Highly Adequate (HA=5), Very Adequate (VA=4), Adequate (A=3), Moderately Adequate (MA=2), and Not Adequate (NA=1).

Cognitive adequacy reliabilities coefficients for CAT are: 0.96 for JS1 curriculum objectives; 0.95 for JS 2 curriculum objectives and 0.96 for JS 3 curriculum objectives using Crombach Alpha.. CAT for external examinations (JSCE) was found to be 0.94. See appendix E for details. This was analyzed using SPSS software and the alpha coefficient is considered to be of high internal consistency since they are all above 0.70 as recommended by Pallant (2001). Also, the Home Economics Achievement Test (HEAT) was analyzed for reliability using Cronbach Alpha. Analysis shows that HEAT has reliability coefficient of 0.94 (See appendix F for details).

CRT was subjected to reliability test using Kuder Richardson 21 since the items were not dichotomously scored. The reliability coefficient is 0.86.The pilot study also served as an eye opener for the researcher because the difficulties encountered during the pilot study were expected to prepare the researcher to overcome them during the main study. The pilot study also enabled the researcher to envisage and fix adequate time for the duration of the main study.

The pilot study took place between 10th May and 25th May, 2016. Problems encountered during pilot study were:

The training of the research assistants: Many of them found it difficult to locate the schools they were asked to go to.

Some of the Home Economics teachers were not willing to cooperate. They gave excuses because of their engagement in the school termly exams.

The researcher and research assistants sampled more schools than expected because of the unwillingness of some Home Economics teachers

3.7 Method of Data Collection

Five weeks was used for data collection with the help of three research Assistants. First week earmarked for training of Research Assistants and four weeks for administering the questionnaires CAT, HEAT and CRT questions.

3.7.1 Recruitment and Training of Research Participants

The sampled schools were visited to seek permission from the principals of the schools for the involvement of their Home Economics teachers. The research assistants were university graduates with at least two years experience.

Training was given to them for two consecutive days:

Stage I: The researcher briefed the assistants on the objectives of the study

Stage II: The researcher discussed the names and location of the schools to administer the questionnaires.

Stage III: Both the researcher and the assistants discussed on the number of days to be given to each teacher, as well as the day to administer the test.

Stage IV: The researcher explained to the assistants the information in the data, what each Home Economics teacher is expected to do.

3.8 Method of Data Analysis

The researcher used frequency, percentage, mean, t-test (t), and correlation statistics for analysis. In particular, research questions 1-3 were analysed using frequency and percentages. In addition, mean and standard deviation were used for research questions 4 and 5, while correlation statistics was used for research question 6 and its associated hypothesis 1. But Question 7 was analysed using mean and standard deviation and the corresponding hypothesis 2 was tested using independent t-test statistics. The hypotheses were tested at 0.05 level of significance. All analyses were done using the statistical package for the social sciences (SPSS)(version 20; SPSS ING, Chicago, IL,USA).

CHAPTER FOUR
ANALYSIS INTERPRETATION AND DISCUSSION

4.1 Introduction

In this chapter the data are presented, interpreted and discussed. The findings are presented in respect to the research questions and hypotheses formulated.

4.2 Analysis and Interpretation

Data analysis and interpretation are according to research questions and hypotheses.

Research Question 1

What is the pattern of cognitive development among upper Basic students in Benue state?

Table 1: Pattern of Cognitive Development among Upper Basic Students in Benue State

Reasoning Level	Frequency	Percent
Concrete Reasoning	244	78.7
Formal Reasoning	66	21.3
Total	310	100.0

Table 1 shows the pattern of cognitive development among upper Basic students in Benue state. The table indicates that out of 310 Upper Basic Students 78.7% are of concrete reasoning level while 21.3% Upper Basic Students are of formal reasoning level. The percentage ratio of concrete to formal is therefore 79:21. This therefore implies that the concepts of conservation, differentiation, classification and ordering are predominant among Upper Basic Students than the ability to generalize and abstract from their experiences of various sorts.

Research Question 2

What are the conceptual demands of Upper Basic Education Home Economics Curriculum?

Table 2: Conceptual Demands of Upper Basic Education Home Economics Curriculum

Reasoning Level	Frequency	Percent	Group Percentage
2A (Early Concrete)	78	38.6	
2B (Late Concrete)	79	39.1	77.7
3A (Early Formal)	24	11.9	
3B (Late Formal)	21	10.4	22.3
Total	202	100.0	100.0

Table 2 reveals the conceptual demands of Upper Basic Home Economics Curriculum. The table indicates that Early Concrete reasoning level consist 38.6%. Late Concrete reasoning level consist 39.1%, and Early Formal reasoning level are 11.9%, and (Late Formal) reasoning level are 10.4%. These high frequency and percentage for concrete reasoning levels (77.7%) therefore implies that the Upper Basic Home Economics Curriculum conceptually demands that, the students develop operation for the manipulation of objects rather that for the manipulation of hypothesis (22.3% formal). Thus the ratio of concrete to formal demands of the curriculum in percentage is 78:22.

Research Question 3

What are the conceptual demands of JSCE Home Economics Examination Questions?

Table 3: Conceptual Demands of JSCE Home Economics Examination Questions

Reasoning Level	Frequency	Percent	Group Percentage
2A (Early Concrete)	17	70.8	
2B (Late Concrete)	4	16.7	87.5
3A (Early Formal)	3	12.5	12.5
Total	24	100.0	100.0

Table 3 shows the conceptual demands of JSCE Home Economics Examination Questions, the table shows that JSCE Home Economics Examination Questions had a Frequency of 17 representing 70.8% for 2A (Early Concrete) reasoning level, while it had a Frequency of 4 representing 16.7% for 2B (Late Concrete) reasoning level. Also, JSCE Home Economics Examination Questions had a Frequency of 3 representing 12.5% for 3A (Early Formal) reasoning level. There were no questions demanding 3B (late formal) reasoning level. The ratio of concrete reasoning to formal reasoning of the JSCE questions was 87.5:12.5. The high percentages for concrete reasoning level therefore implies that the JSCE Home Economics Examination are conceptually loaded with questions that demands learner to develop logical thinking using concrete objects.

Research Question 4

What is the level of match or mismatch between students' cognitive development levels with cognitive demands of their Curriculum?

Table 4: Mean and Standard Deviation of Students' Cognitive Development Levels and Cognitive Demands of their Curriculum

Level of cognition	N	Mean	Std. Deviation
Cognitive Reasoning Level of Students	310	3.426	.820
Cognitive Demand Level of Curriculum	202	4.881	1.920
Valid N (listwise)	202		

Table 5: Matching Cognitive Reasoning Level of Students and Demand Levels of Home Economics Curriculum

Demand Levels	Reasoning Level of Students		Demand Level of Curriculum		Remarks
	Frequency	Percentage	Frequency	Percentage	
2A Early Concrete	244	78.7	78	38.6	No match
2B Late Concrete	66	21.3	79	39.1	No match
3A Early Formal	-	-	24	11.9	No match
3B Late Formal	-	-	21	10.4	No match
Total	310	100	202	100.0	

Match or no match is determined by how close or far the percentages are. There is a match if difference between the two is less than 10%. This criterion was set by the researcher with the agreement of the two supervisors.

Table 4 shows the mean and standard deviation of students' cognitive thinking levels and cognitive demands of their curriculum. The table reveals that the mean cognitive reasoning level of students is 3.426 (maximum being 12) with the standard deviation of 0.820. While the mean

cognitive demand level of curriculum is 4.881 with a corresponding standard deviation of 1.920. The high mean and high standard deviation for cognitive demand level of curriculum compared with the cognitive development level shows a mismatch between students' cognitive development levels and cognitive demands of their Curriculum. To further investigate the mismatch Table 5 shows the matching of cognitive reasoning level of students and demand levels of home economics curriculum. The table reveals that the demand level of 2B late concrete's reasoning level of students had a frequency of 66 and percentage of 21.3% which does not match with the demand level of the curriculum with frequency of 79 and percentage of 39.1% with a difference of 17.8%. The table also shows a mismatch between 2A early concrete, 3A early formal, 3B late formal reasoning levels of students and their corresponding demand level of their curriculum. This therefore implies that there is a mismatch between students' cognitive development levels and cognitive demands of their Curriculum.

Research Question 5

What is the level of match or mismatch between students cognitive development level with the cognitive demands of their Examination Questions?

Table 6: Mean and Standard Deviation of Students' Cognitive Development Levels and Cognitive Demands of their Examination Questions

Cognitive Demand Level	N	Mean	Std. deviation

Cognitive Reasoning Level of Students	310	3.46	.820
Cognitive Demand Level of JSC Exam	24	3.833	
Valid N (listwise)	24		

Table 7: Mean and Standard Deviation of Students' Cognitive Development Levels and Cognitive Demands of their Examination Questions

Demand Levels	**Reasoning Level of Students**		**Demand Level of Curriculum**		**Remarks**
	Frequency	**Percentage**	**Frequency**	**Percentage**	
2A Early Concrete	244	78.7	17	70.8	Match
2B Late Concrete	66	21.3	4	16.7	Match
3A Early Formal	-	-	3	12.5	No match
3B Late Formal	-	-	-	-	-
Total	310	100	24	100.0	--

Match or no match is determined by how close or far the percentages are. There is a match if difference between the two is less than 10%. This criterion was set by the researcher and consented by the two supervisors.

Table 6 shows the mean and standard deviation of students' cognitive thinking levels and cognitive demands of their examination questions. The table reveals that the mean cognitive reasoning level of students is 3.426 with the standard deviation of 0.820. While the mean cognitive demand level of curriculum is 3.833 with a corresponding standard deviation of 1.435. The moderate mean and high standard deviation for cognitive demand level of JSC examination shows a mismatch between students' cognitive thinking levels with the cognitive demands of their

examination questions. To further investigate the mismatch, Table 7 shows the matching of cognitive thinking level of students and cognitive demands of their examination questions. The table reveals that the demand level of 2A early concrete, 2B late concrete's reasoning levels of students had frequencies of 244 and 66 with percentage of 78.7% and 21.3% matches with the demand level of JSC examination questions (70.8 and 16.7) respectively. The 3A early formal and 3B late formal reasoning levels of students show a mismatch with the demand level of JSC examination questions as there were no students with the demand levels. This therefore implies that there is a mismatch between students' cognitive thinking levels with cognitive demands of examination questions.

Research Question 6

What is the relationship between student performance in HEAT and their measure of cognitive reasoning?

Hypothesis 1

There is no significance relationship between students' performance in HEAT and their measure of cognitive reasoning.

Table 8: Relationship between Students' Performance in HEAT and their Measure of Cognitive Reasoning.

Pearson Correlation	**Cognitive Reasoning Task (CRT) Score**
HEAT Pearson Correlation (r)	.36
Sig. (2-tailed	.528
N	310

In response to research question 6, data analysis on Table 8 reveals that students' performance in HEAT has a moderate positive correlation

with their measure of cognitive reasoning task. The table shows that r = 0.36 with a coefficient of determination (R^2) of 0.130. This means that only 13.0% of the variation in the students' performance in HEAT can be accounted for by their measure of cognitive reasoning task.

In testing hypothesis 1, Table 8 shows that students' performance in HEAT (r = .36) has an associated probability value of .53. Since the probability value of .53 is greater than the 0.05 level of significance, the null hypothesis cannot be rejected. Hence, there is no significance relationship between students' performance in HEAT and their measure of cognitive reasoning.

Research Question 7

What is the difference between the mean performance of students who are concrete operators and those who are formal operators?

Table 9: Mean and Standard Deviation of Performance of Students who are Concrete and Formal Operators.

Reasoning Category	Mean	N	Std. Deviation
Concrete Reasoning	30.499	244	11.867
Formal Reasoning	70.707	66	9.612
Total	39.059	310	20.049

Table 9 shows that 244 students are of concrete reasoning category while 66 students are of formal reasoning category. The table indicates that the mean scores of concrete reasoning students was 30.499 with the standard deviation of 11.867. Also the table shows the mean score of formal

reasoning of 70.707 with a corresponding standard deviation of 9.612. The result indicated the mean difference of 40.208 in favour of students who are formal operators. This therefore implies that the formal operators performed better in HEAT than their counterparts who are concrete operators as evident in high mean and low standard deviation for formal reasoning categories.

Hypothesis 2

There is no significant difference between the mean performance of students who are concrete operators and those who are formal operators.

Table 10: t-Test Summary of Concrete and Formal Operating Students' Performance in HEAT

Reasoning category	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Concrete Reasoning	244	30.499	11.867	25.40	308	.0005
Formal Reasoning	66	70.707	9.612			

Table 10 revealed that $t = 25.40$ at $df = 308$; $p = 0.000 < 0.05$. This means that there is significant difference between the mean performance of students in HEAT who are concrete operators and those who are formal operators. The null hypothesis was therefore rejected. Thus it can be concluded that students who are formal operators performed higher in HEAT than their counterparts who are concrete operators.

4.3 Discussion of Findings

The main focus of this study was to assess the cognitive demands of Upper Basic Home Economics Curriculum and Students' Cognitive development levels in relation to the examination questions of the subject in secondary schools across the twenty-three local government areas of Benue State. Specifically, it sought to assess the pattern of cognitive development among Upper Basic Students in Benue State, estimate the conceptual demands of the Home Economics Curriculum and JSCE Home Economics questions, compare the match or mismatch between student cognitive development levels with cognitive demand of their examination questions, find out the relationship between student performance in Heat and their measure of cognitive reasoning as well as determine difference between the mean performance in HEAT of students who are concrete operators and those who are formal operators.

The Study found that the pattern of cognitive development among upper basic education students in Benue state is that the concrete reasoning. This is more predominant than formal reasoning level of development among Upper Basic education students in Benue state (79% to 21% respectively). This therefore implies that the concepts of conservation, differentiation, classification and ordering are predominant among Upper Basic Students than the ability to generalize and abstract from their experiences. Although majority of participants are of 14 years of age which by Piaget categorization should be at early formal reasoning level. These results agree with the findings of Igbaria (2013) that the analysis level appeared at a percentage of 23.36%, which is nearly equivalent to the

knowledge level as an indication of lagging behind in cognitive development of students. Also the findings are in alignment with earlier research findings of Cephni, et al (2004) who noted that a large proportion of secondary school students operate below the formal operational level of thought.

Cognitive development refers to the development of the thinking systems of the mind that involve language, mental imagery, thinking, reasoning, problem-solving and mental development. It has to do with students' operational stages and thinking abilities. This means that cognitive development is concerned with the growth of knowledge and thinking abilities within a child as a result of his interaction with the environment and occurs in stages. These stages have characteristic features that make them distinctly different from one another. For instance, concrete operational student can think in concrete terms, serialize or group ideas according to specific attributes such as size, weight and volume, which are the predominant characteristics of upper basic education students in Benue State, but cannot engage in abstraction. But the formal operational stage of cognitive development is characterized by abstract and reflective thinking; deductive reasoning and systematic planning, among others.

Finding from this study indicates that the Upper Basic Education Home Economics Curriculum conceptually demands that students develops operation for the manipulation of objects rather that for the manipulation of hypothesis as a total of 77.7 % of the curriculum are at the concrete level while 22.3 % are the formal level. It was also found that the ratio of concrete

reasoning to formal reasoning of the JSCE questions was 88:13. The high proportion for concrete reasoning level therefore implies that the JSCE Home Economics questions are conceptually loaded with questions that demands learner to develop logical thinking using concrete objects. Therefore, it can thus be concluded that the high frequencies and percentages for concrete reasoning levels implies that the Upper Basic Education Home Economics Curriculum and Examination Questions conceptually demands that, the students develops operation for the manipulation of objects rather than for the manipulation of hypothesis. The findings are in agreement with earlier studies by Assaly and Smadi (2015) and Ozoji and Mankilik (2015) who found that 40% to 64.00% of the concepts and textbook's questions emphasized higher-order thinking skills in the basic science curriculum which were not understood by the students**.** The findings contradict earlier research by Jones and Taar (2015) which reported that more than 85% of tasks for six series required low levels of cognitive demand, whereas the majority of tasks in the alternative series from the Standards era (the upper basic education) required high levels of cognitive demand. The overloading of both the demand levels of the curriculum and exam questions with concrete reasoning is an indicator of match as learners should be able to attempt questions raised from the curriculum.

Home Economics is one of the vocational subjects in the Nigerian secondary school curriculum with an interdisciplinary nature, it is expected that it should have within its content the indigent skill acquisition and

development for use and management of the individual, the family and the society. It follows that home economics is very interested in the important issues affecting everyday living of households and families. This also means that an individual fits into the world of work to provide income for the provision of the basic needs. Education at basic education level should be an enabling factor that will make the Home Economics curriculum fit into the world and make a living. Hence, the curriculum was designed to cultivate in the students rudimentary skills of vocational type that could be perfected in the apprenticeship system or in any vocational institution. This required that the Home Economics curriculum content and the examination questions at the junior secondary school should be appropriate and adequate for individuals at concrete and formal cognitive development levels.

With regards to students' cognitive development levels and cognitive demands of their curriculum, it is found that there is mismatch between the students' cognitive reasoning level and cognitive demands of their Curriculum. Also, there is a mismatch with the demand level of JSC examination questions and the reasoning level of students. These findings are consistent with earlier reports by Ferreira and Morais (2015) that the curriculum demands of home economics curriculum and thinking levels of the students are related to the type of questions that are given to the learners. The issue of cognitive demand of both the curriculum and the examination questions is very important in learning at any level. This is why emphasis has been laid on sequence of learning materials and experience in a well organized environment so as to create order, meaningfulness and

understanding. The learner-environment interaction with Home Economics curriculum at the upper basic level needs to be checked for meaningful cognitive demand in order to detect level of match or mismatch following the spread, the nature and the objectives of the existing curriculum and questions being raised therefrom. For Home Economics curriculum contents to achieve adequacy in cognitive level, its contents and level of examination questions must always be adjusted to changes which are up to date with students' cognitive development as well as happenings and changes in the environment. It is advocated that the curriculum content be rewritten with the realization of the changes that are likely to take place in the foreseeable future. Its contents and examination questions be spread according to the learner's ability with careful planning to provide such experience, which contributes to personal growth, innovative leadership, self-confidence and cooperation of the students into the profession.

In order to improve the quality of examination questions and ensure that they make the intended demands on students, there is need to understand the psychological processes involved in answering questions. The process of understanding the question and answering it can be complex, but also the actual cognitive development necessary to answer the question can be just as complex and this is where abstraction comes in.

Another finding in this study is that a low positive relationship existed between students' performance in HEAT and measure of cognitive reasoning task but there was no statistically significant relationship between students' performance in HEAT and their measure of cognitive reasoning.

This result is at variance with that of Ozoji and Mankilik (2015) which noted that a significant relationship exists between the conceptual demands of the integrated science curriculum and students' cognitive development. The difference in the findings of these two studies could be that in the earlier study they compared demand levels with cognitive development level of students whereas the present study compared their cognitive development measure with their academic performance. The contribution of the study to education is for relevant stake holders to devise ways of enhancing students' cognitive reasoning to enable them understand the concepts in the home economics curriculum.

In theory, the tasks found in any curriculum should lead to more rigorous forms of thinking and learning. A key finding, however, was that these tasks often change the character once unleashed in real classrooms settings. In particular, teachers often lower the cognitive demands of tasks by breaking them into smaller sub-tasks or focusing on the accuracy of procedures and answers rather than students' thinking and reasoning processes. It is evident from the findings of this study that the level of cognitive demand of the enacted instructional tasks (not the written tasks that deals with psychomotor) is associated with student gains on measures that target high-level thinking and reasoning.

However, incompetency is what seems to be prevalent among some teachers in the upper basic education in the conduct of an all encompassing continuous assessment in home economics which serve as build up to the JSC examination. This is seen in the disparity between the stated objectives

of the curriculum and the objectives that are being assessed periodically. The shift of emphasis to the cognitive domain at the expense of the other domains call for the needed competency required for assessing affective and psychomotor domains which have been found to be a difficult task for many teachers and often reflect higher thinking or demand level.

It is also found that the students that are formal operators performed better in HEAT than their counterparts who are concrete operators as evident in high mean and low standard deviation for formal reasoning categories. It also found that there is significant difference statistically ($t = 25.40$ at $df = 308$; $p = 0.000 < 0.05$) between the mean performance of formal operators and concrete operators in HEAT. This is not a surprise finding as students who can reason abstractively are more likely to answer questions of both concrete and formal demand levels than concrete students and therefore perform better. The finding does not align with earlier research findings of Cephni, et al., (2004) who noted that a large proportion of secondary school students operate below the formal operational level of thought. At least some few students are formal operators and also do well academically.

A student at the concrete operational stage is at activity stage in relation to the environment because, the child develops operation for the manipulation of objects rather that for the manipulation of hypothesis. The student has the ability to conserve that is to realize that quality or amount remains invariant when nothing is added or taken away from the object or collection of objects despite change in form or spatial arrangement. The

learner also develops logical thinking using concrete objects and can think in concrete terms, serialize or group ideas according to specific attributes such as size, weight and volume, but cannot engage in abstraction. Concepts of conservation, differentiation, classification and ordering are also characteristics of this stage. On the other hand, the formal operating student is characterized by abstract and reflective thinking, deductive reasoning and systematic planning, ability to generalize and abstract from his experiences of various sorts, among others. Some of the features of formal operational thinking otherwise known as higher order thinking skills are considered as vital for the understanding of home economics concepts, many of which are abstract in nature. The subject matter with which the child now deals with may be completely hypothetical and he can apply a formal set of rules of logic. S/he is able to formulate hypothesis from observation of events and manifests proportional logic in his cognitive activity.

CHAPTER FWE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, Conclusion, Recommendations, limitations, Suggestions for further studies and contributions to knowledge.

5.2 Summary

This study aimed at finding out if there is a match or mismatch between the student's cognitive development level and the home Economics curriculum as well as examination questions. Seven research questions guided the study while two hypotheses were formulated and tested at 0.05 level of significance. Two theories were reviewed; Piaget's cognitive development theory and CIPP evaluation model. Related conceptual and empirical literatures were reviewed. (The study used a descriptive survey design. The population of the study comprised all the teachers teaching Home economics in coeducational schools in Education zones A, B and C of Benue State, out of which 206 of the school were sampled based on predetermined criteria. Three hundred and ten 510 students from 31 selected schools in three Senatorial Districts of Benue State formed the sample size.

Curriculum analysis Taxonomy (CAT). Home Economics Achievement test and cognitive reasoning Task II were used to collect data for the study. Descriptive data were analysed using means and standard deviation while the Independent t-test was used to test the hypothesis at 0.05 level of significance. The following findings emanated:

1. Upper Basic Home Economics Curriculum conceptually demands that, the students develop operation for the manipulation of objects rather than for the manipulation of hypothesis.
2. The ratio of concrete reasoning to formal reasoning of JSS questions was 87.5:125, which mean that the JSCE Home Economics question are conceptually loaded with questions that demand the learner to develop thinking using concrete objects.
3. There is mismatch between the student cognitive reasoning level and cognitive demands of their curriculum.
4. There is tendency for mismatch between demand level of JSC examination questions and cognitive reasoning.
5. Although there is tendency for relationship between student performance in heat and measure of cognitive reasoning but there is no correlation.
6. Students' who are formal operators performed better in HEAT than their counter parts who are concrete operators.

5.3 Conclusion

This study has confirmed that students develop operation for the manipulations of objects rather than hypothesis, JSCE Home Economics questions are loaded with questions that require the learner to develop thinking using concrete objects.

It is evident from the study that both the cognitive demand level of Horn a Economics curriculum and JSC examination questions does not match the students cognitive reasoning level.

Relationship between student's performance in HEAT and that of cognitive reasoning is low with students that are formal operators performing better than the concrete operators.

5.4 Recommendations

Based on the findings of the study, the following recommendations were made.

1. The concrete reasoning level of cognitive development of the students is more noticeable than the formal reasoning level of development amongst students in Benue State. Based on this finding, there is need to improve upon the students formal reasoning level by using relevant concrete objects in teaching students.
2. The examination bodies such as state and federal ministry of education should try as much as possible to match both concrete and formal reasoning level of students. There should be a balance between them when setting question for junior secondary school certificate examination in Home Economics.
3. Relevant stake holders should create a link between both cognitive demands of Home Economics curriculum and JSC examination questions with students' cognitive reasoning level. Both examination questions and the curriculum should be arranged according to students' cognitive reasoning levels.
4. Since most students are at concrete levels, a study should be put in place to accelerate the thinking levels of Home Economics Students.

5.5 Limitations

The following are some of the limitation of the study.

The major limitation in this study was the inability of the researcher to take large sample size due to the limited schools offering Home Economics at the Upper Basic level of Education. This challenge has made extensive generalization impossible, the unwillingness of some respondents to give accurate information to what was giving to them while others neglected the questions they needed to answer and some even dumped questionnaire.

5.6 Suggestions for Further Studies

The following suggestions were made for further studies.

1. This study covered only three hundred and ten students and two hundred and is teachers from school offering Home Economics in Benue State. Another research could be conducted in other parts of the country for a wider generalization.
2. The same study can be carried out at primary, senior secondary and even tertiary level of education in Nigeria.

5.7 Contributions to Knowledge

The present study which was on evaluation of upper basic Home Economics Curriculum and students' cognitive thinking levels in relation to the examination of the subject has contributed to the existing knowledge in some ways.

The study formed an empirical basis for further studies in the area of Home Economics curriculum. It has become clear that students' cognitive

reasoning do not match the demands of the existing Home Economics curriculum as well as the examination questions of the subject.

The study has also found that home economics JSCE questions are loaded with questions that need more of concrete reasoning than formal reasoning. This could help the Home Economics teachers to see the need to embrace various ways to develop the learners thinking levels using concrete apparatus. There is low positive relationship between student performance in HEAT and measure of cognitive reasoning which was not statistically significant.

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Department of Curriculum and Teaching
Benue State University
Makurdi
10th May, 2016

Dear Respondent,

I am a PhD student of the above address, I am currently conducting a research in curriculum on the topics "Cognitive development of Upper Basic Home Economics students in relation to their Curriculum and Examination Questions''.

Kindly assist by completing these questionnaires as factually as possible. The exercise is purely academic with my assurances that all information supplied will be treated with utmost confidentiality.

Thank you for your cooperation.

Musa Hadiza Alami

APPENDIX A

ANALYSIS OF THE UPPER BASIC HOME ECONOMICS CURRICULUM FOR COGNITIVE DEMANDS: A CHECK FOR RELIABILITY

Preamble

Part of the main purpose of this study is to analyse current upper basic Home Economics curriculum which has been in use for many years now for its cognitive demands. This was to reveal the level of thinking required to achieve the performance objectives stipulated for the respective topics in the curriculum.

For realisation of the goal, Curriculum Analysis Taxonomy (CAT) was used. Details of CAT are provided in a hypothetical CAT for Home Economics enclosed as guides for use. The CAT enabled estimation of the level of cognitive adequacy made by the respective performance objectives in the curriculum. The analysis done has to be subjected to experts' judgments for the reliability of the estimates made to enable the researcher draw valid conclusions from it.

Your kind assistance is therefore required in this regards.

Instructions for Experts

Three levels of work (that is JSS1-3) in the current Home Economics curriculum are selected for present study and analysed. You are therefore to determine the extent to which the performance objectives matches the demand level ascribed to it. In doing so, you will use a five point scale on a

continuum of: 5-highly adequate, 4-very adequate, 3- adequate, 2-moderately adequate, 1-not adequate.

Before you take decision on each rated performance objectives, please study carefully and simultaneously the topics, the performance objective and the corresponding teachers' activity as outlined in the copy of the JSS Home Economics curriculum enclosed. You are required to also take a quick search through the two guides to identify the behavioural description that best matches the objectives before making your judgement regarding the appropriateness of the estimated demand level of the curriculum objective.

You can now go through the 174 performance objectives contained in JSS1-3 Home Economics work for rating by ticking in the scale column the extent to which you think each objective matches the corresponding demand level given to it. The serial number of the topics, performance objectives and the activities in the curriculum were strictly followed in the CAT.

CURRICULUM ANALYSIS TAXONOMY FOR UPPER BASIC HOME ECONOMICS

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
1	1: Home Economics and the society	**JSS1: Work** Introduction to Home Economics	1. Explain the meaning of Home Economics. 2. Enumerate the different areas of Home Economics 3. Explain the relationship of Home Economics to other subject	1) Explain the meaning of Home Economics . 2) Guides class discussion on areas of Home Economics . 3) Discuss the relationship of Home Economics	2A 2A 2A					
2	”	Home Economics and National Development	1. Enumerate career opportunities in Home Economics. 2. State requirement for career in Home Economics 3. State the importance of Home Economics to the individual, the family and the nation.	1. Guide the ydiscussion in Home Economics. 2. Arranges for a career talk in Home Economics. 3. Explain the importance of Home Economic	2A 2A 2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				s to the individual , family and the nation.						
3	2: Good Grooming	The Human Body	1. Identify the part of the human body that requires grooming 2. Draw and label each of the human body. 3. Enumerate the functions of each of the human body. 4. Describe ways of caring for the different parts of the human body.	2. State the functions of the various part of the human body --- 2. State the functions of the various parts of the human body. ---	2B 3A 2B 2A					
4	”	Posture	1. Explain the term posture. 2. Describe the characteristics and the importance of good posture. 3. Distinguish between good and bad posture. 4. State the guidelines for the maintenance of good posture.	1i. Explain the meaning of posture. 1ii.Explain characteristics of good posture 1ii. importance of good posture. --- 1iv. Explain guidelines for good posture.	2A 2A 3A 2A					
5	”	Exercises	1. Explain the meaning and	1. Explain meani	2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			importance of exercises 2. Identify and describe different types of exercises 3. Enumerate guidelines for exercising the body 4. Explain the consequences of use of drugs in exercise and sports	1. Explain meaning of exercise, types and importance of exercises 3. Guidelines f or exercise 2. Guides the discussion on the consequences of use of drugs in exercise and sports.	2B 2A 2A					
6	”	Fatigue, rest and sleep	1. Explain the meaning, causes, and effects of fatigue. 2. Explain ways of preventing fatigue. 3. Explain the meanings and importance of rest and sleep. 4. State the guidelines for rest and sleep.	1. Guides students on discussions of the meaning, causes, effects and prevention of fatigue. 1. Guides students on discussions of the meaning, causes, effects and prevention of fatigue ---	2A 2B 2A 3A					
7	”	Personal Clothing	Students should be able to : 1. State reasons for wearing clothes 2. Give guidelines for choosing	1. Guides the clothing and reasons for wearing clothes	2A 2A 2B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			and wearing decent clothing 3. Describe ways of caring clothing articles 4. Carry out simple daily care of personal clothing	……. 3. Practise the care of clothing articles 4. Demonstrates the daily care of clothing articles	3A					
8	”	Use of cosmetics and deodorants	Students should be able: 1. State the meanings of cosmetics and deodorant 2. State the points to consider in the choice and use of cosmetics and deodorant 3. Use cosmetics and deodorant properly 4. Identify indigenous cosmetics	1. Guide the students on discussion of meaning, importance and use of cosmetics and deodorants 1.Guide the students on discussion of meaning, importance and use of cosmetics and deodorants 3.Demonstrates the proper use of cosmetics	2B 2B 2B 3A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				and deodorants 2. Displays different clothing items brought by the teacher						
9	”	Healthy feeding habits	1. Explain the meaning and functions of food 2. State good feeding habits 3. Describe good table manners	1. Explains the meaning and functions of food 2. Guides the discussion on good feeding habits and table manners 3. Demonstrates good table manners.	2A 2B 2B					
10	3: Family Living	The family	1. Explain the meaning of family. 2. List the functions of the family and the roles of family members 3. Describe family relationship and draw personal family tree 4. Enumerate family values	1. Guides discussion on the meaning, functions of the family 1. Guides discussion on the meaning, functions of the family 2. Draws family tree on the chalk-board	2A 2B 3A 2B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				3. Discusses family values						
11	”	The Home	1. Explain the meaning of a home 2. Describe the characteristic of a home 3. Differentiate between a home and house 4. Explain the meaning of domestic violence	1. Guides a discussion on: a. Meaning and characteristics of a home a. Meaning and characteristics of a home b. Differences between a home and a house c. Domestic violence	2A 2B 3B 2B					
12	”	Housing the family	1. Enumerate the different types of houses 2. Explain the factors that influence location and choice of a family house	1. Guides discussion on types of houses and factors that influence the location and choice of family houses 1. Guides discussion on types of houses and factors that influence the location and choice of family	2A 2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				houses						
13	4: Managing the Home	Family needs and resources	Students should be able to: 1. Explain meaning of family needs	1. Guides discussion on family needs and resources	2A 2A 2B					
			2. Enumerates family needs e.g. food, clothing, shelter 3. Explain the meaning of family resources 4. Enumerate family resources, e.g. money, time, energy	1. Guides discussion on family needs and resources 1. Guides discussion on family needs and resources 1. Guides discussion on family needs and resources	2B					
14	”	Decision making	Students should be able to: 1. Explain the meaning of decision making 2. Enumerate the steps in decision making 3. State a simple personal decision	1. Explain the meaning and steps in decision making 1. Explain the meaning and steps in decision	2A 2A 2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				making 2. Guides discussion in simple personal decisions						
15	”	Care of the family house	Students should be able to:	1. Guide discussion :	2B					
			1. Explain reasons for the care of the family house 2. Identify equipment tools and materials for the care of the family house 3. Perform different types of care daily, weekly, and seasonal 4. Identify and use proper waste disposal sites and methods	i. Reasons for care of the house …… ii. Different types of care (daily, weekly and seasonal) iii. Waste disposal sites and methods	2A 3A 3A					
16	”	Entertainment in the Home	Students should be able to: 1. Explain the terms entertainment and table laying 2. Explain the importance of	1. Guide discussion : i. The meaning and importan	2A 2A 2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			entertainment in the home 3. Enumerate the characteristics of a good host/hostess	ce of entertainment i. The meaning and importance of entertainment ii. Characteristics of a good host/hostess						
17	5: Introduction to Clothing	Simple sewing tools and equipment	Students should be able to: 1. List the different groups of sewing tools and equipment 2. Identify specific sewing tools 3. Describe the use of each sewing tools and equipment 4. State the guidelines for choosing sewing tools and equipment	1. Explains the different classes of sewing tools and equipment 2. Identifies each tool and equipment 3. Explain the use of each tool and equipment. 4. Demonstrate the use of each tool and equipment 5. Discusses with the students the	2A 2A 3A 3A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				guidelines for choosing each tool and equipment						
18	”	Sewing processes (simple stitches and seams)	1. Classify the stitches into temporary and permanent and explain their uses 2. Make specimens of temporary, permanent and decorative stitches 3. Name common seams and illustrate how to make them 4. State the uses of each seam and guidelines for choice	1. Explains to the learner the classes of stitches and seams …….. 2. Demonstrates the process of making stitches and seams ……..	3B 3B 3B 2B					
19	6: Home Economics Projects	Cosmetics Production (Pomade/Cream)	1. List materials and tools for pomade/cream 2. Describe the procedure for making pomade/cream 3. Make pomade and cream produced	1. Guides the students to discuss types of cosmetics, materials and tools 2. Demonstrates process of making cream/pomade	3A 3A 3B 2A					
20	”	Household crafts	1. Tools and materials for making craft items 2. Making craft items e.g. needlework	1. Participate in the discussion 2. Demonstrates how to make any	2B 3B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			bag, apron, cap, scarves, paper craft	of the chosen items						
21	1: Good Grooming	**JSS Two** Signs of Puberty	1. Explain the meaning of puberty and menstruation 2. Enumerate the changes that occur in males and females during puberty: describe the term menstrual cycle 3. Mention ways of maintaining good menstrual hygiene	1i. changes in males and females 1i. changes in males and females 1ii. Meaning of puberty, menstruation	2B 2B 2B					
22	”	Hygiene and puberty	1. Enumerate the causes of body odour 2. Explain ways of preventing body odour 3. Explain the importance of personal hygiene	1i. The causes of body odour 1ii. Ways of preventing body odour 1iii. The importance of hygiene	2B 2A 2B					
23	”	Adolescence	1. Explain the term adolescence 2. State the characteristics of adolescence 3. Enumerate the challenges of adolescence	1. Explains the meaning, characteristics and challenges of adolescence 1.Explains the meaning, characteristics and challenges of adolescence 1.Explains the	2A 2A 2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				meaning, characteristics and challenges of adolescence						
24	”	Sexuality	1.Define the tem sexuality 2. Enumerate ways of expressing sexuality 3. Enumerate ad classify sources of information	1. Explain the meaning of sexuality and ways of expressing it 1. Explain the meaning of sexuality and ways of expressing it 2. Leads discussion o sources of information and adequate use of information	2A 3A 3B					
25	”	Sexually transmitted diseases (STDs) and HIV/AIDS	1. Enumerate the different types of STDs. HIV/AIDS 2. Mention ways of preventing sexually transmitted 3. Explain guidelines for caring for an infected person 4. State the consequences of self medications	1. Leads discussion on different types of sexually transmitted diseases 2i. Explains ways of prevention 2ii. Management , care and support of infected persons 2iii. Consequences of self medication	3B 3A 2B 2A					
26	2: Family	The impact	1. Explain the	I. Meaning	2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
	Living	of family values on lifestyles	meaning of values and life styles 2. Enumerate different types of values and life styles 3. Explain the importance of value system to the individual family and society 4. State factors that influence value systems and life styles	II. Types III. Importance IV. Influencing factors	2A 2A 2B					
27	”	Human Rights and Violation	1. Enumerate the fundamental rights of every Nigerian person 2. Enumerate the rights of the child: enumerate rights of women 3. State the different ways the rights of a person can be violated	1i. Fundamental rights of a person 1ii. Rights of the child 1iii. Rights of women 1iv. Ways human rights could be violated	2B 2B 2B 2B					
28	”	Family conflicts	Students should be able to: 1. Explain the meaning of family conflicts 2. Identify the causes of conflicts in the family 3. Enumerate	i. Meaning ii. Causes and iii. Ways of resolving	2B 3A 3B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			ways of resolving conflicts in the family	conflicts in the family						
29	”	Family crisis	Students should be able to: 1. Explain the meaning of family crisis 2. Differentiate types of family crisis 3. Explain ways a family can manage various crisis	1i. Meaning 1ii. Types 1iii. Ways of coping with family crisis	2B 2B 2B					
30	3: Food & Nutrition	Food Nutrients	Students should be able to: 1. Define the term food nutrient 2. State types, sources of food nutrients 3. State nutrient deficiency disease	1. Guides discussions on food nutrients, meaning, types, sources and deficiency diseases 1. Guides discussions on food nutrients, meaning, types, sources and deficiency diseases 1. Guides discussions on food nutrients, meaning, types,	2B 2B 2B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				sources and deficiency diseases						
31	”	Food hygiene and preparation	Students should be able to: 1. Define food hygiene 2. Prepare and serve simple drinks snacks, meals	1. Explains meaning, importance and guidelines for food hygiene 2. Demonstrates the preparation of simple drinks, snacks, meals	2B 3B					
32	4: Managing the Home	Meaning of family clothing	Students should be able to: 1. Enumerate methods of storing family clothing 2. Carry out simple clothing repairs	1. Leads discussion on methods of storage 2. Demonstrates steps in clothing repairs	2A 3B					
33	”	Household linen	Students should be able to: 1. List the types of household linen 2. State the factors that enhance selection of household linen 3. Explain the procedures for maintaining	1. Guides students to discuss: i. The different types of household linen ii. Factors that enhance selection of household	2A 2B 2B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			household linen	linen iii. Maintenance of household linen						
34	”	The family house	Students should be able to: 1. Identify the various functional areas of the home 2. State the uses of each of the various functional areas of the home	1. Guides students to discuss: i. Functional areas and their uses ii. Surfaces in the home	2A 2B					
35	”	Maintenance of the family house	Students should be able to: 1. List equipment and materials needed for household maintenance 2. States guidelines for house 3. Enumerate procedures for maintenance of the various functional areas of the home	1. Leads discussion on: 1i. Types of equipment and materials needed for care and maintenance 1ii. Guidelines for house care and maintenance 1iii. Procedures for care and maintenance	2A 2B 3A					
36	5: Basic clothing	Seams and seam	Students should be able to:							

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
	construction	finishes	1. Explain the meaning of seams and seam finishes 2. State the different methods of finishing seams 3. Illustrate different seam finishes 4. Make different seam and finishes	1. Guides the students on the discussion of meaning and methods of seam finishes 1. Guides the students on the discussion of meaning and methods of seam finishes 2. Demonstrates how to make different seam finishes 3. Supervises the specimen	2A 2B 3A 3B					
37	”	Edge finishes	Students should be able to: 1. Explain the meaning of edge finishes 2. Describe methods of edge finishes 3. Make edge finishes	1. Discussed the meaning and methods of finishing edges 2. Demonstrates how to finish edges using	2A 2A 3B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				hems, facings, binding and lace 3. Supervises students work						
38	”	Body measurement	Students should be able to: 1. Enumerate the parts of the body to be measured 2. Guidelines for taking body measurements 3. Describe the procedure for taking body measurement 4. Measure parts of the body	1. List and discusses the parts of the body to be measured 2. Guides the students into discussion on guidelines for taking body measurements and how to measure 3. Demonstrates body measurement 4. Supervises students practice.	3A 2B 2B 3A					
39	”	Basic pattern drafting	Students should be able to: 1. list tools and equipment for pattern drafting 2. enumerate the parts of the body to be measured	..... 1ii. Parts of the body to be measured 3. Supervises students	2A 3A 3B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			3. draft basic bodice and shirt patterns	practice						
40	1: Clothing the family	**JSS Three** Introduction to Textiles study	Students should be able to: 1. explain the basic textile terms e.g. fibre, yam, warp, welt, yarn, fabric 2. reasons for studying textiles 3. general uses of textiles/fabrics 4. weaving	1. Explains the textiles term 2. Discusses reasons for studying textiles and the general use of textile …….. 4. supervises students practice	2B 2A 2B 3B					
41	”	Classes and properties of fibres	Students should be able to: 1. Classify fibres into natural and man-made 2. List the natural and man-made fibres 3. Enumerate the properties of each fibre 4. Make textile album	1. Explains the classes of fibre 2. Guides the students o the discussion s of the natural, man-mad fibres and properties of the different fibres 3. Asks the students to make textile album	2B 2B 2B 3B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				4. Supervises students' album						
42	”	Manufacture, identification and uses of fabrics	Students should be able to: 1. Give steps in the manufacture of different fabrics 2. Identify different fabrics using tests like appearance, handle strength microscope and burning tests 3. Enumerate the uses of each fabric	1. Discusses the manufacturing processes and uses of fabrics 2. Conducts fabric identification tests like appearance, handle, strength, microscope and burning test 1. Discusses the manufacturing processes and uses of fabrics	2B 2A 2A					
43	”	Care of different fabrics	Students should be able to: 1. Explain the factors to consider in laundering fabrics 2. Enumerate the laundry agents and equipment 3. State the general steps in laundry	1. Guide the students on the discussion of: 1i. Factors to consider in laundering a fabric 1ii. The laundry agents	2A 2A 2B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				2. Demonstrates laundering processes						
44	”	Basic elements of design	Students should be able to: 1. List the primary, secondary and tertiary colours 2. Choose and harmonise colours: make colour wheel 3. List and draw different lines to form designs 4. Draw patterns to produce design	1. Participate in discussions 2. Ask and answer questions ..... 4. Combine colours to form colour harmony	2A 3A 3A 3B					
45	”	Figure types	Students should be able to: 1. State the meaning of figure 2. Describe different figure types 3. Identify different types of figure problems or faults 4. State ways of solving the problem of figure types using elements of designs	..... 1. Participate in discussions 1. Participate in discussions 2. Draw and arrange lines and patterns	2A 2B 2B 2B					
46	”	The sewing machine	Students should be able to: 1. List the types	1. Take part	2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			of sewing machine 2. Enumerate the parts of the sewing machine and state their functions 3. Explain the guidelines for choosing sewing machines 4. Explain how to care for the sewing machines	in the discussion 1. Take part in the discussio n 2. Examine the parts of the sewing machine 2. Examine the parts of the sewing machine	2B 2B 2B					
47	”	Garment construction processes (facing, iteming, opening and fastening)	Students should be able to: 1. Explain the meaning and use of facing and hemming 2. Make specimen of facing and hemming 3. Explain the meaning of openings and fastenings 4. Make facing, hemming, openings and fastenings 5. Make a baby’s dress facings, hemming and opening and a fastening	1. Guides students to discuss the meaning of facings, hems, openings and fastenings and their uses 2. Demonstra tes how to make facings, hems, openings and fastenings 1. Guides students to discuss the meaning of facings, hems, openings	2A 3A 2A 3B 3B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
				and fastenings and their uses 2. Demonstrates how to make facings, hems, openings and fastenings 3. Guides students in making a baby's dress						
48	2: Feeding the family	Scientific study of food nutrients	Students should be able to: 1. Define the term, food nutrients 2. Identify nutrients and their sources 3. Perform simple tests 4. Enumerate effects of most and dry neat on nutrients	1. Explains the terms, food nutrient 3. brings food items to class for students to identify	2A 2B 3B 2B					
49	”	Meal planning	Students should be able to: 1. Enumerate factors that influence mean planning 2. State guidelines for meal planning 3. List procedures for meal planning	1. Explains factors that influence meal planning 2. Guides discussions on guidelines for meal	2B 2B 3A 2B 3A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			4. Identify meals for different groups 5. Write a menu card	planning and write a menu card .... 2. Guides discussions on guidelines for meal planning and write a menu card						
50	”	Buying, preservation and storage of food	Students should be able to: 1. Identify factors to consider when buying foods 2. Enumerate wise buying practices 3. State the difference between preservation and storage 4. List different preservation and storage methods	1. Explains factors that influence food buying 2. Guides discussion on wise buying 3. Discusses preservation methods of perishable foods 4. Discusses food storage methods	2B 2B 2B 2B					
51	”	Kitchen equipment and utensils	Students should be able to: 1. State factors	1. Guides	2B 2A 2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			to consider in choosing food preparation equipment and utensils 2. Explain guidelines for use of kitchen equipment and utensils 3. Describe how to care for equipment and utensils	discussion on factors to consider in choosing food preparation, equipment and utensils 2. Guides discussion on the use and procedure for care of food preparation equipment and utensils 3. Demonstrates how to clean and manage kitchen equipment and utensils						
52	”	Food preparation methods	Students should be able to: 1. List the different cooking methods 2. Discuss the use of different cooking	1. Guides discussion on the different methods of cooking and procedure for each	2A 2B 2B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			methods 3. Describe the procedures for each cooking method 4. Prepare simple dishes using the different cooking methods	method ……. 1. Guides discussion on the different methods of cooking and procedure for each method 3. Supervises students' practical	3B					
53	3: Family living	Marriage	Students should be able to: 1. Enumerate the problems of unhealthy boy/girl relationship 2. Explain the terms marriage, boy/girl relationship 3. State the guidelines for ensuring a healthy boy/girl relationship 4. Explain the factors to consider before marriage and marriage procedures in Nigeria	1. Guides discussion on: 1i. Boy/girl relationship marriage 1i. Boy/girl relationship marriage …… 1iii. Factors to consider before marriage 1iv. Marriage systems and procedures in Nigeria	2B 2A 2A 2A 2A					
54	”	Pregnancy	Students should be							

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
		and child birth	able to: 1. Explain the terms pregnancy, ante-natal and post-natal care 2. Enumerate the signs of pregnancy 3. Describe the different preparations necessary for child birth	1. Guides discussions on pregnancy, ante-natal care, preparation for child birth and post natal care …….. 1. Guides discussions on pregnancy, ante-natal care, preparation for child birth and post natal care	2A 2A 2B					
55	”	Child development	Students should be able to: 1. Describe the different stages in child development 2. List factors that influence child development 3. Describe the conditions necessary for child development	1. Guides discussion on: 1i. Stages of child development 1ii. Factors necessary for child development 1iii.Conditions necessary for child development	2B 2B 2B					
56	”	Child care	Students should be able to: 1. Describe the	1. Guides	2B					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			different types of care required by a child 2. Describe the common childhood ailments 3. Enumerate the different types of immunisation required by a child	discussions on different types of care required by a child, common childhood ailments and immunisation 1. Guides discussions on different types of care required by a child, common childhood ailments and immunisation 1. Guides discussions on different types of care required by a child, common childhood ailments and immunisation	2A 2A 2 A					
57	”	Family budget	Students should be able to: 1. Explain the	1. Guides 1i.	2A					

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale				
						1 NA	2 MA	3 A	4 VA	5 HA
			meaning of budget 2. Explain the importance of family or personal budget 3. State the factors to consider in preparing family or personal budgets	Discussions on meanings of budget and related terms 1ii. Importance of family or personal budget 1iii. Factors to consider in preparing family or personal budget 1iv. Procedures for preparing family budgets	2B 2B 2B					

APPENDIX B

CURRICULUM ANALYSIS TAXONOMY

BASIC HOME ECONOMICS EXTERNAL QUESTIONS

S/N	QUESTIONS	ESTIMATED DEMANDS	RATING SCALE				
			A	A		A	A
	Which of the following is NOT an advantage of breast feeding? (a) contains nutrients needed by the baby (b) Does not need additional preparation (c)Free from germs (d) Not expensive						
	Which of the following is NOT part of baby's layette? (a) mosquito net (b)Napkin (c) plastic pant (d) safely pin (e) shawl						
	A child can be immunized against the following diseases EXCEPT (a) fever						

	(b) measles (c) polio (d) smallpox (e) tetanus						
	Which of these is NOT a condition that makes bottle feeding very necessary for an infant? When (a) mother cannot produce enough milk (b) mother is sick (c) mother is working full-time outside the home (d) mother want to maintain her body shape (e) there are multiple births e.g. twins.						
	At post-natal check-up, the following are examined EXCEPT (a) baby's heart beat (b) baby's weight (c) mother's blood pressure (d) mother's height (e) baby's weight						
	In a normal woman, pregnancy period lasts for about …… and ……. Weeks. (a) 17, 28						

	(b) 20, 25 (c) 25, 35 (d) 36,40 (e) 40, 45						
	Which of the following organs is NOT part of a female reproductive system? (a) fallopian tube (b) kidney (c) ovary (d) ovum (e) uterus						
	A baby's first sticky stool is called (a) colic (b) colostrums (c) diphtheria (d) layette (e) meconium						
	An infant should be given measles vaccine at ……. month. (a) 2 (b) 3 (c) 5 (d) 8 (e) 9						
	Oral Rehydration Therapy (O.R.T) is a first aid treatment for (a) colic (b) constipation						

	(c) convulsion (d) diarrhoea (e) vomiting						
	How many doses of BCG vaccine is recommended for an infant in the immunization schedule? (a) 1 (b) 2 (c) 3 (d) 4 (e) 5						
	Most babies start teething at about …….. month. (a) 2^{nd} (b) 3^{rd} (c) 5^{th} (d)10^{th} (e) 12^{th}						
	Two major factors that influence development in a child are (a) exercise and nutrition (b) exercise and rest (c) heredity and environment						

	(d) medication and environment (e) nutrition and medication.						
	Which of these treatments is given to cuts before going to hospital? (a) dressing (b) emergency (c) first aid (d) injection (e) tetanus						
	Marriage under the ordinate is also called …….. marriage. (a) Church (b)court (c) customary (d) Islamic (d) traditional						
	Which of these is NOT a guideline for exercising the body? (a) do not use drugs for exercise (b) exercise for about 20 minutes a day (c) exercise regularly (d) set aside time for exercise (e) take plenty food after exercise						

	Seasoning in wood means (a) applying paint or polish on a wood (b)cleaning a plain wood along the grains (c) making furniture out of wood (d) removing moisture from wood (e) removing stains on wood						
	A pregnant women should avoid …….. clothes (a) clean (b) comfortable (c) free (d) loose (e) tight						
	The following factors are considered when choosing a marriage partner EXCEPT (a) age (b) genotype (c) HIV test (d) wealth (e) love						
	Which of the following are materials resources? (a) attitude, money, energy and household						

	equipment (b) car, money, social facilities and household equipment (c) energy, money knowledge and car (d) energy, time, knowledge and ability (e) time, money creativity and blender						
	A household budget could be influenced by (a) business of the family (b) family income (c) finances (d) number of people in the household (e) tasks to be accomplished						
	Which of the following is NOT part of the structure of the skin? (a) hair (b)hair root (c) hair gland (d) sweet gland (e) sweet pore						
	Which of these activities is NOT done daily in the bedroom? (a) making the bed (b) putting away clothing						

	(c) removing cobwebs from ceiling (d) sweeping the floor (e) tidying the tops f dressing table						
	One of these is NOT an importance of family budget (a) family budgeting helps the family to make wise decisions about expenditure (b) helps the family to see how they spend their money (c) helps the family to spend money on what they really need (d) it makes the family to buy things not planned for (e) it prevents wasteful spending of family money						
	Special clothing is required for all the following EXCEPT (a) church (b) relaxation (c) school (d) sleeping (e) spo						
	Using the family resources to meet the family						

	needs or goals is referred to as (a) expenses management (b) goal management (c) home management (d) need management (e) resource use						
	The baby developing in the womb is called (a) cell (b) egg (c) foetus (d) ovary (e) ovum						
	The care required by a pregnant women before childbirth is ……. care (a) ante-natal (b) birth (c) child (d) normal (e) post-natal						
	A baby needs clothing for the following purposes EXCEPT to (a) enhance his appearance (b) keep him warm						

	(c) make him look taller (d) regulate his body temperature						
	A female who entertains people is known as (a) guest (b) host (c) hostess (d) waitress (e) worker						
	One of the following is NOT suitable for the skin. (a) bleaching cream (b)cleansing lotion (c) moisturizing cream (d) toilet soap (e) toning cream						
	Which of the following is NOT a sense organ? (a) ear (b) eye (c) hair (d) nose (e) tongue						
	Which of these are used for meeting family needs?						

	(a) cars (b) goals (c) resources (d) standards (e) tools						
	The type of family where a man is legally married to more than one wife is …….. (a) extended (b) monogamous (c) nuclear (d) polyandry (e) polygamous						
	Which of the following is NOT classified as a cleaning agent? (a) alkaline (b) bleaches (c) polishes (d) starch (e) water						
	Materials for waste disposal include the following EXCEPT (a) gutters (b) polythene bag						

	(c) refuse bags (d) refuse bins (e) waste basket						
	One of the following is not a drainage system (a) free drainage (b) incinerator (c) open drainage (d) septic tank (e) sewage pipe						
	Body odour can be prevented by all these EXCEPT (a) accumulation of dirt on the body (b) applying perfume on clean bodies and clothes (c) bathing regularly (d) changing underwear's every day (e) using good perfumes and deodorants sparingly						
	The primary needs of an individual are (a) food, shelter, recreation (b) food, clothing, education (c) food, clothing, shelter (d) food, clothing, vacation (e) food, shelter, car						

	One of these characteristics is NOT common to both adolescent boys and girls (a) become self-conscious (b) feel hungry easily (c) have emotional changes (d) protruding stomach (e) start being attracted to the opposite sex						
	One of the following is not necessary for bathing a baby (a) bath tub (b) coarse sponge (c) mild soap (d) soft sponge (e) soft towel						
	A plan that requires a long period of time to attain is called …… plan (a) expended (b) extended (c) long term (d) prolonged (e) stretch						
	The following are advantages of concrete floor EXCEPT it.						

	(a) can easily be washed (b) does not wear out easily (c) is cheap (d) is not always attractive (e) is suitable for every room in the house						
	Which of the following is NOT a sign of pregnancy? (a) enlarged abdomen (b) face becomes beautiful (c) frequent urination (d) menstruation stops (e) vomiting						
	Which of these is NOT a way of inviting guest to formal parties? (a) beating of drum (b) card (c) telephone (d) text message (e) verbal communication						
	The part of the ear that contains the pinna is (a) auditory nerves (b) ear drum (c) inner ear						

	(d) middle ear (e) outer ear						
	All of the following belong to the same group EXCEPT (a) dermis (b) iris (c) lens (d) pupil (e) retina						
	Dryness of the skin can be caused by (a) applying body creams after bath (b) eating fruits and vegetables (c) eating unbalanced meal always (d) sweat glands working properly (e) using mild soap while bathing						
	Stains on clothes should be removed (a) any time (b) as soon as they occur (c) day after they occurred (d) in the night (e) one day after occurrence						
	One of the following is not a right of the consumer						

	(a) right to be informed about the goods and services he is paying for (b) right to safely (c) the right to be heard (d) the right to choose what he wants (e) the right to seize whatever he wants						
	For good sitting posture, it is necessary to do one of the following (a) hold the shoulder front (b) keep the head and chest up (c) keep your legs wide apart (d) lean forward (e) sit with the hips forward						
	The white outer part of the tooth is called (a) dentine (b) enamel (c) epidemics (d) gum (e) neck						
	Which of the following groups of people needs more of energy food? (a)aged (b) babies (c) children						

	(d) manual worker (e) trader						
	U.N.IC.E.F usually helps to provide for the nutritional welfare of all of these EXCEPT (a) adult (b) infants (c) pre-school children (d) school children (e) toddlers						
	Which of the following is known as a sunshine vitamins (a) K (b) D (c) B (d) C (e) A						
	Removing vegetable stain involves sprinkling salt over the damp stain to stop it from (a) drying (b)removing (c)soaking (d) spreading (e) sticking						

	The process of making food cold and keeping them cold is called (a) cooling (b) maintenance (c) refrigeration (d) soaking (e) storing						
	A sink is usually placed near kitchen window to (a) gain good light and ventilation (b) make for easy reach of the window (c) make hand washing easy (d) makes plumbing and drainage easy (e) make the kitchen attractive						
	All these are floor finishes EXCEPT (a) concrete (b) marble (c) mud (d) rug (e) terrazzo						
	Flowers can be kept fresh by placing them in …… water. (a) clod						

	(b)iced (c) muddy (d) salt (e) warm.						

APPENDIX C

HOME ECONOMICS ACHIEMENT TEST (HEAT) AND MARKING SCHEMES

HOME ECONOMICS ACHIEVEMENT TEST (HEAT)

J.S.S. THREE (3) STUDENTS

NAME: ……

Sex: ……

INSTRUCTION: Answer all questions, circle the option A,B,C, D and E which you consider to be the best option.

Time: 1½ Hours

Which of the following is NOT an advantage of breast feeding? (a) contains nutrients needed by the baby (b) Does not need additional preparation (c)Free from germs (d) Not expensive

Which of the following is NOT part of baby's layette? (a) mosquito net (b)Napkin (c) plastic pant (d) safely pin (e) shawl

A child can be immunized against the following diseases EXCEPT (a) fever (b) measles (c) polio (d) smallpox (e) tetanus

Which of these is NOT a condition that makes bottle feeding very necessary for an infant? When (a) mother cannot produce enough milk (b) mother is sick (c) mother is working full-time outside the home (d) mother want to maintain her body shape (e) there are multiple births e.g. twins.

At post-natal check-up, the following are examined EXCEPT (a) baby's heart beat (b) baby's weight (c) mother's blood pressure (d) mother's height (e) baby's weight

In a normal woman, pregnancy period lasts for about …… and ……. Weeks. (a) 17, 28 (b) 20, 25 (c) 25, 35 (d) 36,40 (e) 40, 45

Which of the following organs is NOT part of a female reproductive system? (a) fallopian tube (b) kidney (c) ovary (d) ovum (e) uterus

A baby's first sticky stool is called (a) colic (b) colostrums (c) diphtheria (d) layette (e) meconium

An infant should be given measles vaccine at ……. month. (a) 2 (b) 3 (c) 5 (d) 8 (e) 9

Oral Rehydration Therapy (O.R.T) is a first aid treatment for (a) colic (b) constipation (c) convulsion (d) diarrhoea (e) vomiting

How many doses of BCG vaccine is recommended for an infant in the immunization schedule? (a) 1 (b) 2 (c) 3 (d) 4 (e) 5

Most babies start teething at about …….. month. (a) 2^{nd} (b) 3^{rd} (c) 5^{th} (d)10^{th} (e) 12^{th}

Two major factors that influence development in a child are (a) exercise and nutrition (b) exercise and rest (c) heredity and environment (d) medication and environment (e) nutrition and medication.

Which of these treatments is given to cuts before going to hospital? (a)dressing (b) emergency (c) first aid (d) injection (e) tetanus

Marriage under the ordinate is also called …….. marriage. (a) Church (b)court (c) customary (d) Islamic (d) traditional

Which of these is NOT a guideline for exercising the body? (a) do not use drugs for exercise (b) exercise for about 20 minutes a day (c)

exercise regularly (d) set aside time for exercise (e) take plenty food after exercise.

Seasoning in wood means (a) applying paint or polish on a wood (b)cleaning a plain wood along the grains (c) making furniture out of wood (d)removing moisture from wood (e) removing stains on wood

A pregnant women should avoid …….. clothes (a) clean (b) comfortable (c) free (d) loose (e) tight

The following factors are considered when choosing a marriage partner EXCEPT (a) age (b) genotype (c) HIV test (d) wealth (e) love

Which of the following are materials resources? (a) attitude, money, energy and household equipment (b) car, money, social facilities and household equipment (c) energy, money knowledge and car (d) energy, time, knowledge and ability (e) time, money creativity and blender.

A household budget could be influenced by (a) business of the family (b)family income (c) finances (d) number of people in the household (e)tasks to be accomplished.

Which of the following is NOT part of the structure of the skin? (a) hair (b)hair root (c) hair gland (d) sweet gland (e) sweet pore

Which of these activities is NOT done daily in the bedroom? (a) making the bed (b) putting away clothing (c) removing cobwebs from ceiling (d)sweeping the floor (e) tidying the tops f dressing table.

One of these is NOT an importance of family budget (a) family budgeting helps the family to make wise decisions about expenditure (b) helps the family to see how they spend their money (c) helps the family to

spend money on what they really need (d) it makes the family to buy things not planned for (e) it prevents wasteful spending of family money.

Special clothing is required for all the following EXCEPT (a) church (b) relaxation (c) school (d) sleeping (e) sport

Using the family resources to meet the family needs or goals is referred to as (a) expenses management (b) goal management (c) home management (d) need management (e) resource use

The baby developing in the womb is called (a) cell (b) egg (c) foetus (d) ovary (e) ovum

The care required by a pregnant women before childbirth is ……. care (a) ante-natal (b) birth (c) child (d) normal (e) post-natal

A baby needs clothing for the following purposes EXCEPT to (a) enhance his appearance (b) keep him warm (c) make him look taller (d) regulate his body temperature

A female who entertains people is known as (a) guest (b) host (c) hostess (d) waitress (e) worker

One of the following is NOT suitable for the skin. (a) bleaching cream (b)cleansing lotion (c) moisturizing cream (d) toilet soap (e) toning cream

Which of the following is NOT a sense organ? (a) ear (b) eye (c) hair (d)nose (e) tongue

Which of these are used for meeting family needs? (a) cars (b) goals (c)resources (d) standards (e) tools

The type of family where a man is legally married to more than one wife is …….. (a) extended (b) monogamous (c)nuclear (d) polyandry (e) polygamous

Which of the following is NOT classified as a cleaning agent? (a) alkaline (b) bleaches (c) polishes (d) starch (e) water

Materials for waste disposal include the following EXCEPT (a) gutters (b) polythene bag (c) refuse bags (d) refuse bins (e) waste basket

One of the following is not a drainage system (a) free drainage (b)incinerator (c) open drainage (d) septic tank (e) sewage pipe

Body odour can be prevented by all these EXCEPT (a) accumulation of dirt on the body (b) applying perfume on clean bodies and clothes (c) bathing regularly (d) changing underwear's every day (e) using good perfumes and deodorants sparingly

The primary needs of an individual are (a) food, shelter, recreation (b) food, clothing, education (c) food, clothing, shelter (d) food, clothing, vacation (e)food, shelter, car.

One of these characteristics is NOT common to both adolescent boys and girls (a) become self-conscious (b) feel hungry easily (c) have emotional changes (d) protruding stomach (e) start being attracted to the opposite sex

One of the following is not necessary for bathing a baby (a) bath tub (b)coarse sponge (c) mild soap (d) soft sponge (e) soft towel

A plan that requires a long period of time to attain is called ……. plan (a) expended (b) extended (c) long term (d) prolonged (e) stretch

The following are advantages of concrete floor EXCEPT it. (a) can easily be washed (b) does not wear out easily (c) is cheap (d) is not always attractive (e) is suitable for every room in the house

Which of the following is NOT a sign of pregnancy? (a) enlarged abdomen (b) face becomes beautiful (c) frequent urination (d) menstruation stops (e)vomiting

Which of these is NOT a way of inviting guest to formal parties? (a) beating of drum (b) card (c) telephone (d) text message (e) verbal communication

The part of the ear that contains the pinna is (a) auditory nerves (b) ear drum (c) inner ear (d) middle ear (e) outer ear

All of the following belong to the same group EXCEPT (a) dermis (b) iris (c) lens (d) pupil (e) retina

Dryness of the skin can be caused by (a) applying body creams after bath (b)eating fruits and vegetables (c) eating unbalanced meal always (d) sweat glands working properly (e) using mild soap while bathing.

Stains on clothes should be removed (a) any time (b) as soon as they occur (c) day after they occurred (d) in the night (e) one day after occurrence

One of the following is not a right of the consumer (a) right to be informed about the goods and services he is paying for (b) right to safely (c) the right to be heard (d) the right to choose what he wants (e) the right to seize whatever he wants

For good sitting posture, it is necessary to do one of the following (a) hold the shoulder front (b) keep the head and chest up (c) keep your legs wide apart (d) lean forward (e) sit with the hips forward

The white outer part of the tooth is called (a) dentine (b) enamel (c)epidemics (d) gum (e) neck

Which of the following groups of people needs more of energy food? (a)aged (b) babies (c) children (d) manual worker (e) trader

U.N.IC.E.F usually helps to provide for the nutritional welfare of all of these EXCEPT (a) adult (b) infants (c) pre-school children (d) school children (e) toddlers

Which of the following is known as a sunshine vitamins (a) K (b) D (c) B (d) C (e) A

Removing vegetable stain involves sprinkling salt over the damp stain to stop it from (a) drying (b) removing (c)soaking (d) spreading (e) sticking

The process of making food cold and keeping them cold is called (a) cooling (b) maintenance (c) refrigeration (d) soaking (e) storing

A sink is usually placed near kitchen window to (a) gain good light and ventilation (b) make for easy reach of the window (c) make hand washing easy (d) makes plumbing and drainage easy (e) make the kitchen attractive

All these are floor finishes EXCEPT (a) concrete (b) marble (c) mud (d) rug (e) terrazzo

Flowers can be kept fresh by placing them in …… water. (a) clod (b)iced (c) muddy (d) salt (e) warm.

APPENDIX D

MARKING SCHEME

Question no	Answer
1	A
2	A
3	A
4	D
5	D
6	D
7	B
8	E
9	E
10	D
11	B
12	C
13	A
14	C
15	C
16	A
17	B
18	E
19	D
20	B
21	E
22	D
23	D
24	D
25	B
26	C
27	C
28	A

29	C
30	C
31	A
32	C
33	C
34	E
35	A
36	B
37	B
38	A
39	C
40	D
41	A
42	C
43	D
44	B
45	A
46	B
47	A
48	C
49	B
50	E
51	B
52	B
53	D
54	E
55	B
56	E
57	C
58	C
59	D
60	A

APPENDIX E

RELIABILITY ANALYSIS FOR CAT

RELIABILITY OF JSS 1 CAT FOR HOME ECONOMICS CURRIULUM USING CROMBACH'S ALPHA

[DataSet0] C:\Users\HP\Documents\MUSA HADIZA MRS.sav

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Likewise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.964	59

RELIABILITY OF CAT FOR JSS 2 HOME ECONOMICS

CURRICULUM USING CRONBACH'S ALPHA

Case Processing

	N	%
Case valid	20	100.0
Excluded[a]	0	0
Total	20	100.0

Likewise deletion based on all Variables

Reliability Statistics

Cronbach's Alpha	N of Items
.951	59

RELIABILITY OF EXTERNAL (JSCE) HOME ECONOMICS CAT

USING CROMBACH'S ALPHA

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

List wise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.936	50

RELIABILITY OF CAT FOR JSS 3 HOME ECONOMICS

CURRICULUM USING CROMBACH'S ALPHA

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

List wise deletion based on all variables.

Reliability

Statistics

Cronbach's Alpha	N of Items
0.942	59

RELIABILITY OF EXTERNAL (JSCE) HOME ECONOMICS CAT

USING CROMBACH'S ALPHA

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

List wise deletion based on all variables

in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.936	50

APPENDIX F
ANALYSIS OF HOME ECONOMICS ACHIEVEMENT TEST (HEAT)

Reliability Notes

Output created	02 Aug-2017 12:43:23:27
Comments	
Input	C:/ Users/PROF DANLADI
Data	IBRAHIM/ Documents/Heat
	Reliability sav
	DataSet 0
Active Dataset	<none>
Filter	<none>
Weight	<none>
Split file	
N of Rows in working Data File	
Matrix Input	
Missing Definition of Missing	User –defined missing values are
Value	Treated as missing
Handling Cases Used	Statistics are based on all cases with valid data for all variables In the procedure
Syntax	RELIABILITY / VARIABLE =Heat 1Heat 2 /SCALE (‘ALL VARIABLES)All / MODEL=ALPHA /STATISTICS=DESCRIPPTIVE SCALE /SUMMARY =TOTAL MEANS /ICC-MODEL (MIXED) TYPE (CONSISTENCY) CIN =95 TESTVAL=0
	00:00:00.015
	00:00:00.016

SCALE: ALL VARIABLES

Case Processing Summary

		N	%
Case	Valid	60	100.0
	Excluded[a]	0	0
	Total	60	100.00

Case Processing Summary

		N	%
Case	Valid	60	100.0
	Excluded ®	0	0
Total		60	100.0

a. Listwise deletion based on all variables in the procedure

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha based on Standardized Item	
936	936	

Item Statistics

	Mean	Std. Deviation	N
Heat 1	31.8667	8.40594	60
Heat 2	31.6333	7.58001	60

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance
Item mean	31.750	31.633	31.867	233	1007	022

Item Total Statistics

	Scale Mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared Multiple correlation	Cronbache's Alpha if item deleted
Heat 1	31.6333	57.456	.884	.782	a
Heat 2	31.8667	70.660	.884	.782	a

The value is negative due to a negative average covariance among items. This violate reliability model assumption. You may want to check item codings.

Scale statistic

Mean	Variance	Std. Deviation	N of items
63.5000	240.831	15.51871	2

APPENDIX G

SAMPLED SCHOOLS, AND STUDENTS ACROSS THE LOCAL

THE LOCAL GOVERNMENT AREAS OF BENUE STATE

ZONES	LG. AREAS	NAMES SCHOOLS OFFERING HOME ECONOMICS AT THE UPPER BASIC LEVEL	SAMPLED SCHOOLS	NUMBERS OF HOME ECONOMICS TEACHERS AT THE UPPER BASIC LEVEL	NUMBERS OF HOME ECONOMICS STUDENTS AT THE UPPER BASIC LEVEL
A	Kastina-Ala				
		NKST Sec. Sch. K/A		1	10
		St. Gerard's Cath. Day Sec. Sch. K/A		1	
		Yaov Memorial Coll. Abaji-kpav		1	
		Devin Love Cath. Girls Sec. School K/A		1	
		Doy Sec. School Harga		1	10
		C.O.E. Demonstration Sec. Sch. K/Ala		1	
		Continental College K/Ala		1	
		Demonstration Sec. Sch. K/Ala		1	
		Famous Sec. Sch. K/A		1	10
		Royal Academic International K/Ala		1	

	Konshisha				
		Adzer beke Coll. Korinya		1	
		St. Joseph and Mary Cath. Sec. Sch. Korinya		1	
		Community Sec. Sch. Agen	✓	1	10
	Ukum				
		Torough Community Sec. Sch. Chito	✓	1	
		NKST Sec. Sch. Z/Biam		1	
	Ushongo				
		Mbagwa Community Sec.Sch. Lessel		1	
	Kwande				
		NKST Sec. Sch. Adikpo	✓	1	10
	Vandeikya				
		NKST Sec. Sch. V/Ikya		1	
		Mbaduku Community Sec. Sch. Tsar		1	
		Tilley Gyado Community Sec. Sch. Ihugh		1	
		NKST Sec. Sch.	✓	1	10

		V/Kya			
		Our Lady of Apostle Sec. Sch. V/Kya		1	
	Logo	No Schools offering Home Economics			
B	Buruku				
		Royal Sec. Sch. Buruku		1	10
		Mbagen Comprehensive Sec. Sch.Abwa		1	
		Patrick Toley Coll. Abwambagen		1	
		NKST Sec. Sch. Mbajen		1	
		Anjir Demonstration Sec. Sch. Mbagen	✓	1	
		Zion College Tyowanye		1	
		Shorov Day Sec. Sch. Tyowanye		1	
		Dooshima High Sch. Tyowase		1	
	Gboko				
		Federal Gov't. Girls Coll. Gboko		1	
		Gov't Sec. Sch. Gboko	✓	1	10
		Commercial Coll.		1	

		Gboko			
		Gboko High Sch. Gboko		1	
		Toffi Memorial Grammar Sch. Gboko		1	
		Gov't Day Sec. Sch. Butter Gboko		1	
		Community Sec. Sch. Yandeu		1	
		NKST Sec. Sch. Mkar		1	
		NKST Sec. Sch. Mkar		1	
		Akishi Sec. Generale Gboko		1	
		Akpur Coll. Gboko		1	10
		Anglican Sec. Sch. Gboko		1	
		Bawa Memorial Bilingua Coll. Genyi Yandev		1	
		Bethel International Coll. Gboko		1	
		Calvary Arrow's Coll. Gboko		1	
		Christian Discipleship Academy Gboko		1	
		Creativity Coll. Gboko		1	
		Day Sec. Sch. Buter		1	

		Excellent international Coll. Gboko	✓	1	
		Gboko International Sec. Sch. Gboko		1	10
		Glory Coll. GRA. Gboko		1	
		Graceland Sec. Sch. Akaajime Gboko		1	
		Holy Child Academy Gboko		1	
		Kings Comprehensive Coll. Mkar	✓	1	
		Kusaki Coll. Yandley		1	
		Kwakohol Royal Coll. Gboko		1	
		Malami Sec. Sch. Gboko		1	
		National Evangelical Sch. Gboko		1	
		NKST Sec. Sch. Gbemacha	✓	1	10
		Princess Adeja International Coll. Gboko		1	
		Prison Day Coll. Gboko		1	
		Queen of the		1	

		Rosary Sec. Sch. Gboko			
		Rhema Hilside Academy Gboko		1	
		Royal Coll. Ameladu		1	
		Sahara Memorial Coll. Gboko		1	
		Trinity Coll. Akaajime		1	
		Vavande Comprehensive Sec. Sch. Gboko		1	
		Ukough Community Sec. Sch. Gboko		1	
		Uplift Sec. Sch. Gboko		1	
		Victory Sec. Sch. Gboko		1	
		Young Christian Coll. Gboko		1	
		Notre Dame Sec. Sch. Mkar		1	
		Msendoo Academy Gboko		1	
		Mkar Model Coll. Mkar		1	
		Mekatanit Coll. Gboko		1	
		Mbayion Community Sec.		1	

		Sch. Gboko			
		Mbatula Progressive Coll. Tsekucha		1	
		Mbatiav Comprehensive Coll. Mbemacha		1	
		Mbaiwar Comprehensive Coll. Kusuv-Yandev		1	
		Mbaikyon Grammar Sch. Nor-Yandev		1	
		Kings Model Coll. Gyura Mbayion Gboko		1	
	Makurdi				
		Govt. College Makurdi		2	
		Govt. Model School			
		Govt. Girls College		3	
		Govt. Sec. Sch. North Bank		1	
		Govt. Sec. Sch. NAF Base	✓	1	10
		Anglican Sec. Sch.		1	
		Community Sec. Sch. Apir		1	
		Gaadi		2	

		comprehensive College			
		Mt. Carmel College Mkd		1	
		NKST Sec. Sch. Mkd		1	
		Command Sec. Sch. Mkd		1	
		Command Day Sec. Sch. Mkd		2	
		Padopas Mkd		2	
		Tilley Gyado College		1	10
		Carm Wisdom Coll. Adeke Mkd		1	
		African Sec. Sch. Mkd		1	
		Airforce Sec. Sch. Mkd		1	
		Angus College Mkd		1	
		Aveco Model Coll. Mkd		1	
		Benlad Model Sch. North Bank		1	
		Christ the King Sec. Sch. Mkd		1	
		City College Akpehe		1	
		Community Sec. Sch. CHO		1	10

		Community Sec. Sch. Mkd		1	
		Community Sec. Sch. Nyam-Mkd		1	
		Cornerstone Academy Mkd	✓	1	
		Corona Private Sec. Sch. Mkd		1	
		Dav Memorial Coll. Mkd		1	
		Dyege Memorial Coll. Mkd		1	
		Ecwa Sec. Sch. N/Bank Mkd		1	
		Federal Gender Care Coll. Mkd		1	
		Gateway Comprehensive Sec. Sch. N/Bank Mkd	✓	1	10
		Good Shepherd Sec. Sch. Mkd		1	
		GoodNews Sec. Sch. N/Bank Mkd		1	
		Happy Home Sec. Sch. Mkd		1	
		Hemo Sec. Sch. Mkd		1	
		Holy Child Coll. Mkd		1	
		Hope Foundation		1	

		Coll. Airport Mkd			
		Immaculate Hart Coll. New GRA Mkd		1	
		Kingdome Comprehensive Sec. Sch. Mkd		1	
		Kings Pecular Coll. Makurdi	✓	1	10
		Lady Victoria Academy Akpehe Mkd		1	
		Little Angels Comprehensive Sec. Sch. N/Bank Mkd		1	
		Madona comprehensive Sec. Sch. N/Bank Mkd		1	
		Loekka International Academy Mkd		1	
		Makurdi International Coll. Mkd		1	
		Methodist High Sch. Mkd		1	
		Ogiri Oko Memorial Sec. Sch. N/Bank Mkd		1	
		Peniel Coll. Mkd		1	

		NKST Sec. Sch. Idye Mkd		1	10
		New Age Academy Mkd		1	
		New Era Grammar Sec. Sch. Mkd		1	
		Nogon Sec. Sch. Mkd		1	
		Our Lady of Perpetual Help Sec. Sch. Mkd	✓	1	
		Paul Epton Coll. Mkd		1	
		Peace International Coll. Mkd		1	
		Praise Worthy Academy Mkd		1	
		Premier Comprehensive Coll. Mkd		1	
		Royal Ambassador Sec. Sch. Mkd	✓	1	10
		St. Johns Anglican Sec. Sch. Mkd		1	
		St. Mark's Sec. Sch. Mkd		1	
		St. Mary's Sec. Sch. N/Bank Mkd		1	
		The Apostolic Sec. Sch. Mkd		1	
		Trinity Model		1	

		Academy Mkd			
		Triumph Model Academy Mkd		1	
		Trust Academy Sec. Sch. Mkd		1	
		Unique Sec. Sch. Mkd		1	
		United Evangelical Sec. Sch. N/Bank	✓	1	10
		Vaatia Coll. Mkd		1	
		Victory Academy Mkd		1	
	Gwer				
		Govt. Girls Model Sec. Sch. Aliade		1	
		Jato Anchaver Memorial Sec. Sch. Mase		1	
		Agbose Trinity Coll. Aliade		1	
		Apex International Sec. Sch. Aliade		1	
		Divine Trinity Sec. Sch. Aliade		1	
		Foster Model Coll. Aliade		1	
		Govt. Day Sec. Sch. Aliade	✓	1	10
		Govt. Girls Model Sec. Sch. Aliade		1	
		Holy Child Sec. Sch. Igbor		1	

		Igba Commercial Coll. Aliade		1	
		Immaculate Conception Sec. Sch. Howe		1	
		Juga Memorial Sec. Sch. Aliade		1	
		Julia Mega Sec. Sch. Aliade		1	
		Maryland Model Coll. Taraku		1	
		Mbasur Community Sec. Sch. Aliade		1	
		NKST Sec. Sch. Taraku		1	10
		NKST Sec. Sch. Aliade		1	
		Seat of Wisdom Sec. Sch. Aliade		1	
		Queen of Peace Girls Sec. Sch. Naka		1	
		Salvation Sec. Sch. Naka		1	
		Calvin Foundation Coll. Naka		1	
		Covenant Coll. Sch. Naka		1	
		Divine Hope Sec. Sch. Naka		1	
		International Day Academy Kula		1	

		Kadna Sec. Sch. Naka	✓	1	10
		King James Coll. Naka		1	
		Modern Sec. Sch. Naka		1	
		Mt Lassalle Coll. Naka		1	
		Mt. Sanai Coll. Naka		1	
		Nagi Central Coll. Naka		1	
	Tarka			1	
		Govt. Sec. Sch. Wannune		1	
		Mbajir Community Sec.Sch. Asukunya		1	
		Mbachouhul Community Sec. Sch. Ijor Imenger		1	
		Mbachouhul C.S.S Uchi-Mbakor	✓	1	10
	Ado				
		Govt. Sec. Sch. Utonkon	✓	1	10
	Agatu				
		Govt. Sec. Sch. Obagaji		1	
		Methodist High Sch. Obagaji		1	
	Oju				
		Govt. Sec. Sch. Oju		1	

		Govt. Sec. Sch. Ikachi	✓	1	10
	Ohimini				
		C.E.F.N Onyepaene		1	
	Obi				
		Govt. Girls Sec. Sch. Ito		1	
	Otukpo				
		Govt. Model Sec. Sch. Otukpo		1	
		Holy Rosary Coll. Adoka		1	10
		Community Sec. Sch. Adoi	✓	1	
		Ewulo Coll. Otukpo		1	
		Jesus Coll. Otukpo		1	
		Methodist High Sch. Ombi Ugboju	✓	1	10
		Govt. Day Secondary Sch. Otukpo		1	
		Wesley High Sch. Otukpo		1	
		Bishop Okwoche Memorial Sec. Sch. Otukpo		1	
		St. Anne's Sec. Sch. Otukpo	✓	1	10
		Ejiga Memorial Coll. Okpaflo Adoka		1	
		Okpeje Community		1	

		Sec. Sch. Okpege Adoka			
		St. Paul's Sec. Sch. Otukpo		1	
		St. Monica Girl's Sec. Sch. Otukpo	✓	2	10

APPENDIX H

COGNITIVE REASONING TASK (CRT)

(ADAPTED FROM SCIENCE REASONING TASK II)

TAX II SCIENCE REASONING TASKS

NAME:……. DATE:……

SEX:…… CLASS:……..

SCHOOL:…….. DATE OF BIRTH:……

VOLUME AND HEAVINESS

1 (tick the best answer)

A A has more ……

compared with X

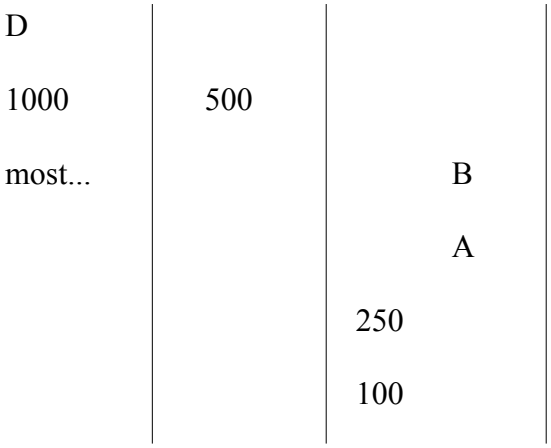
X Less …….

The same……amount of water

2. Do these cylinders all have the
Same amount of waste[9]

YES:……

NO:…….



If you answer	ed "NO"	Write	down which has

3a)b) (A/B/C/D)

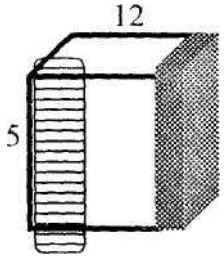
The pop-corns have less……

more ……

the same …… amount of maize, compared with the grians.

The pop-corns weight more…….

4. (show your working here)



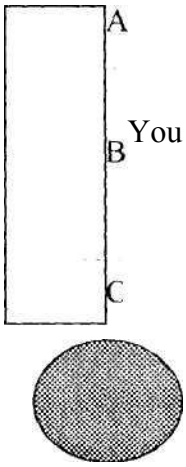
What is the volume of this plasticine block, in cubic centimeters?
Your answer……..

Correct

answer

5. How much water will spill over when the plasticine is all under water?

6. What will the new volume reading be?



You see that water spills over when the block is lowered to A.

If it is lowered to B instead will more……

Less……..

500

If the plasticine is made into a ball, will the level be the same?

Higher …….

Lower……. ?

If the plasticine is made into a cylinder, will the level be

i the same

9 higher

. ^ ^ ^^* ^ m ^ * ^ TM TM ^ ^^ * ^ *^ ~ ^ ^

Lower…… ?

I metal block is lowered in will more

0. f the less . .

the same amount of water spill over?

hy?

a) Will this flat piece float

1. Sink

b) Will this small flat piece float? YES

NO

ε This box, full of dry cleaning fluid

2.) weighs 1500 grams

Another box (twice as tall)

Filled with water weights 2000 grams

Would the box with the dry cleaning tluid

Float ……

Sink …….. in water?

How did you work out your answer?

b) When this box is emptied, and filled with alcohol it weights 850 grams Will it float …… Sink …… in water? How did you work out your answer?	**t** 20

TASK II

Date

VOLUME AND HEAVINESS CLASS ASSESSMENT SHEET

Class………………………… Date:………………. School:……………

Name	Sex	1	2	3a	3b	5	6	7	8	9	10	11	12	13a	13b	14	Total	Seal

Assessment

Score each result as "1" for adequate, and "O" for inadequate and record on the class assessment sheet. Threat each answer only for the information it gives at the level specified for the question (see summary of Answers at top of Assessment sheet). Thus if it is a "3A" question as in 12, ignore ingenious replies at the 2B level. Similarly a higher level response to a "2B"question still only gains credit at the 2B level.

Summary of Answer

1. Same

2. YES

(2A)

3a. Same

3b. Same

(2A)

4. 60 cm^3 (but ignore in marking)

(2B)

5. 60 cm (allow wrong units)

6. Same, Same (must have both for mark)

(2B)

7. 760

(2B)

8. Same

(2B)

9. Same

(2B)

10. Same, plus an answer showing understanding that the metal and plasticine

blocks are the same size (must have both for mark) (2B/3A) 11 .a.

Ignore answer as children may have to guess

(2B)

b& c must both be NO for mark.

12. All this question must be correct for a mark.

A Sink, plus either a calculation or an explanation comparing volumes

and weights etc.

(3A)

b. Float, plus either a calculation or an explanation comparing volumes and weights etc.

13a. Either by putting crowns in cylinders to see how much the level (2B/3A) went up, or by measuring the amount of water spilled from a full bath on immersing the crown.

13b. Allow anything showing understanding of volume to weight ratios,

(3A)

Or. "For the same volume the metal in the new crown weight ratios,

(3A)

Or. "For the same volume the metal in the new crown weighs less". 14. 40 cm^J. But an explanation or working must be shown.

(3A)

Scoring Procedure

The method of ascribing level of cognitive development to an individual has been achieved through the use of Rasch scaling, which makes the best use of all of the pupil data and item data in arriving an equal interval scale.

The level of development is expressed directly as a number on a scale: The scale is based on the following ascription of cores to the *beginning* of each of the levels and sub-levels of thinking.

Early concrete	2A	3.0
Mid concrete	2A/2B	4.0
Mature concrete	2B	5.0
Concrete generalization	2B	6.0
Early formal	3A	7.0
Mature formal	3A/3B	8.0
Formal generalization	3B	9.0

For each person, score "I" on the Task Assessment sheet for each item right, and then use the Table below to convert the total item score to a scale value.

Total	**Scale**
1.	2.0
2.	2.8
3.	3.4
4.	3.9
5.	4.3
6.	4.6
7.	5.0
8.	5.3
9.	5.6
10.	6.0
11.	6.3
12.	6.8
13.	7.3
14.	8.1
15.	>8.1

If you have a computer spread-sheet, you will find it convenient to record your assessment straight into the computer file. Simply type a template copy of the Task Assessment sheet into your spread-sheet, and enter an instruction in the "Total" column to sum the scores in the item columns. If you then type a copy of the Table above outside the Task matrix, you can use it as a lookup table which takes the total score as input, and delivers into the scale column the corresponding scale level.

Generally speaking the standard error on any task is greater near the ends of each task's range - that is, out of a 15 item task, pupils scoring 1,2,14, or 15 will not be as a reliably assessed as those scoring in the 3 to 13 range. The standard error of Task II is 0.55 over most of the middle range of scores.

APPENDIX J

DATA ANALYSIS FOR CRT

[DataSet0] C:\Users\HP\Documents\MUSA HADIZA MUSA POST FIE

LD DATA ANALYSIS.sav

RQ 1: REASONING CATEGORY

		Frequency	Percent	Valid Percent	Cumulative Percent
alid	CONCRETE REASONING	244	78.7	78.7	78.7
	FORMAL REASONING	66	21.3	21.3	100.0
	Total	310	100.0	100.0	

RQ 2: DEMAND LEVEL OF CURRICULUM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2A EARLY CONCRETE)	78	25.2	38.6	38.6
	2B (LATE CONCRETE)	79	25.5	39.1	77.7
	3A (EARLY FORMAL)	24	7.7	11.9	89.6
	3B (LATE FORMAL)	21	6.8	10.4	100.0
	Total	202	65.2	100.0	
Missing	System	108	34.8		
Total		310	100		

RQ 3: DEMAND LEVEL OF JSC EXAM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2A (EARLY CONCRETE)	17	5.5	70.8	70.8
	2B (LATE CONCRETE)	4	1.3	16.7	87.5
	3A (EARLY FORMAL)	3	1.0	12.5	100.0
	Total	24	7.7	100.0	
Missing	System	286	92.3		
Total		310	100.0		

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
COGNITIVE REASONING LEVEL OF STUDENTS	310	3.00	5.00	3.4258	.82004
COGNITIVE DEMAND LEVEL OF CURRICULUM	202	3.00	9.00	4.8812	1.92024
Valid N (listwise)	202				

COGNITIVE REASONING LEVEL OF STUDENTS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	244	78.7	78.7	78.7
	5	66	21.3	21.3	100.0
	Total	310	100.0	100.0	

COGNITIVE DEMAND LEVEL OF CURRICULUM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	78	25.2	38.6	38.6
	5	79	25.5	39.1	77.7
	7	24	7.7	11.9	89.6
	9	21	6.8	10.4	100.0
	Total	202	65.2	100.0	
Missing	System	108	34.8		
	Total	310	100.0		

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
COGNITIVE REASONING LEVEL OF STUDENTS	310	3.00	5.00	3.4258	.82004
COGNITIVE DEMAND LEVEL OF JSC EXAM	24	3.00	7.00	3.8333	1.43456
Valid N (listwise)	24				

COGNITIVE REASONING LEVEL OF STUDENTS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	244	78.7	78.7	78.7
	5	66	21.3	21.3	100.0
	Total	310	100.0	100.0	

COGNITIVE DEMAND LEVEL OF JSCE XAM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	17	5.5	70.8	70.8
	5	4	1.3	16.7	87.5
	7	3	1.0	12.5	100.0
	Total	24	7.7	100.0	
Missing	System	286	92.3		
	Total	310	100.0		

RQ6 & Ho 1

Correlations

		HEAT	CRT
EAT	Pearson Correlation	1	.036
	Sig. (2-tailed)		.528
	N	310	310
RT	Pearson Correlation	.036	1
	Sig. (2-tailed)	.528	
	N	310	310

RQ 7

HEAT

REASONING CATEGORY	Mean	N	Std. Deviation
CONCRETE REASONING	30.4986	244	11.86687
FORMAL REASONING	70.7071	66	9.61241
Total	39.0591	310	20.04943

Ho 2

Group Statistics

	REASONING CATEGORY		Mean	Std. Deviation	Std. Error Mean
HEAT	CONCRETE REASONING	244	30.4986	11.86687	.75970
	FORMAL REASONING	66	70.7071	9.61241	1.18321

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
HEAT	Equal variances assumed	3.823	.051	-25.359	308	.000
	Equal variances not assumed			-28.596	124.002	.000

CURRICULUM ANALYSIS TAXONOMY FOR UPPER BASIC HOME ECONOMICS

S/N	Theme	Topic	Objectives in the curriculum	Matching activities in the curriculum	Estimated demand	Rating scale

RELIABILITY OF COGNITIVE REASONING TEST (CRT) USING K-R 21

Descriptive Statistics

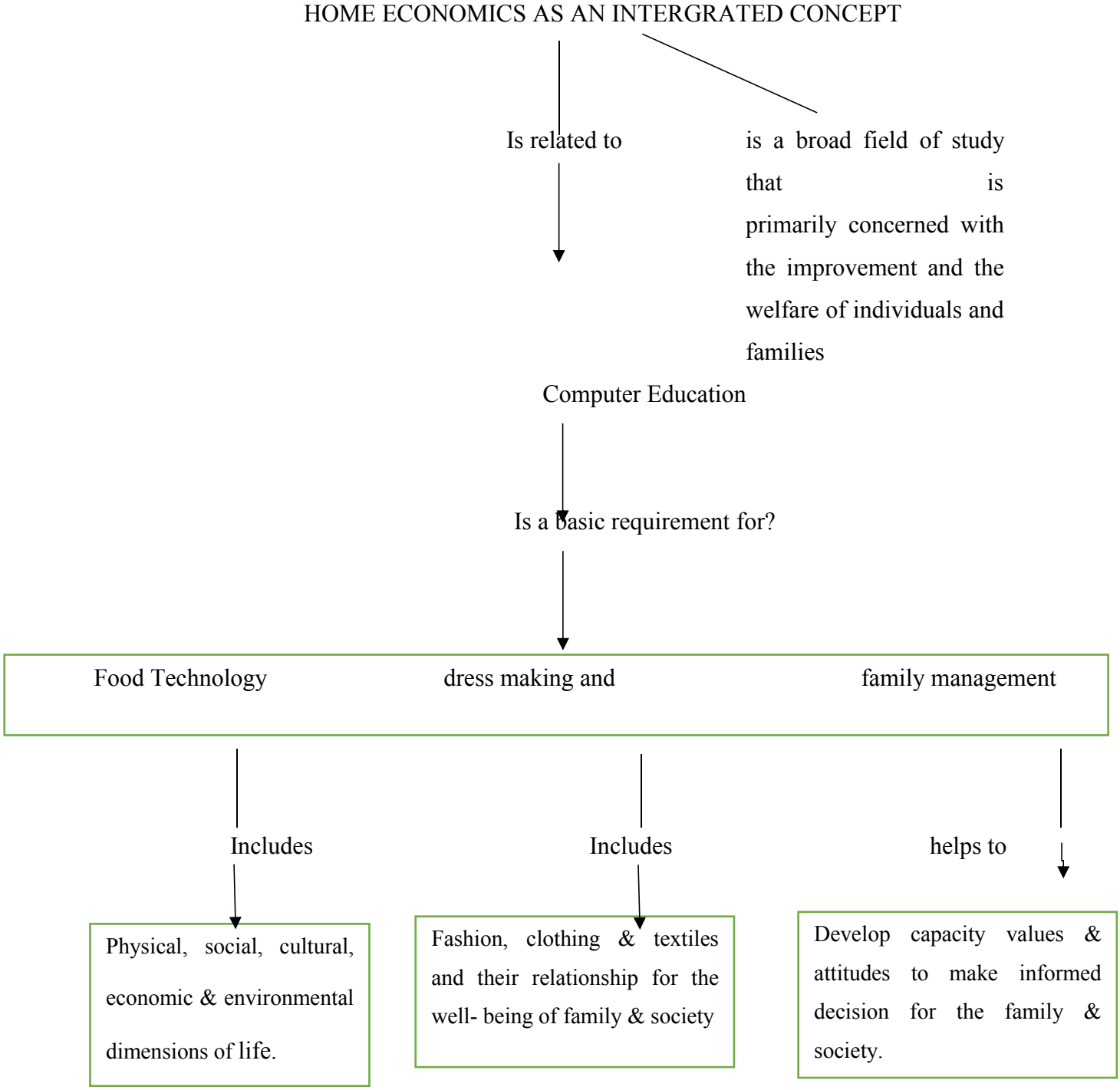
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
SCORE	20	11.00	27.00	20.6500	4.95533	24.555
Valid N (listwise)	20					

K-R20 = r = n/n-1[1-$\sum pq/s_x^2$]

= 1.07142857 [1-0.2000]

= 0.86

APPENDIX K


HOME ECONOMICS AS AN INTERGRATED CONCEPT
Is related to
is a broad field of study that is primarily concerned with the improvement and the welfare of individuals and families
Computer Education
Is a basic requirement for?
Food Technology
dress making and
family management
Includes
Includes
helps to
Physical, social, cultural, economic & environmental dimensions of life.
Fashion, clothing & textiles and their relationship for the well- being of family & society
Develop capacity values & attitudes to make informed decision for the family & society.