TEACHER PERCEPTION OF IMPLEMENTATION OF AGRICULTURAL SCIENCECURRICULUMIN SENIOR SECONDARY SCHOOLS IN NIGER STATE, NIGERIA.

BY

Rabi MAMMAN LAFIA
BSc Ed Agric Education, 2008 (A.B.U.,ZARIA.)
(MSc/ EDUC/40691/2012-2013)

A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES,AHMADU BELLO UNIVERSITY, ZARIA.IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER DEGREE IN AGRICULTURAL EDUCATION.

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION,
FACULTY OF EDUCATION,
AHMADU BELLO UNIVERSITY, ZARIANIGERIA.

FEBRUARY,2016

DECLARATION

I declare that the work in this thesis entitled **"Teacher Perceptionof Implementation of Agricultural Science Curriculum in Senior Secondary Schools in Niger State, Nigeria"** has been carried out by me in the Department of Vocational and Technical Education. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other institution.

Name of Student	**Signature**	**Date**

CERTIFICATION

This thesis entitled TEACHER PERCEPTION OF IMPLEMENTATION OF AGRICUITURAL SCIENCE CURRICULUM IN SENIOR SECONDARY SCHOOLS IN NIGER STATE, NIGERIA by Rabi MAMMAN LAFIA meets the regulations governing the award of Master degree in Agricultural Education of the Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

_____

Dr. C. Uguru Date_____
Chairman, Supervisory Committee

_____

Dr.M. O. Ayorinde Date_____
Member, Supervisory Committee

_____

Dr. E. E. Adamu Date_____
Head of Department of Vocational and
Technical Education

_____

Prof. K.BalaDate_____
Dean, School of Postgraduate Studies,
Ahmadu Bello University, Zaria.

DEDICATION

This thesis is dedicated to my beloved sons, Aliyu Mohammed and Abubakar Mohammed for their patience and endurance during my absence. It is also dedicated to the loving memory of my late father, Alhaji Mamman Lafiya, who started it all for me.

ACKNOWLEDGEMENT

The researcher wishesto first and foremost thank her Mentor, Guardian and her Sustainer; Allah, The Most High for His immeasurable guidance and help in this thesis work and her entire life.

Shewishes to further express her gratitude to her supervisors, Dr. C. Uguru and Dr. M.O. Ayorinde for their professional and experienced guidance, advice and patience. Gratitude is also extended to her internal examiners Dr. B.I. Okeh andDr. S. Yashim with whose help this study was made possible. Shethanks them for devoting their precious time to read through her work and gave relevant advice/guidance and approval. The researcher wishes toalso express her sincere gratitude to the coordinator of Postgraduate studies of the Department of Vocational and Technical Education, Dr. Sani Ibrahim for his professional guidance throughout the entire work.

Gratitude is also extended to the Head of Department, Vocational and Technical Education, Dr. E. E. Adamu, Prof. A.A. Udoh,Dr. D. O. Oni, Dr. I. M.Haruna, Malam Abdulrahim Buhari (Secretary to PG Co-coordinator of Vocational and Technical Department) and the Department of Vocational and Technical Education and Faculty of Educationfor making all the necessary things for this study available. Profound gratitude goes to Abdulmutalib Gambo Dauda for his selfless help, guidance and advice during the process of writing this research work. The researcher's appreciation goes to Prof. Kasimu Adamu (Biological Sciences, A.B.U, Zaria), Prof. Ibrahim M. Sule (Pharmaceutical Chemistry, A.B.U., Zaria). Sincere appreciation and gratitude goes to the researcher's husband Mohammed, I.K. for his financial and emotional supports.

Finally, the researcher wishes to express her gratitude to Dr. Umar Ginga (Test and Measurement, Faculty of Education, A.B.U. Zaria) for his help in assessing and correcting her questionnaire. The researcher also thank her sister, Hauwa Mamman Lafiya for her financial and emotional support, also her course mates Aminu Suleiman and Nuhu Ishaku Lawal for their help during their stay together in the Department of Vocational and Technical Education, A.B.U. Zaria and other people who helped herduring the course of her programme. May Almighty Allah bless you and be with you all. Amen.

ABSTRACT

The major objective of the study was to assess teacher perception of the implementation of agricultural science curriculum in senior secondary schools in Niger State. Fourspecific objectives were stated whichincluded to; determine the influence of teachers' qualification/competencies, ascertain the influence of adequacy of infrastructure/instructional facilities and assess influence of adequacy of funding on implementation of agricultural science curriculum in senior secondary schools in Niger State. Four research questions and four null hypotheses were stated for the study.Population for the studycomprised 332 agricultural science teachers, 216senior secondary schools in the seven Education Zones in Niger State. Descriptive survey design was used for the study. Sample size for the study was 69 agricultural science teachers. A40 item self-designed questionnaire was used for the study.The research questions were analyzed using descriptive statistics (arithmetic mean) and the null hypotheses were tested using inferential statistics(regression analysis at 0.05 level of significance). All the four null hypotheses tested were rejected. The findings of the studyshowed that;teachers' qualification/competencies, adequacy ofinfrastructure/instructional facilities and adequacy of funding had significant influence on implementation of agricultural science curriculum in senior secondary schools in Niger State. Based on the findings of the study,the researcher recommended that;only qualified teachers of agricultural science should be engaged in the teaching of the subject and adequate instructional facilities should be provided in schools. Better fundingof practical in agricultural sciencefrom the government and school authority.

TABLE OF CONTENTS

Cover Page - - - - - - - - - i

Fly Page - - - - - - - - - ii

Title Page - - - - - - - - - iii

Declaration - - - - - - - - - iv

Certification page - - - - - - - - - v

Dedication - - - - - - - - - - vi

Acknowledgement - - - - - - - - - vii

Abstract - - - - - - - - - - ix

Table of contents - - - - - - - - - x

Operational definition of terms - - - - - - - xiv

List of Tables - - - - - - - - - - xv

List of Appendixes - - - - - - - - - xvi

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study - - - - - - 1

1.2 Statement of the Problem - - - - - - 5

1.3 Objectives of the Study - - - - - - 6

1.4 Research Questions - - - - - - - 7

1.5 Research Hypotheses - - - - - - - - 7

1.6 Significance of the Study - - - - - - - 8

1.7 Basic Assumptions of the Study - - - - - - 9

1.8 Delimitations to the Study - - - - - - - 9

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Theoretical Framework - - - - - - - 11

2.2 Agricultural Science Curriculum in Secondary Schools - 13

2.3 Teachers Qualifications/Competencies in Teaching and Learning Agricultural Science in Senior Secondary Schools - - - - -14

2.4 Infrastructure/Facilities for Teaching Agricultural Science in Senior Secondary Schools - - - - - - - - 17

2.5 Funding Agricultural Science Curriculum in Secondary Schools - 21

2.6 Teaching methods commonly used in Teaching Agricultural Science in Senior Secondary Schools - - - - - - - - 23

2.7 Empirical - - - - - - - - - 25

2.8 Summary of Reviewed Literature - - - - - - 32

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design - - - - - - - 34

3.2 Population for the Study - - - - - - 35

3.3 Sample Size and Sampling Procedure - - - - 35

3.4 Instrument for Data Collection - - - - - 36

3.4 .1 Validity of the Instrument - - - - - - 36

3.4. 2 Pilot Study - - - - - - - - 36

3.4. 3 Reliability of the Instrument - - - - - 37

3.5 Procedure for Data Collection - - - - - 37

3.6 Procedure for Data Analysis - - - - - - 38

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF DATA

4.1 Bio-data of Respondents - - - - - - 40

4.2 Answers to Research Questions - - - - - 41

4.3 Testing the Null Hypotheses - - - - - 45

4.4 Summary of Major Findings - - - - - 49

4.5 Discussion of Major Findings - - - - - 49

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary - - - - - - - - 55

5.2 Conclusion - - - - - - - - 56

5.3 Recommendations - - - - - - - - 56

5.4 Suggestions for Further Studies - - - - - 57

REFERENCES - - - - - - - - 59

APPENDIXES - - - - - - - - 70

Appendix I - - - - - - - - 70

Appendix II - - - - - - - - 71

Operational Definitions of Terms

Curriculum: in this study refers to planned series of activities which determines learning process of agricultural science subject in secondary schools.

Implementation factors:in this study refer to the indices involvedin putting into effect the planned agricultural science curriculum.

Infrastructure/instructional facilities: these refer to laboratories, school farms, equipment tools, and other teaching aids needed for practical lessons in agricultural science.

Learner: it is used to refer to senior secondary school students.

Perception: In this study, refers to the opinion of teachers on the influence of some factors of curriculum implementation outlined in the objectives on implementation of agricultural science curriculum.

Stakeholders: These are the people concerned with the implementation of agricultural science curriculum in secondary schools. They include; curriculum planners, administrators, teachers, students and parents.

LIST OF TABLES

Table Page

3.1 Population for the study - - - - - - 35

3.2 Sample size for the study - - - - - - 35

4.1 Distribution of respondents' bio-data - - - - - 41

4.2 Influence of teachers' qualification/competencies on implementation of agricultural science curriculum - - - - - 42

4.3 Influence of adequacy of infrastructure/instructional facilities on implementation of agricultural science curriculum - - - 43

4.4 Influence of adequacy of funding on implementation of agricultural science curriculum - - - - - - - 44

4.5 commonly usedteaching methods and their influence on implementation of agricultural science curriculum - - - - 45

4.6 Influence of teachers' qualification/competencies on agricultural science curriculum implementation - - - - - - 46

4.7 Influence of adequacy of infrastructure/instructional facilities on agricultural Science curriculum implementation - - - 47

4.8 Influence of adequacy of funding onagricultural science curriculum implementation - - - - - - - 47

4.9 Commonly used teaching methods and their influence on agricultural Science curriculum - - - - - - - 48

LIST OF APPENDIXES

1. Letter of Introduction - - - - - - 70

2. Questionnaire Items - - - - - - 71

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

A curriculum is a comprehensive plan that includes objectives to be attained, specifications of resources required and stages of work to be performed (Asiabaka, 2002). According to Olatunji (2005), a curriculum is a collection of co-ordinated activities that are mutually directed towards the attainment of a definite goal and it usually comprises of several segments or projects which can be separately pursued as component of the whole curriculum.Curriculum assessment is defined by Huba and Freed (2000), HutchingsandMarchese (1990) and Palomba and Banta (1999) as the systematic and ongoing method of gathering, analyzing and using information from various sources about a curriculum and measuring outcomes in order to improve student learning.

Curriculumimplementation entails putting into practice the officially prescribed courses of study, syllabuses and subjects (Chikumbi and Makamure, 2000). Putting the curriculum into operation requires an implementation agent. The teacher is identified as the agent in the curriculum implementation process. The concept of curriculum implies that a goal is in focus and several activities would be needed and co-ordinated to attain the goal (Iwuchukwu and Igbokwe, 2012). Curriculum implementation therefore refers to how the planned or officially designed course of study is translated by the teacher into syllabuses, scheme of work and lessons to be delivered to students.

Implementation is said to take place when the teacher constructed syllabuses, the teacher personality, the teaching materials and the teaching environment interact with the

learner (Ofoha,Uchegbu, Anyikwa, and Nkemdirim, 2009). Curriculumimplementation entails putting into practice the officially prescribed courses of study, syllabuses and subjects, putting the curriculum into operation requires an implementation agent and the teacher is identified as the agent in the curriculum implementation process. (Chikumbi and Makamure, 2000).Egbule (2004) definesagricultural science as a process of training learner in the process of agricultural productivity as well as the techniques for teaching of agriculture.

Agricultural Science is one of the core vocational subjects taught in both junior and senior secondary schools in Nigeria. National Curriculum Council (NCC) specified that agricultural science should be taught in secondary schools in order to create and sustain students' interest in agriculture, and to serve as a foundation for future advancement in the study of agricultural science (NCC, 2009). Because of its promising role in promoting self-reliance through the provision of employment opportunities and production of staple foods for the populace together with raw materials supply for the agro-allied industries, its teaching as a course offering in our schools has been given an important focus by the federal government (Ekeyi, 2013).

The Federal Republic of Nigeria in its attempts towards the attainment of the laudable goals of vocational and technical education subjects outlined that the basic objectives of teaching of agricultural science at the secondary schools level are to:

1. stimulate and sustain students' interest in agriculture.
2. inculcate in students farming skills.
3. enable students acquire basic knowledge and practical skills in agriculture.
4. preparestudents for future studies in agriculture.

5. produce prospective future farmers (FRN, 2009:28).

The above objectives can only be attainable through instruction and motivation of students by teachers of agricultural science. Surprisingly, most teachers of agricultural science in our secondary schools today are still known to have difficulty in teaching some agricultural science concepts thus leading to students' poor academic performance in such areas especially in prescribed external examinations like West African Senior Secondary School Certificate Examinations (WASSCE), National Examination Council (NECO) and National Technical EducationBoard (NATEB) (Egun, 2007).

The importance of the teacher in the success of any educational programme has been well articulated in the National Policy on Education for the Federal Republic of Nigeria (NPE, 2013). The ultimate goal of any instructional activity is to facilitate effective teaching and learning. The teacher is responsible for translation and implementation of educational policies, curriculum and instructional materials package. It is therefore certain that no curriculum can achievethe desired results unless teachers are appropriately trained (Bello, 2015). Bello further stated that recruiting, preparing and retraining good teacher is the central strategy for improving our schools.

According to Bello(2015), the teacher's qualification and the type of training he/she received during his/her teacher training programme determine his/her ability to effect teaching-learning process. Idoko(2008) reveals that unprofessional and inexperienced agricultural science teachers using inappropriate teaching method in conveying practical skills to students are responsible for lack of interest and poor academic performance of students in agricultural science practical. This indicates that teacher's qualification and inadequate skills in conveying practical skills (that is, quality of delivery)

are among factors affectingefficient implementation of agricultural science curriculum. Jatau (2008) reports that when instructional materials are appropriately utilized, they bring about more effectiveness in teaching and learning process, but this depends on teachers' ability to use them efficiently.

The school is a social and learning agent that provides the environment upon which a child may be formally educated in order to attain educational goals.Umoh and Etuk (2003) assert that a child who wants to learn agricultural science and develop desirable attitudes, interest, appreciation, understanding, habits, abilities, knowledge and skills requires a stimulating environment which will enable the teachers to teach a variety of activities with broad based ideas about what the students are likely to learn or respond to. School facilities and equipment are assets to a learner and they determine how and what the students should learn (Ekanem, 2005). Olaitan and Mama (2002) mention that lack of and inadequate school farmland and the farm structures in the school environment affect directly the teaching and learning of Agricultural science in senior secondary school level.

Umoh (2006) observes that there is a significant difference between the performances of students with adequate and those with inadequate school environment. Umoh further stated that, where learning facilities and teaching personnel are adequate, learning and performance are positive. Agriculture as a practical subject requires facilities like land, equipment and a laboratory. These demand a lot of funds which may be difficult for many schools to secure in order to facilitate the practical teaching of the subject (Jemba, 2010). Similarly,Sekamba (1997) observes that the high running costs of practical education reduce the effectiveness of conducting practical education in subjects like agricultural science.

Eze and Uzoka (2011) state that it is the teacher who implements the curriculum through interaction with students.Osam (2013) opines that education is hindered when funds are not available for routine classroom work, extra-curricular activities and other school learning ventures.

1.2 Statement of the problem

The researcher observed that the teaching and learning of agricultural science in senior secondary schools in Niger State has become poor.Teachers do not like to go for training and re-training in agricultural science teaching, they still use conventional method of teaching to teach agricultural science, most infrastructures like laboratories and farm tools and equipment are not adequately available in senior secondary schools, schools are not given adequate funds to conduct practical in agricultural science and students do not show enough interest in the subject.Obika (2003) states that the reasons for the possible causes of poor achievement in agricultural scienceis poor mastery of the concept, teaching methods employed are inadequate and the learners do not interact with curriculum content and teaching materials.

Various factors have been assumed to be responsible for this set back without giving serious emphasis to the vital role of the implementation of agricultural science curriculum. The most significant aspect of the National Policy on Education as noted by Dike (2009) is the new focus it gives to agricultural science curriculum in the Nigerian educational system.Teaching of agricultural science at senior secondary school requires a sound background in theory and practical aspects by the teachers of agriculture.

For Niger state to move forward in vocational and technical education there is the need for the effective implementation of agricultural science curriculum in senior

secondary schools in the state.It is in respect of this clamor for change that many innovative strategies were developed to bring about improvement in teaching and learning of secondary school subjects. The main thrust of this study therefore was to assess teacher perception of implementation of agricultural science curriculum in senior secondary schools in Niger State

1.3 Objectives of the Study

The major objective of the study was to assess teacher perception of implementation of agricultural science curriculum in senior secondary schools in Niger state. The specific objectives were to:

1. determine the influence of teachers' qualification/competencies onimplementation of agricultural science curriculum in senior secondary schools in Niger State.
2. ascertainthe influence ofadequacy of infrastructure/instructional facilities on implementation ofagricultural science curriculum in senior secondary schools in Niger state.
3. assessthe influence of adequacy of funding on implementation of agricultural science curriculum in senior secondary schools in Niger state.
4. ascertain commonly used teachingmethodsand their influence on implementation of agricultural science in senior secondary schools in Niger state.

1.4 Research Questions

The following research questions have been formulated:

1. What is the influence of teachers' qualification/competencies on implementation of agricultural science curriculumin senior secondary schools in Niger State?

2. What is the influence of adequacy of infrastructure/instructional facilities on implementation of agricultural science curriculum in senior secondary schools in Niger State?

3. What is the influence of adequacy of funding on implementation ofagricultural science curriculumin senior secondary schools in Niger State?

4. What is the influence of commonly used teaching methodson implementation ofagricultural sciencecurriculum in senior secondary schools in Niger State?

1.5 Research Hypotheses

The following null hypotheses were postulated for the study:

1. Teachers' qualification/competencies have no significant influence on agricultural science curriculum implementationinsenior secondary schools in Niger State.

2. There is no significant influence of adequacy ofinfrastructure/instructional facilities onagricultural science curriculum implementationin senior secondary schoolsin Niger State.

3. There is no significant influence of adequacy of fundingon agricultural science curriculum implementation in senior secondary schools in Niger State.

4. There is no significant influence of commonly used teachingmethodson agricultural science curriculum implementation in senior secondary schoolsin Niger State.

1.6 Significance of the Study

The findings of this study will be significant in the following ways:

It will sensitize policy makers and curriculum planners on the need to ascertain to what extent agricultural science curriculum has been implemented and the influence of the factors stated in the objective on its implementation. It will also contribute to policy formulation and practices, as inspectors from Federal and State Ministries of Education will be sensitized on what to look out for during inspection. It will influence the school administrators to give agricultural science subject a priority and to monitor its implementation by agricultural science teachers. It will also make school administrators realize how various aspects of funding and other aspects of agricultural science curriculum implementation are important so that they can plan and monitor accordingly.

The findings will help agricultural science teachers to lay strategies for improving the teaching of agricultural science in secondary schools.The result will bring out the possible problem areas that need to be improved upon by the teachers and school heads for effective teaching and learning of agricultural science in senior secondary schools.It is hoped that when policy makers and school administrators use the findings, the teaching of agricultural science in secondary schools will improve.

The findings of this study will stimulate researchers to conduct more research onimplementation of agricultural science curriculum in senior secondary schools and strategies for improvement. Finally, the study may provide reference materials for future research hence adding to the pool of knowledge.

1.7 Basic Assumptions of the Study

This study was based on the following assumptions, that:

1. there are qualified/competent agricultural science teachers in senior secondary schools in Niger State.

2.infrastructure/instructional facilities are adequate for teaching and learning agricultural science in senior secondary schools in Niger state.

3.there is adequate funding of agricultural science practical in senior secondary schools in Niger state.

4. different teaching methodsare used in the teaching and learning of agricultural science in senior secondary schools in Niger State.

1.8 Delimitation to the Study

The study was delimited to:

Teacher perception of implementationof agricultural science curriculum in senior secondary schools in Niger state, because the researcher assessed teachers' perception of implementation of agriculturalsciencecurriculum in senior secondary.The study was delimited to twenty two public senior secondary schools in Niger state because the study

was intended for twenty two purposively selected public senior secondary schools in Niger State.The study was delimited to agricultural science teachers because they teach the subject and they are the agents of agricultural science curriculum implementation, so they are in a better position to know more about its implementation process. The study was delimited to senior secondary schools because students offer the subject based on choice at this level.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter presents the review of related literature under the following sub-headings:

2.1. Theoretical framework

2.2. Agricultural science curriculum in secondary schools

2.3. Teachers' qualification/competencies in teaching of agricultural science in seniorsecondary schools

2.4. Infrastructure/instructionalfacilitiesin teaching and learning agricultural Science in senior secondary schools

2.5. Funding agricultural science curriculum in senior Secondary schools

2.6. Teaching methods commonlyused in teaching agricultural science in senior secondary Schools

2.7. Empirical studies

2.8. Summary of reviewed literature

2.1 Theoretical Framework

The theoretical framework is based on Tyler's (1942)theory of evaluation.Although he provided a foundation for many theoretical ideas, Tyler'smain focus is on the specification of objectives and measurement of outcomes.He rejects the applicability of

norm-referenced tests for programme evaluation.He argues that discarding items that were answered correctly by too many, ortoo few, respondents does not provide the necessary information about whatstudents are learning. Tyler's point of view has come to be known as*objectives-oriented* (or *objectives-referenced*) evaluation. The approachfocuses on (a) formulating a statement of educational objectives, (b) classifyingthese objectives into major types, (c) defining and refining each of thesetypes of objectives in terms of behavior, (d) identifying situations in whichstudents can be expected to display these types of behavior, (e) selecting andtrying promising methods for obtaining evidence regarding each type of objective,(f) selecting on the basis of preliminary trials the more promisingappraisal methods for further development and improvement, and (g) devisingmeans for interpreting and using the results (Tyler, 1942).

Tyler (1942) avows that the curricula to be evaluated are based onhypotheses: These are the best judgments of program staff as the best set of procedures for attaining program outcome.A number of later theoretical works rest heavily on Tyler's views of evaluation,emphasizing particularly the methodology as objectives-based measurement. Metfesseland Michael's work (1967) follows Tyler's evaluation step progression but pays greater heed to expanding the range of alternative instruments. Hammond (1973) includes Tyler's views as a behavioral objectives dimension that is part of a model that also includes a more precise definition of instruction and the institution. Popham (1973, 1975) follows the Tyler model and focuses primarily on the championing of "behavioral objective specification."

Objectives-oriented evaluation has had a strong continuing influence on education for many decades. As a part of the expansion of Tyler's work, Bloom, Englehart, Furst,

Hill, and Krathwohl (1956) developed a taxonomy ofeducational objectives for the cognitive domain, and Krathwohl, Bloom, and Masia (1964) developed one for the affective domain. These efforts encouraged users to invest a great deal of time and effort into objective specification. Early work by Popham (1973) called for a narrow scope of educationalobjectives resulting in a massive number of objectives required to conduct an evaluation and subsequent system overload. Popham (1988) in his later evaluation textbook recognized this problem and called for a focus on a manageable number of broad-scope objectives and the use of the taxonomies of educational objectives only as "gross heuristics."Madaus and Stufflebeam (1989) claim that Tyler coined the term "educational evaluation" in the 1930s to describe his procedures—the comparison of (well-stated) intended outcomes (called objectives) with (well-measured) actual outcomes.

This theory was adopted by the researcher because the present study is evaluating the implementation of the curriculum based on teachers' perception with specified objectives from which research questions were formulated, stated hypotheses and statistical tool for analyzing and testing them respectively.

2.2. Teaching and Learning of Agricultural Science in Secondary Schools

Agricultural science as one of the West African Examination Council (WAEC) subjects is taught theoretically and practically. The school farm or garden is often used as a means of providing practical experience for the students. (Farauta,. and Amuche, 2013). Quite regrettably, there is dearth of professionally qualified teachers of agriculture in the school system. Amadi's (2010) study revealed that the skill content of the agricultural curriculum for the senior secondary school is too comprehensive to lend itself to meaningful coverage within the time space of three years. Olaitan (2006) maintains that in

a bid to cover the prescribed content, the teachers teach at a tremendous speed, which negates proper articulation by students. Further, Olaitan (2006) points that it does seem that host communities of some secondary schools as stakeholders do not realize or appreciate the magnitude of their responsibilities towards the teaching and learning of agriculture.

The education axiom that when a learner has not learnt that the teacher has not taught as cited by Modebelu and Nwakpadolu (2013) is true and directly related to the concept of teaching and learning as a process of inculcating the right values, attitudes, knowledge, modern life, long life skill acquisition necessary to make individuals benefit from the society as well as contribute meaningfully to the same society. Waliki and Usman (2009) se teaching as a systematic, rational and organized process of transmitting knowledge, skills etc. in accordance with professional principles. The implication is that agricultural science teachers who do not perform the act in accordance with the principles of teaching are therefore not teachers but cheaters. Naturally, the outcome of teaching is learning.

Learning occurs only where there is relatively positive permanent change in behavior. Modebelu and Nwakpadolu (2013) also believed that effective teaching of agricultural science will definitely give rise to effective learning of agricultural science, i.e. attainment of goals of agricultural science as stated above.

2.3. Teachers'Qualification/competencies in Teaching and Learning of Agricultural Science in Secondary Schools

According to Achimugu (2005) in Moja(2000),Omoregie(2005), Federal Ministry of Education(2003) and CBN(2010) teachersis the fulcrum on which the lever of

educational system rests. Apart from the students they are the largest and most crucial inputs of educational system who influence to a great extent the qualityof educational output. In the National Policy on Education (2013), it is stated that no educational system can rise above the quality of the teachers. In spite of the role of teachers in educational system, issues of inadequacy and low quality teachers in secondary schools in Nigeria are prevalent The importance of teachers in curriculum planning, development and most importantly implementation cannot be overemphasized. Teachers most times are not involved during policy formulation even though they are expected to implement this curriculum.

A major setback in effective curriculum implementation is the problem of unqualified teachers (Ofoha, *et al.*,2009).Teachers of agricultural science in secondary schools are to impart knowledge, skills and attitudes in the area of their subject to the students. Teachers of agricultural science are expected to link the theory in the classroom with practical for a worthwhile learning outcome and effective transfer of learning experience. It has been observed that teachers' experience plays a big role in the effectiveness of every teaching and learning process. Teachers with more years of experience had been observed to be able to teach more effectively than the beginning teachers (Remigius, Popoola, Ayodele and Bimbola 2013).

A teacher of agricultural science in the opinion of Olaitan, Asogwa and Assouzu (2010) is an individual who is trained in the pedagogical and technical areas of agricultural science and is charged with the responsibility of imparting knowledge, skills and attitudes to students. The pedagogical aspects of teaching deals with the use of selected techniques and methods to present the content (technical areas) of agricultural science to the students

in order to attain the learning objectives.The technical aspect deals with the whole content of agricultural science as indicated in the different sections and topics. Competency, according toLawal, Onyepede, Oketola and Famiwole (2014) in Olaitan and Ali (1997), is the knowledge, skills, attitude and judgment generally required for successful performance of a task.

The teacher as an educator knows the right approach to effective teaching and learning. For teachers of agricultural science to be effective in the teaching of manipulative skills knowledge, they must possess both academic and professional qualifications, Amadi (2012). They must be pedagogically competent while possessing special attributes such as humaneness, being sympathetic but firm and resolute. This entails teachers' ability to;

a .move with trend in teaching method of teacher-centred to learner-centred methods.
b. plan lesson and write lesson notes.
c. utilize adequate teaching method per topic.
d.utilize adequate teaching skills.
e. utilize adequate teaching strategies.
f. utilize adequate instructional aids (Modebelu and Nwakpadolu, 2013).

Also,Egbule (2004) emphasizes that every agricultural science teacher must be effective, liberally educated, current in subject matter and its pedagogy, aware of what is expected of teachers and schools, skillful and conscientious in planning, preparing for, carrying out instruction, respectful towards students and show concern about their welfare, actively in faculty, professional and community affairs.Modebelu and Nwakpadolu, (2013) were of the view that agricultural science students should occupy a prominent position in

the teaching and learning of agricultural science. They opine that teachers should therefore make these students centre of all activities. This involves:

a. encouraging active participation of agricultural science students in the teaching and learning process.
b. agricultural science teachers being always actively involved in a manner that they interact with the teacher, with instructional aids and with the environment.
c. teaching and learning of agricultural science that promote students' development of basic life skill.
d. enabling the students to utilize the learnt skills in solving their everyday problems using their own initiatives.
e. Agricultural science teachers' efforts to discourage rote learning in the classroom.

2.4 Infrastructure/instructionalfacilities in teaching and learning agricultural science in secondary Schools.

Agricultural science curriculum in secondary school is practical oriented, aimed at suitable skill acquisition for a successful transition to the world of work in agri-business endeavours. But the emphasis of integrating productive work into the educational programme could fail if farm resources were not available in the schools to actualize the vocational ends to which agriculture curriculum in secondary schools are aimed at (Emeya and Ojimba, 2012). School facilities and equipment are assets to a learner and it determines how and what the student should learn (Ekanem, 2005). Olaitan and Mama (2002) mentioned that lack of and inadequate school farmland and the farm structures in the school environment affect directly the teaching and learning of Agricultural science in senior secondary school level.

In transforming agricultural science curriculum into practical and/or vocational parlance, various teaching aids, specimen, crop and animal species constitute the major facilities at the disposal of the teacher and students of agriculture (Akpan, 2008). The best

way to learn agricultural science is to live in a learning environment where learners are surrounded by all the learning materials of which he/she can access readily for learning purposes (Nsa, Offiong,Udo and Ikot 2014).Abimbade (1999) attest that instructional materials when appropriately used enhance learning, improve the competence of teachers and make learning more meaningful to learners.Jatau (2008) report that when instructional equipment are appropriately utilized, they bring about more effectiveness in teaching and learning process, but this depends on teachers' ability to use them efficiently.

Agricultural science cannot be properly taught without adequate facilities and equipment, such as storage facilities, tractors, machine tools, modern laboratories, farmlands, livestock etc. (Eze and Uzoka, 2011). Osuala (2004) points out that inadequate facility hamper the students' learning in cognitive, affective and psychomotor domain. School facilities are the materials resources that facilitate effective teaching and learning in schools. Jaiyeoba and Atanda (2003) posit that they are things which enable a skillful teacher to achieve a level of instructional effectiveness that exceeds what is possible when they are not provided.According to Ahmed (2003), in most secondary schools in the country, teaching and learning take place under non-conducive environment lacking the basic materials thus hindering the fulfillment of educational objective.

The importance to teaching and learning with the provision of adequate instructional facilities for education cannot be over-emphasized (Owoeye and Yara 2011). According to Oni, (1992), facilities constitute a strategic factor in organizational functioning. Their availability, adequacy and relevance influence efficiency and high productivity. Owoeye and Yara (2011) further opined that absence or poor quality of educational facilities can affect academic performance. According to Hallak (1990)

facilities form one of the potent factors that contribute to academic achievement in the school system. One of such facilities that are vital to any school running agricultural science programme is the school farm.

Because of the objectives of the school farm in vocational agriculture curriculum implementation, the teachers and students should appreciate the importance of the school farm in translating theory in the classroom into practice. In view of this, Akubuilo (1999) report that school farms should be divided into plots, for each student to own a plot and grow crops assigned to him/her by the teacher while some may rear simple livestock.(Emeya and Ojimba,2012). As a pre-condition for successful implementation of Agricultural science curriculum in secondary schools, West African Examination Council (2006) reported that each school was expected to have adequate equipment and facilities, farm structure; regular supply of inputs coupled with farm spaces, at least two farm animals to be managed by students.

Facilities, equipment and materials are important components of secondary agricultural education, and provide students with opportunities to develop problem-solving skills through experiential learning (Shoulders and Myers, 2012).Onyejemezi (1998) explained instructional materials as resources or teaching materials which a teacher utilizes in the course of presenting a lesson in order to make the content of the lesson understandable to the learner.

Nwachukwu (2008) postulated that one of the principles of vocational agriculture is that the instructional materials to be used in training the learners should be a replica of what is obtained in the field or industry. Abimbola and Udonsoro (1997) posited that

instructional materials are two or three dimensional aids used by a teacher in order to save students from wondering in imagination and help their understanding.

According to Agbulu and Wever (2011), instructional materials are important because they are used for the transference of information from one individual to another, help the teacher in extending his learner's horizon of experience, stimulate learner's interest and help both teachers and students to overcome physical limitations during the presentation of subject matter.Availability, according to Asogwa (2012) in Ibrahim (2007) referred to the condition of being obtainable or accessible at a particular point in time. It expresses how a material can easily be gotten and used for a particular purpose and time.

It also states how operable or usable resources are upon demand to perform its designated or required functions. Asogwa, Onu and Egbo (2013) were of the view that availability means the condition with which teachers have access and make use of functional instructional materials for effective teaching of agricultural science to students in senior secondary schools. It refers to the quality, quantity, functionality and disposability of such instructional materials to teachers at every point in time for effective utilization. According to Modebelu and Nwakpadolu (2013) agricultural science taught at basic and secondary schools has not been able to transform the citizens and the nation adequately. Product of secondary education still lack basic vocational and entrepreneurial skills expected to be acquired from agricultural science.

The inability to manifest agricultural science practice skills and indication of interest in choosing agricultural career appear to be due to inadequate learning of the expected skills. They further stated that instructional materials are not adequately available and, are not adequately utilized and teachers do not improvise.Farauta and Amuche (2013)

posited that teachers of agricultural science in secondary schools should devise suitable means of utilizing the available resources (instructional materials and infrastructural facilities in agricultural science) to ensure effective acquisition of agricultural occupation skills. Onyene, Olusanya, Salisu and Johnson (2007) affirm that the current curriculum used by technical and vocational (agricultural science) education is very much relevant for the training of skilled oriented students for the purpose of national development and self-employment but it is more of theory than practical aspect. That is why most agricultural science teachers neglect the use of teaching aids to teach agricultural science in secondary schools.

Farm tools, equipment and agricultural specimen have been identified as important component of a school farm. Farm tools and equipment expected in schools according tzo West African Examination Council (2006) include simple farm tools (hoe, cutlass, garden trowel, hand fork, hovel, rake, budding knife), tractorsand animal drawn implement (plough, harrow, ridgersetc), harvesting processing and storage equipment (shellers dryers, graters etc.), surveying equipment (measuring tape, ranging poles, compass, chains, pegs etc.) and so on. These resources are expected to equip the school farm and ensure that activities carriedout in it produce results beneficial and worthwhile to the students, the school and the community at large (Emeya and Ojimba, 2012).

2.5 Fundingof Agricultural Science Practical in Secondary Schools.

Money is an absolutely crucial input in an educational system. It provides the essential purchasing power with whicheducation acquires its human and physical input. School fundsrefer to money or financial resources or income generated or allotted to institutions for their growth and maintenance (Osam, 2013). According to him, education

is hindered when funds are not available for routine classroom work, extra-curricular activities and other school learning ventures. And yet, the irritating shortage of much needed inputs such as library materials, laboratory equipment and other learning tools persist. The investment of funds for agricultural science education for secondary schools is thus crucial. It will help students to acquire practical skills which enable them to carry out farming efficiently (Jemba, 2010). He further reported that the teaching of agricultural science has degenerated into a theoretical exercise with emphasis continuing to be placed on academic performance, because schools have inadequate funds to provide all the necessary materials for practical work.

The importance of adequate funding in educational development cannot be overemphasized. No organization can carry out function effectively without adequate financial resources at its disposal. According to Obe (2009), without adequate funding standards of education at any level shall be tantamount to a mirage that is, building castles in the air. Unfortunately, allocation to the education sector on which secondary education depends has been consistently low in spite of the strategic role of the sector in the training of manpower for the development of the economy (Ige, 2013).

Statistics (Central Bank of Nigeria, 2010) revealed that between 2000 and 2010, allocation to the education sector by Federal Government in Nigeria was not more than 14% of the annual budget, which was even low when compared to allocation of countries such as; Kenya, Malawi, Botswana, Angola, Sierra Leone, South Africa, all in sub-Saharan Africa (United Nations Development Programme, 2011). Unfortunately, complaints of inadequate fund for the development of secondary education in Nigeria abound in literature (Omoregie, 2005, Jaiyeoba, and Atanda, 2003,Moja, 2000 and Federal Ministry of

Education, 2003), which is attributed to lack of /inadequate as well as decay infrastructural facilities in secondary school (Omoregie, 2005; Ahmed, 2003).

UNESCO (1999) as cited by Ofoha (2011) observed that lack of or inadequate financial resources hindered the expansion of facilities which led to specific problems in agriculture. To worsen the situation, the limited allocation to secondary education is being threatened by increase in enrolment as a result of the rise in the demand for it (Federal Ministry of Education, 2007; CBN, 2010; Jaiyeoba, and Atanda, 2003).The Federal Republic of Nigeria (2004) has conceded that education is an expensive social service; one that requires adequate financial support from all tiers of government for the successful implementation of the educational programmes.

2.6 Commonly used Teaching Methods in Teaching Agricultural Science in Senior Secondary Schools.

Engagement in meaningful learning is a universal theme advanced in literature on students' achievement. Integration of instruction into real world problems is a second emerging theme. *What* students learn is greatly influenced by *how* they are taught. Instructors teaching Agricultural science curricula have implemented a wide variety of teaching methods, which fit different niches within the Agricultural classroom (Auwal, 2013). Some methods of teaching are completely out of phase with background and local environments of the learners particularly in Nigeria. Furthermore, some methods are foreign in nature and have no bearing with the Nigeria culture, and purely derived from euro-centric culture (Achor, Imoko and Uloko 2009).

Educators and researchers have repeatedly acknowledged the drawbacks of teaching with a strict conventional format. This format has been referred to as a method

resulting in long periods of uninterrupted teacher- centered, expository discourse which relegates students to the role of passive 'spectators' in the classroom (Williams and McClure, 2010). Teaching methods must be changed to reflect a modern society mandating the need for functioning, thinking-oriented, decision-making students. Therefore the selection of an appropriate teaching method is importantto the success of the teaching and learning process. To be successful, teachers should select and use a wide variety of teaching strategies (Nowak, Watt and Walter, 2004). According to them the most suitable methods for teaching practical oriented subject like agricultural science are demonstration and discussion methods. Nowak *et al* articulated this position and presented evidence that, demonstration methods generally effective in teaching sciences as well as subjects within vocational and technical education because it can be very effective for illustrating concepts in class. While, the discussion method has been widely accepted and recommended by some Agricultural educators as a good method of teaching agricultural science (Phipps and Osborne, 1988).

Discovery method of teaching is an approach to inquiry which the teacher provides illustrative materials for students and lists the sequence for the students to study on their own (Nsa, Akpan and Williams, 2012). In the context of production skills development and acquisition, discovery learning involves task listing in which all the tasks that may be included in the job from start to finish are listed in details (Olaitan, Nwachukwu, Onyemachi, Igbo and Ekong, 1999). Nsa, *et al*, (2012) in Adejumo (1992) reported that expository method with teacher guided questions facilitate the retention and recall of the materials in verbal learning of Agricultural science. This method can be employed in teaching practical agriculture.

2.7 Empirical Studies

The researcher reviewedpast related research work from journals and past research work. Ikeoji, Agwuubike, and Disi (2007) conducted a research on "Perceptions of Head of Agricultural Science Teachers Regarding Problems and Challenges of Vocational Agriculture Delivery in Secondary Schools in Delta State.Nigeria". The study's broad objective was to determine the perceptions of head of Agricultural science teachers regarding problems and challenges of vocational agriculture delivery in secondary schools in Delta state. The study had three research questions.

A survey research was employed involving all agricultural science teachers from 370 public secondary schools in Delta state where agricultural science was taught. 370 heads of Departments of Agricultural science were purposively selected as samples for the study, taking the most senior agricultural science teacher as head of agricultural science teachers. A 47- item self-administered questionnaire was used to collect data from the respondents. After a pilot test, the instrument was subjected to content and face validity test. Reliability test using Cronbach's Alpha coefficients of 0.78 and 0.92 was used. Data were analyzed with frequencies, percentages, means and standard deviations.

The result showed that conducting regular continuous assessment /tests was the most frequently used technique of vocational agriculture delivery among agricultural science teachers. Poor funding of vocational agriculture in secondary schools and keeping abreast with development in the field of agriculture and communication of such developments to students were the most perceived problems and challenges of vocational Agriculture delivery in secondary schools. The similarity between this study and the present study is that the past researchers studied how to effectively teach agricultural

science in secondary schools in order to achieve the desired goal and objectives of secondary education and agricultural science curriculum which the present study studied, that is, teacherperception of implementation of agricultural science curriculum in senior secondary schools in Niger State, Nigeria.This study also assessed similar problems outlined in the reviewed study.

However, while the past researcher's study was based on only the most senior agricultural science teachers of both junior and senior secondary schools in Delta State, the present researcher studied all the agricultural science teachers without preference. Furthermore, the past researchers were concerned with their respondents' perception on the delivery of the subject and the researchers did not state the influence of this on implementation of the curriculum. However, the present study was concerned with both teachers' qualities in the delivery of the subject andthe influence on implementation of the curriculum in senior secondary schools in Niger State. The past researchersdid notpostulate nor test any hypothesis in the study while the present study formulated and tested four null hypotheses.

In another study by Puyate (2008) on "Constraints to the Effective Implementations of Vocational Education Programme in Private Secondary Schools in Port Harcourt Local Government Area. The main objective of the study was to identify the constraints to the effective implementation of vocational education programme in private secondary schools in Port Harcourt LGA of Rivers State. The research work was limited to four randomly selected private secondary schools and stated four research questions. The main instrument for data collection was a questionnaire administered to 24 teachers and

72students in the Rivers state area. Data were analyzed using descriptive statistics including the sample mean and grand population mean.

The findings revealed a dearth of professional and qualified teachers for the teaching of vocational/technical subjects; inadequate infrastructure and equipment in schools; insufficient instructional materials and books in schools; and that schools are generally poorly financed. The similarity between the reviewed study and the present study is that they were concerned with the implementation of secondary school curriculum in agricultural science. The past study did not however state and test the null hypothesis for the study. The present study formulated and tested four null hypotheses. Also, the present study assessed the influence of the constraints outlined by the two studies on implementation of the curriculum based on teachers' perception.

Ammani and Ogunyinka (2011) studied "Sustainable Development, Formal Education and Skills Acquisition: The Case of Agricultural Science in Kaduna Metropolis". The main objective of the study was to assess sustainable development of formal education in skills acquisition in Agricultural Science in senior secondary schools in Kaduna Metropolis. Three specific objectives and research questions were discussed in the study. A survey research design was used for the study. All ninety-one agricultural science teachers were sampled from the twenty four schools randomly selected within the study area. Data were collected using a semi-structured questionnaire. The data was analyzed using percentages and mean. A cut-off point of 2.50 was calculated. Any item with mean score that is less than the cut-off was not accepted.

The research findings were that; there was a shortage of qualified teachers for the effective teaching of Agricultural science in senior secondary schools in Kaduna

metropolis; there was inadequate availability of teaching resources\, materials, equipment and tools in schools for the effective teaching of Agricultural science in schools in Kaduna metropolis; less emphasis on the conduct of practical by both the curriculum and the school's management and students' negative attitude to the subject. The researcher concluded that secondary schools in Kaduna metropolis as they existed cannot teach the necessary skills required to enable school leavers be "immediately employable".

The similarity was that the reviewed study and the present study lookedinto the implementation of the agricultural science curriculum. But the reviewed study was rigidly inclined towards the inculcation of the vocation of agriculture, rather than the agricultural science subject as stipulated in the curriculum. While the present study assessed the opinion of teachers on influence of the implementation factors on implementation of agricultural science curriculum in senior secondary schools.

In a study by Amadi (2012) on "Strategies for Implementation of Agricultural Science Curriculum in Imo State School System. The main objective of the study was to investigate the strategies for implementation of agricultural science curriculum in Imo state school system. Four specific objectives were stated for the study. A total of 200 teachers of agriculture were randomly selected from 298 secondary schools across the three Education Zones in Imo state who constituted the study sample and the survey research design was used. A self-designed structured questionnaire made up of forty-two items was used for collecting data which was based on a 4- point rating scale. The result of the analysis indicated a stability coefficient of 0.82, 0.76, 0.70 and 0.86. Analysis of the data was carried out using some descriptive statistics, which included frequency distributions, means and standard deviations. The mean decision point was established at 2.50

Findings of the study indicated that some teacher-related factors were necessary for effective implementation of the curriculum among which are: teachers' moral disposition, commitment and teaching styles. The similarity between the reviewed study and present study was that both were concerned about finding out factors that affected effective implementation of agricultural science curriculum in Nigerian secondary schools although in different states. The difference was that the reviewed study narrowed its work to investigating the teachers' opinion on implementation of agricultural science curriculum only whilethe present study however assessed the teachers' opinion on the influence of the characteristics on the implementation of the curriculum in Niger State.

In a descriptive survey research study conducted by Modebelu and Nwakpadolu (2013) on "Influence of Effective Teaching and Learning of Agricultural Science." The study investigated effective teaching and learning of agricultural science for food security and national sustainability. All the 267 principals and all the 513 agricultural teachers in the 267 public secondary schools in Abia State in Nigeria formed the sample size, that is, 780 respondents. Two research questions and two null hypotheses were stated. The instrument for data collection was a 26- item structured questionnaire built on a 4- point rating scale. The reliability index values of 0.88 and 0.85 were obtained using Cronbach alpha technique. Content and face validity were established by two experts. Means and grand means were used to answer the research questions while ANOVA statistic tool was used to test for the hypothesis at 0.05 level of significance.

Findings indicated that teachers' qualification matter in achieving quality teaching and learning of agricultural science; learning of the subject was more of theoretical; traditional classroom-based method of teaching and learning; inadequate facilities; means

of updating knowledge were inadequate. The null hypothesis tested showed no significant difference in the opinion mean scores of both the principals and teachers on challenges and ways of managing the challenges for effective teaching and learning of agricultural science in secondary schools.

The similarity between the reviewed and present study was that effective teaching and learning of agricultural science in public secondary schools was the concern of both studies. However, the major difference between the reviewed study and the present study was that the reviewed study was concerned about the effect on food security and National sustainability of the study area, AbiaState while the present study was concerned about the influence on implementation of agricultural science curriculumin senior secondary schools in Niger State.

Osam (2013) also conducted a study on "Implementing Vocational and Technical Education Programmes in South-South Nigeria in Rivers State". The main objective of the study was to examine the implementation of vocational and technical education programmes in Rivers state. Five research questions and three null hypotheses were formulated for the study. A descriptive survey design was used for the study and population comprised of the five public technical colleges in Rivers state. Samples of 144 academic staff were selected using a stratified random sampling technique. Respondents completed a 30-item Vocational and Technical Education Programme Implementation Assessment Questionnaire (VATEPIAQ) designed by the researcher based on a likert-type scale. Observations schedules and document analysis were also used to assess the state of facilities and quality of staff recruited for vocational and technical education programme.

Descriptive statistics was used to analyze the data collected and to obtain the mean assessment for each scale item. The research hypotheses were tested using z-test statistics to establish the significant differences between the variables in the study. There was a $p < 0.05$ level of significance. The study found that: the quality of teaching staff in vocational and technical schools was moderately high, but, relatively inadequate. Vocational and Technical school facilities in Rivers state were also inadequate and in poor condition. Significant difference did not exist in the mean scores of principals and technical teachers on the funding strategies adopted by government. Likewise there was no significant difference in the mean scores of principals and technical teachers on the strategies adopted by government to improve the implementation of vocational and technical education programmes.

The similarity between the reviewed study and the present study was that both were concerned with assessing the implementation of a programme (curriculum). However, the difference between them was that while the reviewed study was concerned with Vocational and Technical Education generally and specifically used only public Technical colleges in Rivers State, the present study was concerned with agricultural science curriculum in public senior secondary schools in Niger State and the influence of the factors on implementation process of the curriculum.

Auwal (2013) carried out a study on "Effects of teaching methods on retention of agricultural Science knowledge in senior secondary schools in Bauchi Local Government Area, Nigeria". The study determined the effects of two teaching methods (demonstration and discussion) on students 'retention of agricultural science knowledge in senior secondary schools of Bauchi metropolis. For the study, two research questions based on

the specific objectives and three null hypotheses were stated, the null hypotheses were tested at 0.05 level of significance. The pretest-posttest control group quasi-experimental design was employed. All the students from three intact SS II classes were used; one class each from three randomly selected schools. A 20- item multiple choice achievement test was administered to the two treatment groups before and after the treatment and the scores so obtained were analyzed by mean, standard deviation and t-test.

The findings revealed that both the two teaching methods had significant effect on students' retention of agricultural science knowledge. Demonstration method was found to be more effective in making the students to remember agricultural science knowledge. The similarity between the reviewed study and the present study was that they were both concerned about improving the teaching and learning of Agricultural Science in secondary schools in Nigeria, although in different states. The difference was that the reviewed study investigated only the teaching methods suitable for effective teaching and learning of Agricultural Science in senior secondary schools, whereas the present studyassessed other indices of agricultural science curriculum implementation and their influence on the implementation process.

2.8 Summary of the Reviewed Literature

Severalstudies that addressed the pertinent issues relating to this study were reviewed. From these reviewed literatures, it was observed that the major implementation factors that affected the implementation of agricultural science curriculum in senior secondary schools were: inadequate qualified or professional agricultural science teachers; inadequate funding; inadequate teaching methods and inadequate infrastructure/instructional facilities. However, most of the researchers were concerned about the mode of usage, availability or

adequacy of these factors in the school without giving much emphasis on their influence on implementation of agricultural science curriculum in secondary schools.Seven Empirical studies were reviewed.

Finally, many researchers have written research work on topics relating to the present study in different locations. However, the present study filled some gaps not touched by some of these past researchers. The gapfilled wasevaluation of the perception of teachers on influence of teachers' characteristics, adequacy of infrastructure/instructional facilities, adequacy of funding and commonly used teaching methods on agricultural science curriculum implementation in senior secondary schools in Niger State.

CHAPTER THREE

RESEARCH METHODOLOGY

The chapter was discussed under the following sub-headings:

3.1 Research Design

3.2 Population forthe study

3.3 Sample size and Sampling Procedure

3.4 Instrument for Data Collection

3.4.1 Validity of the Instrument

3.4.2 Pilot study

3.4.3 Reliability of the Instrument

3.5 Procedure for Data Collection

3.6 Procedure for Data Analysis

3.1 Research Design

Descriptive survey research design was adopted for the study. This design was deemed appropriate because according to Nworgu, (2006), it is a design in which group of people or items are studied by collecting and analyzing data from a few people or items considered being representative of the entire group

3.2 Population for the study

The population for the study comprised of332agricultural science teachers and216senior secondary schools in the seven (7) education zones in Niger state,Nigeria.Table 3.1.contains distribution of the population.

Table 3.1:Populationfor the study

S/No	**Educational Zones**	**No of Schools**	**Pop.of Teachers**
1	Kontagora Education Zone, Kontagora.	21	34
2	Kutigi Education Zone, Kutigi.	44	60
3	Bida Education Zone, Bida.	50	84
4	Minna Education Zone, Minna.	55	89
5	Suleja Education Zone, Suleja.	20	30
6	NewBussa Education Zone, NewBussa	14	21
7	Rijau Education Zone, Rijau.	12	14
	Total	216	332

Source: Niger State Ministry of Education, (2014)

3.3 Sample Size and SamplingProcedure

The sample for the study consisted of all69agricultural science teachers randomly selected from22 senior secondary schools purposively selected due to proximity to the researcher representing 10% of the population out of 216 senior secondary schools in Niger state. This was in line with Adetoro (1986) who posited that in selecting a sample from a large population, a percentage of 10-30% is ideal. See Table 3.2.for the sample size for the study.

Table 3.2: Sample size for the study

S/No	**No. of Sampled Education Zones**	**No. of sampled schools**	**No. ofagric sci. Teachers**
1	Kontagora Educational Zone, Kontagora.	9	34
2	NewBussa Educational Zone, NewBussa	7	19
3	Rijau Educational Zone, Rijau.	6	16
	Total	22	69

Source: *Niger State Ministry of Education*, (2014)

3.4 Instrument for Data Collection

The instrument for the study was a 40 item self-designedAgricultural Science Teachers Questionnaire(ASTEQ) that used a 4-point rating scale (SA=4; A=3; D=2; SD=1. Total=10). The questionnaire was divided into two sections, A and B. Section A was made up of 3 items used to gather bio–data information about the respondents, while section B was made up of 40 items used to elicit information based on research questions from respondents on their perception ofimplementation of agricultural science curriculum in senior secondary schools in Niger State, Nigeria.

3.4.1 Validity of the Instrument

After developing the instrument, its face and content validity were established by subjecting it to a critical assessment by two experts from the Department of Vocational and Technical Education and one from Faculty of Education, Ahmadu .Bello University, Zaria to ascertain that the contents of the instrument were in line with the purpose of the study, research questions and null hypotheses.

3.4.2 Pilot Study

Ten copies of the questionnaire on teacher perception of implementation of agricultural science curriculum in senior secondary schools in Niger State were administered to tenagricultural science teachers in Minna zone which was not part of the study area. The questionnaire was re-administered to the same respondents within an interval of two weeks using the test-re-test technique. The data collected were used to carry out a reliability test using the Pearson product moment correlation co-efficient analysis.

3.4.3 Reliability of the Instrument

The data collected were collated and subjected to a reliability test using the Pearson Product Moment Correlation Co-efficient Analysis. The co-efficient alpha for the instrument was 0.72 implying that the instrument was reliable enough for the study. This was in line withUzosike 2008,who stated that the average value of correlation co-efficient should not be less than 0.50.

3.5 Procedure for Data Collection

The researcher gave the introduction letter obtained from the Head of Department, Vocational and Technical Education to the principals of the schools used for the study and with the help of twotrained research assistants administered69 copies ofquestionnaire to agricultural science teachers in theselected schools.An interval of two days was given for respondents to fill and return the questionnaire. After two days the researcher and her assistants went to all the schools and collected the filled questionnaires from the head of agricultural science teachers. None was missing.

In the analysis, 'Strongly Agree' and 'Agree' were considered as 'Agree', while, 'Disagree' and 'Strongly disagree' were considered as 'Disagree'. The research questions were graded on a score index of 2.50. Any item with a score of 2.50 or above was considered as 'Agree' while those that scored below the score index of 2.50 were considered 'Disagree'. The choice of mean score index of 2.5 was because it was the average of the four rating scale {(4+3+2+1) ÷4}. The null hypothesis was retained when R-calculated was less than R-critical, but was rejected when R-calculated was greater than R-critical.

3.6 Procedure for Data Analysis

Specific objectives 1-4 which was used to formulate the research questions was analyzed using descriptive statistics(arithmetic mean).Table of frequencies and percentage was used for bio-data information. Null hypotheses 1-4 were tested using regression analysis at 5% level of significance. Regression analysis was used to test the null hypothesesbecause as opined by Richa (2014), it takes into account the risks of making assumptions and easily address the most complicated of problems due to its flexibility. It considers the significant of each variable and what effect they have on each other. The researcher therefore deemed it appropriate to use this tool because the study was evaluating the influence of teachers' qualification, adequacy of instructional facilities, funding and commonly used teaching methods on implementation of agricultural science curriculum in senior secondary schools.

CHAPTER FOUR

PRESENTATION AND DATA ANALYSIS

This chapter was discussed under the following sub-headings:

4.1 Bio-data of Respondents

4.2 Answers to Research Questions

4.3 Testing the Null Hypotheses

4.4 Summary of Major Findings

4.5 Discussion of Major Findings

4.1: Analysis of Bio-data of Respondents

Data in Table 4.1 showed the distribution of respondents' bio-data. The age classification of respondents indicates that age categories 20-30 and 31-40 constituted 35% each of the highest representation followed by respondents within the ages of 41-50 (24%) while 6% of the respondents were 51 years and above having the least representation. The implication here is that agricultural scienceteachers were mostly in their active years of 20-40 having the highest representation and as such are enough to provide important and relevant opinion on the study.

Distribution by number of years of teaching experience shows that the highest teaching experience was 6-10years (45%), followed by 11-15 years (19%), 0-5 years (14%), 21-24 years (12%) and 16-20 (10%). The implication is that 45% of the agricultural science teachers were active teachers who had served for not more than 10 years and had many more years to serve as teachers. Therefore their opinion on the implementation of agricultural science curriculum in senior secondary schools was very timely and crucial to this study. This is because they are in a better position to identify the factors of the implementation of agricultural science as they influence implementation of the curriculum and can quickly act on the outcome of the research for improvement on the performance of students in the subject.

Distribution by educational qualification of agricultural science teachers shows thatteachers with NCE accounted for the highest number (55%), followed by those with first degree (29%)and with diploma (9%). HND accounted for the lowest (7%). The implication is that there were more NCE and BSc teachers than teachers with OND and

HND. Thus there is the tendency that this caliber of teachers will be more effective in delivering the curriculum content to students.

Table 4.1: Distribution of respondents' Bio-data

S/NO	Age of teachers	Frequency	Percentage
1	20-30	24	35
2	31-40	24	35
3	41-50	17	24
4	51 and above	4	6
	Total	69	100
Number of Years of Teaching Experience			
5	0-5	10	14
6	6-10	31	45
7	11-15	13	19
8	16-20	07	10
9	21-24	08	12
10	25 and above	0	0
	Total	69	100
Educational Qualification			
11	NCE	38	55
12	Diploma (ND)	06	09
13	HND	05	07
14	Degree	20	29
15	MSc	0	0
16	PhD	0	0
	Total	69	100

Source: *Field Survey,* 2015**.**

4.2 Answers to Research Questions

Answers to the four research questions are as shown using Arithmetic means, while the analysis of each of the four research questions is as presented in Tables 4.2 to 4.5.

Research Question One: *What is the influence of teachers' qualification/competencies onimplementation ofagricultural science curriculum in senior secondary schools in Niger State?*

This research question was answered using data presented and analyzed in table 4.2

Table 4.2 Influence of teachers' qualification/competencies on implementation of agricultural science curriculum

Opinion	Total Score	Mean Score	Decision Rule	Conclusion
Agreed	12208	2.8	2.8 > 2.5	Teachers' qualification/competencies influenced implementation of agricultural science curriculum.
Disagreed	5232	1.2		
Total	17440	4.0		

***Source**: Field work* 2015

The data analysis used to answer research question one was presented in Table 4.2. From the Table, scores of 12,208 representing 2.8 accounted for respondents who had the opinions that, teachers' qualification/competencies influenced implementation of agricultural science curriculum in SSS in the study area and those who disagreed scored 5,232 points, representing 1.2. From the analysis the calculated value was 2.8 which were more than the score index of 2.5.

Research Question Two: *What is the influence of adequacy of infrastructure/instructional facilities on implementation ofagricultural science curriculum in senior secondary schools in Niger State?*

This research question was answered using the data presented and analyzed in Table 4.3

Table 4.3Influence of adequacy of infrastructure/instructional facilities on implementation of agricultural science curriculum

Opinion	Total Score	Mean Score	Decision Rule	Conclusion
Agreed	11336	2.6	2.6 > 2.5	Adequate infrastructure/instructional facilities influencedimplementation of agricultural science curriculum.
Disagreed	6104	1.4		
Total	17440	4.0		

Source*: Field work* 2015

The summary of results used to answer research question two was as presented in Table 4.3. The analysis shows that, respondents who agreed that adequacy of infrastructure/instructional facilities influencedimplementation of agricultural science curriculum scored 11,336 points (2.6). Those that disagreed were 6,104 (1.4). Based on the analysis, calculated value 2.6 was more than the scoreindex 2.5.

Research Question Three: *What is the influence of adequacy of funding on implementation of agricultural science curriculum in senior secondary schools in Niger State?*

This research question was answered using the data presented and analyzed in Table 4.4.

Table 4.4: Influence of adequacy of funding on implementation of agricultural science curriculum

Opinion	Total Score	Mean Score	Decision Rule	Conclusion
Agreed	13080	3.0	3.0> 2.5	Adequate funding influenced implementationof agricultural science curriculum
Disagreed	4360	1.0		
Total	17440	4.0		

***Source**: Field work*2015

The data analysis used to answer research question three was presented in Table 4.4. From the table, scores of 13,080 (3.0) more than the score index accounted for respondents who agreed that adequatefundinginfluenced implementation of agricultural science curriculum in senior secondary schools in Niger state. Those who disagreed scored 4,360 points (1.0).

Research Question Four: *What is the influence of methods of teachingon implementation of agricultural science curriculum in senior secondary schools in Niger State?*

This research question was answered using the data presented and analyzed in Table 4.5.

Table 4.5: Commonly used teachingmethods and their influence onimplementation ofagricultural science curriculum.

Opinion	Total Score	Mean Score	Decision Rule	Conclusion
Agreed	11772	2.7	2.7> 2.5	Conventional, discussionand demonstration are commonly used teaching methods and they Influenced implementation of agricultural Science curriculum.
Disagree	5668	1.3		
Total	17440	4.0		

***Source**: Field work* 2015

The summary of result used to answer research question four is as presented in table 4.5.The analysis shows that respondents who agreed that conventional, discussion and demonstration are the commonly used teachingmethods and theyinfluencedimplementation of agricultural science curriculumwith11, 772 points (2.7). Those who disagreed scored5,668 (1.3).

4.3 Testing the Null Hypotheses

Four null hypotheses were formulated for the study and tested using regression analysis at 0.05level of significance.

4.3.1 Null Hypothesis One.

Teachers' qualification/competencies have no significant influence on implementation of agricultural science curriculum in senior secondary schools in Niger State.

The data used to test this null hypothesis one was as presented in Table 4.6.

Table 4.6: Influence of teachers' qualification/competencies on agricultural science curriculum implementation.

Model	Unstandardized Coefficient		Standardized Coefficients	T	R-cal	R^2	Adjusted R^2	R–crit	Sig.
	B	Std. Err	Beta						
TQC	19.817	.998		19.854					.000
			.228		.228	.052	.050	.088	
ASCI	.223	.046		4.878					.000

Source: Field Work 2015

From Table 4.6, the calculated R- value of .228 was greater than critical R-value of 0.088 at 0.05 levels of significance.Theobserved value of R Square and adjusted R Square were .052 and .050 respectively. This means that the independent variable that is, Teachers' Qualification/Competencies (TQC) had significant influence on agricultural sciencecurriculum implementation (ASCI). Hence the null hypothesis was rejected.

4.3.2: Null Hypothesis Two.

There is no significant influence of adequacy of infrastructure/instructional facilities on implementation of agricultural science curriculum in senior secondary schools in Niger State.

The data used to test this null hypothesis two was presented in Table 4.7.

Table 4.7: Influence of adequacy ofinfrastructure/instructional facilities onagricultural science curriculum implementation

Model	Unstandardized Coefficient		Standardized Coefficients	t	R- cal	r^2	Adjusted r^2	R - crit	Sig.
	B	Std. Err	Beta						
AIF	25.898	.817		31.712					.000
			.457		.457	.209	.207	.088	
ASCI	.417	.039		10.969					.000

Source: Field Work 2015

Data in Table 4.7 showsR-value of .457 greater than critical R-value of 0.088 at 0.05 levels of significance, the t for IF and ASCI were 31.712 and 10.969 respectively. Both IF and ASCI had Beta value of .457. Since RSquare was observed to be .209 it means that independentvariable (IF) highly influenced the dependent variable (ASCI). Adjusted R also stood at .207; hence the null hypothesis was not retained because the calculated R-value was more than R-critical at 5% level of significance.

4.3.3. Null Hypothesis Three:

There is no significant influence of adequacy of fundingon agricultural science curriculum implementation in senior secondary schools in Niger State.

The data used to test this null hypothesis three were presented in Table 4.8

Table 4.8: Influence of adequacy of fundingon agricultural science curriculum implementation.

Model	Unstandardized Coefficient		Standardized Coefficients	t	R-cal	r^2	Adjusted r^2	R-crit	Sig.
	B	Std. Err	Beta						
AF	26.265	.948		27.715					.000
			.330						
					.330	.109	.107	.088	
ASCI	.366	.050		7.273					.000

Source: Field Work 2015

Result in Table, 4.8, the indicates calculated R-value of .330 greater than critical R-value of .088 at 0.05 level of significance, the observed value of r square and adjusted r square maintained .109 and .107 respectively. This means that the independent variable i.e. adequate funding (AF) have significant influence on agricultural science curriculum implementation (ASCI). Hence the null hypothesis was rejected

4.3.4: Null Hypothesis Four.

There is no significant influence of commonly used teaching methodson agricultural science curriculum implementation in senior secondary schools in Niger State.

The data used to test this null hypothesis four was presented in Table 4.9

Table 4.9: Commonly used teaching methodsand their influence on agricultural science curriculum implementation.

Model	Unstandardized Coefficient		Standardized Coefficients	t	r- cal	r^2	Adjusted r^2	r - crit	Sig.
	B	Std. Err	Beta						

TM	24.100	.820		29.402					.000
			.367						
					.367	.135	.133	.088	
ASCI	.326	.040		8.231					.000

Source: Field Work 2015

Result of data in Table 4.9.shows thatcalculated R-value of .367 was greater than critical R-value of .088 at 0.05 level of significance, t for TM and ASCI were 29.402.and 8.231 respectively. Both TMand ASCI had Beta value of .367. Since R-value was observed to be .135 and adjusted stood at .133, it means that the independent variable (TM) influenced the dependent variable (ASCI). Hence, the null hypothesis was rejected.

4.4. Summary of Major Findings

Based on the analyzed data of research questions and testednull hypotheses, the following are the summary of major findings;

1. Teachers' qualification/competencies had significant influence on implementation ofagricultural science curriculum in senior secondary schools in Niger State (P=.000).
2. Adequate infrastructure/instructional facilitieshad significant influence on implementation of agricultural science curriculum in senior secondary schools in Niger State (P=.000).

3. Adequate funding had significantinfluence on implementation of agricultural science curriculum in senior secondary schools in Niger State (P=.000).
4. Conventional, discussion and demonstration are the commonly used teaching methods and theyhad significant influence on implementation of agricultural science curriculum in senior secondary schools in Niger State (P=.000).

4.5. Discussion of Major Findings

The most vital aspect for the success of educational development of any nation according to Ali, Muhammad, Azlan, Amirmudin, Muhammad and Yahaya (2012) is a well- planned, articulated and implemented curriculum that is designed to be taught and learned in schools for the purpose of elevating social consciousness and economic viability.The result of the tested null hypothesis one presented in Table 4.6 showed that teachers' qualification/competencies had significant influence on agricultural science curriculum implementation in senior secondary schools in Niger State.Regression analysis used to test this null hypothesis had R-calculated value of .228 which was greater than R-critical value of 0.088 thus the null hypothesis that," teachers' qualification/competencies have no significant influence on implementation of agricultural science curriculumin senior secondary schools in Niger State" was rejected. Hence the study shows that teachers who had NCE and B.Sc. in agriculture, had the mastery of the subject, have gone for training and retraining, had the ability to involve and guide students in farm practical, demonstrate enough interests in students influenced the implementation of agricultural science curriculum in senior secondary schools.

This finding is in line with Federal Republic of Nigeria, (1994), (2004) and (2013) goals of secondary education and objectives of teaching and learning of Agricultural science. The goals indicated that teachers should utilize the teaching and learning of Agricultural science as a means of equipping the students for a useful living, stimulating students' interest in agriculture, integrating their knowledge and skills etc. There is no way a teacher who is not a professional, trained in agricultural science can be efficient and effective, such inadequately qualified teachers will definitely lack proficiency in concepts, technical and pedagogical skills. In this situation, teaching and learning process will demoralize students' interest in agriculture as a career. Modebolu and Nwakpadolu (2013) in Ihebereme (2010) posit that quality teaching and learning is inevitable for effective learning and productivity. In his own view Egbule (2004) believe that teaching of agricultural science should involve the head (thinking), heart (feeling) and hands (skills).

Results of tested null hypothesis two presented in Table 4.7 showed that adequacy of infrastructure/instructional facilities had significantinfluence onagricultural science curriculum implementation in senior secondary schools in Niger State. The findings of the study showed that; adequate availability of infrastructure/instructional facilities like school farms, soil and rock samples, tractors and animal drawn implement, elementary survey equipment, livestock and fishery equipment, farm tools and implements influenced agricultural science curriculum implementation in senior secondary schools in Niger State. From the calculated R-value of .457 greater than R-critical value of 0.088, the null hypothesis, that "there is no significant influence of adequacy of infrastructure/instructional facilities onagricultural science curriculum implementation in senior secondary schools in Niger State" was rejected.

This is in line with Osam, (2013) who posited thatthe quality and adequacy of facilities and equipment is a benchmark of a high quality learning process.The finding of this study alsoagreed with earlier study by Puyate (2004) who found that no effective vocational training can take place without the adequate provision of learning facilities. In another study Puyate (2006), observed that most of the equipment, tools and workshop facilities were either broken down or damaged or dilapidated and were neitherreplacednor renovated. According to Okorie (1993), Inadequate teaching materials and equipment resulted in schools graduating students with poor quality, devoid of enough vocational and job skills as well as ability to solve practical problems.

The analysis of datafor null hypothesis three in Table 4.8 shows thatadequate funding, regular source of funds and timely release of funds influenced agricultural science curriculum implementation in senior secondary schools in Niger State. This was obtained from regression analysis where calculated R-value of .330 was greater than critical R-value of .088. Therefore, the tested null hypothesis three of the study which stated that "there is no significant influence of adequacy of fundingon agricultural science curriculum implementation in senior secondary schools in Niger State" was not retained. This finding is similar to a study by Jemba, (2010) who posited that inadequate funds leads toinadequate facilities and instructional materials which prevent the demonstration of practical skills to students.

This also agreed with Sekamba (1997) who said that the approach to the teaching of agricultural science has failed to make an impression in the society because it lacked the practical aspect because of low funding which prevented schools from providing all the necessary materials for practical agriculture. Omaren, (1992), observed that efficient

organization of agricultural science curriculum in Schools requires funding which is adequate and timely, because timely release of funds affect the frequency of demonstration of practical skills to students. In a similar study Osam, (2013), affirmed that government budgetary allocations to education institutions constitute a major source of funds, but are not effective enough for the implementation of vocational and technical curriculum in general and agricultural science curriculum in particular in Secondary Schools.

As observed by Aghenta (1993) the quality of education depends on the level of funding, and low government financial support for the education sector leads to the poor functioning and performance of the sector. Consequently, funding is the factor that makes or mars the establishment and operation of such schools. The findings of this studywas also in consistent with earlier findings by Akele (2004) who asserted that adequate financial support should be provided for the procurement and development of the necessary infrastructure and staff required for the effective functioning of schools.

Result of tested null hypothesis four showed calculated R-value of .367 greater than critical R-value of 0.088. The null hypothesis that "there is no significant influence of commonly used teachingmethodson agricultural science curriculum implementation in senior secondary schools in Niger State" was therefore rejected. The finding revealed that use of teaching methods such asconventional (lecture), discussion and demonstration had significantinfluence on agricultural science curriculum implementation in senior secondary schools in Niger state. Use of conventional method in teaching agricultural science was in line with the findings of Egbule (1998) who reported that the instructional strategies adopted in vocational agriculture are full of 'showing', 'telling', and 'observing'.

Furthermore, Ali,*et al*.(2012) posited that teaching methods applied for the development of skills and training of the students of vocational and technical schools in general were basically done using demonstration and conventional methods. In the same vain, Kennedy, (2011) reported that the trend in the teaching of vocational and technical education subjects (including agricultural science) in Nigerian schools is too theoretical with less emphasis on the teaching of practical skill. He maintained that, teachers use conventional method in most cases in all aspect of their teaching which also involve those topics that needed othermethods of teaching. He therefore reiterated that in order to achieve the national goals as stipulated in the National Policy on Education, teachers should employ appropriatemethods of teaching in the teaching of vocational and technical education in Nigeria.

Supporting this, Egun (2009) stated that the instructional methods used in the teaching of vocational and technical subjects are basically conventional methods and in most cases devoid of demonstration, according to him this will not give the students the necessary experience that will make them see the reality of things and will also deny the students from having effective development of competence and hence affect their academic performance in the subjects and their interaction with the curriculum.

Finally, the results of this research had several far reaching implications for improving the quality of agricultural science education. The engagement of qualified staff will lead to high quality in agricultural science teaching and learning. This will have a positive and pleasant effect on students and learning outcomes. This in turn means the production of graduates who are equipped for meaningful employment and ultimately

improvement on their academic performance and will greatly improve the standard of teaching and learning of agricultural science in senior secondary schools in Niger State.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter was discussed under the following sub-headings:

5.1 Summary

5.2 Conclusion

5.3 Recommendations

5.4 Suggestions for Further Studies

5.1 Summary

Themain objective of the study was to assess teacher perception of implementationof agricultural science curriculum in senior secondary schools in Niger State. Four specific objectives, four research questions and four null hypotheses were formulated. Descriptive research design was adopted for the study. The population for the study consisted of 332 agricultural science teachers, and 216 senior secondary schools in seven (7) education zones in Niger State.All 69 agricultural science teachers were used as sample size for the study.

Tested and approved Agricultural Science Teachers Questionnaire (ASTEQ)was administered as instrument for data collection. Data generated was analyzed using descriptive and inferential statistics. The four research questions were analyzed using arithmetic mean at a score index of 2.50; four null hypotheses were tested using regression analysis at 5% level of significance.The results of the tested null hypothesesshowed that; teachers' qualification/competencies, adequacy of infrastructure/instructional facilities, adequacy of funding and commonly used teachingmethodsinfluencedagricultural science curriculum implementationin senior secondary schools in Niger State.

5.2 Conclusion

The primary goal of a teacher is to stimulate quality learning through quality teaching. The engagement of qualified/competent teachers to teach agricultural science in senior secondary schoolswith adequate infrastructure/instructionalfacilitiesand adequatefunding for practical in Agricultural Science will lead to high quality teaching and

learning in agricultural science. This in turn will lead to effective/efficient implementation of agricultural science curriculum in senior secondary schools in Niger Stateand thus improve the standard of teaching and learning of agricultural science in SSS in the state.

5.3 Recommendations

Based on the findings, the following recommendations are made;

1. Only qualified teachers of Agricultural Science should be employed in the teaching of thesubject. There should be re-training of unqualified teachers of agricultural Science. In-service training opportunities should be organized for the serving teachers. These teachers should also be mandated to attend conferences and workshops for updating of knowledge and skills in Agricultural Science.

2. Adequate infrastructure should be provided in schools, and schools should properlybe equipped for effective teaching and learning. Government Agencies and the community should provide relevant instructional aids for effective attainment of Agricultural science goals. Secondary schools should be provided with the resources and administrative support needed, with guest lectures, field trips, visits to agricultural establishments, film shows, agricultural shows and exhibitions. Some of these activities were recommended in the National Curriculum (FME, 1985). This is aimed at stimulating and sustaining students' interest in agriculture.

3. There should be better funding of agricultural science curriculum. This will enable schools to establish learning facilities and acquire equipment and other instructional materials for the practical teaching of the subject.Schools should start viable agricultural projects such as, poultry farms; school farms for growing crops

which can generate funds and such funds can be re-invested in agriculture and also used to buy more instructional materials in agricultural science.School administration should allocate funds to agricultural science departments in their budgets for efficient implementation of agricultural science curriculum in the schools.

4. Teachers should involve students in supervised live projects such as, agronomy plots, students' poultry projects individually or in groups. Teachers should also use other methods of teaching that are practical oriented. Students should be involved in regular field trips and homestead farming.

5.4. Suggestions for Further Studies

More research on implementation of agricultural science curriculum in secondary schools should be conducted in other parts of the country in order to obtain a general picture of agricultural science teaching in the whole country. The following were suggested for further study:

1. Research on strategies for improving the implementation of agricultural science curriculum in secondary schools in NigerState.
2. Research on the effect of funding on practical teaching of agriculture in selected secondary schools in Nigeria.
3. Research on effect of some teacher factors in the conduct of effective agricultural science practical teaching in secondary schools in Niger State.

REFERENCES

Abimbola, A.A, Udonsoro, V.N. (1997).*Instructional materials for Senior Secondary School*. Ibadan, Nigeria: University Press.

Achor, E.E., Imoko, B.I. &Uloko, E.S. (2009). Effects of Ethnomathematics teaching approach on senior secondary students' achievement and retention in locus. *Educational Research Review.*4(8): 385-390. Retrieved on 29th August, 2014 from http://www.academicjournals.org/ERR.

Adah, O.C. (2011). An assessment of students' perception of agricultural science as a course of study in secondary schools in Kogi State.*Journal of Vocational and Technical Educators.*2(1): 14-19.

Adetoro, S. A. (1986). *Research Techniques for Projects, Proposals, Reports, Thesis and Dissertations*.Gaskiya Operation, Zaria, Nigeria.Pp. 40, 45, 82.

Agbarevo, M.N. (1998). Towards an effective students participation in practical agriculture in secondary schools.*Technical Education Today.* 8 (1 & 2): 16-20.

Agbulu, O.N. &Weaver, D.G. (2011).*Introduction to Vocational Agricultural Education.*Makurdi, Benue state: Selfers Academic Press Ltd.

Aghenta, J. A. (2009). *Principles and Methods in Vocational Education*, Enugu: Pacific Publishers.

Ajayi, S. N. (1999). *Evaluation of Nigeria's Educational Goals*, Lagos: Memphis Publishers.

Ajewole, G.A. (1995). Adopting an Innovation Strategies in improving the teaching and learning of Biology in Olarewaju A.O. (ed) innovation in Science Technology and mathematics proceedings of science teachers association of Nigeria conference (STAN).

Akele, C. (2004). *Towards a Relevant Technical Education in Nigeria*, Onitsha: Peoples Publishers.

Akpan, A.A. (2008). Improvement of the teaching of vocational- technical education through scientific supervision.*African Research Review.* 2(1): 198-212.

Akubuilo, C.J.C. (1991). Methods of teaching agriculture. In: Udenya, C.S. and Okobiah, O.S. (eds). *Special Methods of Teaching Science Subjects*.Abic Publishers, Enugu, Nigeria, 22-41.

Akuezuilo, E.O. (2007). The new 9-year Basic Science and Technology Curriculum and Challenges of its Implementation.*Journal of Curriculum and Instruction*, 6(2), pp. 1-6.

Ali, I., Muhammad, R.R., Azlan, B.A.B., Amirmudin, B.U., Muhammad, S.B.S. &Yahya, B.B. (2012). Implementation of Technical and Vocational Education in Post-Primary Schools in Nigeria: A Qualitative Approach. *International Journal of Humanities and Social science Invention.*1(1): 30-33.

Amadi, U. P. N. (2001).Availability and Utilization of Instructional Resources in Teaching and Learning Agricultural Occupation Skills in Taraba State Secondary Schools.Unpublished PhD Thesis NnamdiAzikwe University, Awka.

Amadi, U.P.N. (2011). Availability and Utilization of Educational Resources in Teaching and Learning of Agriculture in Primary Schools in Anambra State of Nigeria. Lead Paper Presented at Inaugural Workshop/Orientation for Primary school Teachers.

Amadi, U.P.N. (2012). Strategies for Implementation of Agricultural Science Curriculum in Imo State School System: Imperatives for Occupational Skills Acquisition by Students. *Mediterranean Journal of Social Sciences*, 3(13), 53-60.

Ammani, A.A., &Ogunyinka, A.A. (2011). Sustainable Development,Formal Education and Skilss Acquisition: The case of Agricultural Science in Kaduna Metropolis. *Journal of Sustainable Development in Africa*. 13(4), 363-370.

Amugo, M. B. (1997). *Designing and Delivering Curriculum in Nigeria*.Ibadan:University Press.

Anyawu, S.O. (2000). Effective Curriculum Content Implementation and Nigeria Educational Goals, Ibadan; University Press.

Anyanwu, A.C. &Anyanwu, U.A. (2008*).Introduction to Agricultural Science in Post primary schools.* Lagos: Africana Educational Publishers (Nig).

Asiabaka, C.C. (2002). Agricultural Extension; 1a Handbook for Development Practitioners.Omoku, Rivers State: Molsystem United Services.

Asiabaka, I. P. (2008).The Need for Effective Facility Management in Schools in Nigeria.*New York Science Journal.*http\\www.sciencepub.org. 1554-0200.

Asogwa, V.C. (2012). Introduction to wildlife and fisheries. Lecture note, Department of Agricultural Education, University of Agriculture, Makurdi.

Asogwa,V.C., Onu, D.O. &Egbo, B.N. (2013).Availability and utilization of instructional materials for effective teaching of fish production to students in senior secondary schools in Benue State, Nigeria.*African Journal of Agricultural Research*. 8(49): 6601-6607.

Auwal,A. (2013). Effects of teaching method on retention of Agricultural Science Knowledge in senior secondary schools of Bauchi Local government area, Nigeria.*International Journal of Science and Technology Educational Research.*4(4).63-69.

Babafemi, T.O. A. (2007). An Assessment of the Implementation of the 6-3-3-4 system of Educationin Nigeria: A case study of Ilorin, Kwara State.

Bello, S. (2015).Effect of some Teacher Factors on the conduct of effective Biology practical lesson.*Global advanced Research Journal of Educational Research and Review.* 4(3): 048-054.

Bloom, B., Englehart, D., Furst, E., Hill, W., &Krathwohl, D. (1956). *Taxonomy educational objectives: Handbook I. The cognitive domain.*New York: DavidMcKay.

Chikumbi, T.J., &Makamure, R. (2000).Curriculum Theory, Design and Assessment.The Commonwealth of Learning, Module 13.www.col.int/stamp/module13.pdf. Retrieved: 11/6/2014.

Dike, V.E. (2009).Addressing Youth Unemployment and Poverty in Nigeria: A Call for Action, not Rhetoric.*Journal of Sustainable Development in Africa.*11 (3): 129-151.

Eby, Herrel, A.L. & Jordan, M.L. (2006).A good teacher.Retrieved from media.wix.com/110836_ez41013794ef>6acd3864de on 11th June, 2015.

Egbule, P.E. (2004). Fundamentals and Practice of Agricultural Education.Owerri: Totan Publishers Ltd.

Egun, A.C. (2007). Reducing Teacher's Instructional Difference in Identified content area of Agricultural Science Syllabus of Senior secondary school for better Understanding in Nigeria. Journal of Social Sciences , 15(2): 141-145.

Egun, A.C. (2009). Focusing Agricultural Education for better Productivity in Nigeria in the 21st Century.*International Journal of Education Science*. 1(2): 87-90.

Ekeh, F.I. (2003). *Research Methodology and Statistics in Education.*University of Abakaliki.

Ekeyi, D.N. (2013). Effect of Demonstration Method of Teaching on Students' Achievement in Agricultural Science. *World journal of Education.*3(6): 1-7.

Ekeyi, D.N. (2013). Evaluation of Principal's supervisory and motivational roles on Secondary School Agricultural Science Instruction in Kogi State.*International Journal of Current Research and Academic Review.* 1(4): 103-109.

Emeya, S. &Ojimba, T.P. (2012). Social Benefits of Secondary School Farms in Rivers State, Nigeria. *An International Journal of Arts and Humanities*.Bahir Dar, Ethiopia. 1(4): 274-290.

Eze, O.M. &Uzoka, I. (2012).Improvement of Agricultural Science Programme at Secondary School Level.*Pakistan Journal of Business and Economic Review.3 (1): 133 -141*

Ezeobata, P.A. (2007). An Evaluation of the Religious Knowledge programme of teacher training College in Anambra state, Onitsha, Nigeria.Department of Education, University of Nigeria, Nsukka.

Farauta, K.G., &Amuche, C.I. (2013). Implementation of Agricultural Science Curriculum in Taraba State School System: Imperatives for Students' Occupational Skills Acquisition. *Journal of Education and Practice,* 4(15).

Federal Republic of Nigeria (2013).National Policy on Education. Lagos: NERDC Press.

Federal Republic of Nigeria, (2013).National Policy on Education, NERDC Press Yaba, Lagos.6th edition.

Hallack, J. (1990). *Investing in the Future: Setting Educational Priorities in the Developing World*.Paris 1 TEP and Pergonion Press.

Hammond, R. (1973). Evaluation at the local level.In B. R. Worthen& J. R. Sanders(Eds.), *Educational evaluation: Theory and practice.*Belmont, CA: Wadsworth.
held at Awka 12-16 July.

Huba,and Freed (2000). Learner Centred Assessment on College Campuses.Boston: Alyn and Bacon.

Hutchings, P.,&Marchese, T. (1990). Watching Assessment: Questions, Stories, Prospect.Change. The Magazine of Higher Learning, 22(5), 12-38.

Idoko, D.A. (2008). An Evaluation of Practical Agricultural Science in Benue State: STAN 49th Annual Proceedings.

Idris, A., Rajuddin, M.R., Abdul Latib, A.B., Udin, A.B., Saud, M.S.B. &Buntat, Y.B. (2012). Implementation of Technical and Vocational Education in Post-Primary Schools in Nigeria: A Qualitative Approach.*International Journal of Humanities and Social Science Invention*, 1(1), 30-33.

Ige, A.M. (2011). Myths and Realities of falling standard of Education in Nigeria: The way forward. Nigeria Journal of Professional Teachers. 2: 36-48.

Igwe, R.O. (2007). Transforming the secondary school curriculum for effective social develpoment in Nigeria.*International Journal of Educational Studies*, 7(1) pp 149-156.

Ikeoji, C.N., Agwubike, C.C. &Disi, J.O. (2007).Perceptions of Head Agricultural Science Teachers Regarding Problems and Challenges of Vocational Agriculture Delivery in Secondary Schools in Delta State, Nigeria.*Electronic Journal of Science Education*. 11(2), 6-17.

Iwuchukwu, J.C. &Igbokwe, E.M. (2012).Lessons from agricultural policies and programmes in Nigeria.*Journal of Law, Policy and Globalization*, Volume 5: 11-21.

Jatau, A.A. &Jatau, S.Y. (2008). Identification of Level of Utilization of Instructional Resources among Science Teachers in Pankshin: STAN 49th Annual Conference Proceedings.

Jemba, N.W. (2010). The Effect of Funding on Practical Teaching of Agriculture in Selected Secondary Schools in Rakai District. M.Ed Dissertation, Makerere University, Uganda.

Kennedy, O.O. (2011). Reappraising the Work Skill Requirements for Building Technology Education in Senior Secondary School for Optimum Performance in Nigeria.*European Journal of Applied Sciences*. 3(2): 46-50.

Lawal,O. I., Onipede, O., Oketoobo, E. A.&Famiwole, R. O. (2014). Competency Capacity Building Needs of Agricultural Science Teachers in Utilization of School

Farm for Skill Acquisition among Secondary school Students. *International Journal of Education and Literary Studies*. 2(3): 1-6.

Madaus, G., &Stufflebeam, D. (1989).*Educational evaluation: Classic works ofRalph W. Tyler*. Boston: Kluwer.

Majasan, J.A. (1995). *The Teacher Profession – A Manual for Professional Excellence*. Ibadan: Spectrum Books Ltd. Mathematics proceeding of Science Teachers Association of Nigeria conference (STAN).

Metfessel, N., & Michael, W. (1967). A paradigm involving multiple criterion measuresof the effectiveness of school programs. *Educational and Psychological Measurement.*27, 931-943.

Misari, S. (2002). Rice Research Programme Report in Annual Review Meetings 25th-28th June.

Mkpa, M.A. (2009). *Overview of Educational Development: Pre-colonial to present day*. Retrieved June, 29, 2014 from http://www.onlinenigeria.com/education/index.asp?blur=551.

Modebelu, M.N. &Duvie, A.N. (2012).Innovative methads and Strategies for Effective Teaching and Learning.*Mediterranian Journal of Social Sciences,* 3 (13), 145-154.

Modebelu, M.N. &Nwakpadolu, G.M. (2013). Effective Teaching and Learning of Agricultural Science for Food Security and National Sustainablilty.*Journal of Education and Social Research, 3(4), 161-170.*

Mohammed, M.J. (2005). Our Educational Growth has not Matched Quality, *The Nigerian Education Times*, BO. 5, April-May 29-3.

Muhammad, H.U., Umar, B.F., Abubakar, B.Z. &Abdullahi, A.S. (2011).Assessment of Factors Influencing Beneficiary Participation in Fadama II Project in Niger State, Nigeria.*Nigerian Journal of Basic and Applied Science*. 19(2): 248-252.

National Curriculum Council, NCC (2009). Abuja: Federal Ministry of Education.

National Population Commission (2007).Federal Republic of Nigeria Official Gazette.94(24).

Nkereowajiro, O.J. (2014). The Impact of Student's Field Trip on Academic Performances in Agricultural Science in Selected Secondary Schools in Rivers State.Research on Humanities and Social Sciences. 4 (17): 118-128.

Nowak, K.L., Watt, J., & Walther, J.B. (2004) "Contrasting Time Mode and Sensory Modality in the Performance of Computer Mediated Groups Using Asynchronous Videoconferencing".Proceedings of the 37th Hawaii International Conference on System Sciences.

Nsa, S.O., Akpan, E.O. & .Williams, P.S. (2012). Instructional Strategies and Students' Skill Acquisition in Vegetable Crop Production.*Pakistan Journal of Business and Economic Review.* 3(1): 126-141.

Nsa, S.O., Offiong, A.A., Udo, M.F. &Ikot, A.S. (2014). School Environment Variables and Students Academic Performance in Agricultural Science.*International Journal of Business and Social Science*. 5(8): 163-167.

Nwachukwu, C.U. (2008). Opinion of the scientific panel on animal health and welfare on a request from the commission related to welfare aspects of the main system of stunning and killing the main commercial species of animal.EfSA J: Retrieved 12-06-2011.

Nwana, O.C. (1990). An Introduction to EducatonalReserarch for Student Teachers.Hiennemann Educational Books (Nigeria) Limited. Ibadan.

Nworgu, B.G. (2006). *Educational Research: Basic Issues and Methodology*. Nsukka.University Trust Publishers.

Nzeribe, T.A.K., Ofodile, S.N. &Unigwe, L.O. (2013).Effect of Democratized Teaching Method on Secondary School Students Academic Achievement in Agricultural Science.*Academic journal of Interdisciplinary Studies.*2(5): 1-5.

Obanya, P. (2002). *Revitalizing Education in Africa*. Ibadan: Sterling-Horden Publishers Nigeria Ltd.

Obanya, P. (2004). *The Dilemma of Education in Africa*. Ibadan:Heinemann Educational Books Nigeria Plc.

Obanya, P. (2007). *Thinking and Talking Education*, Ibadan: Evans Brothers (Nigeria Publishers) Ltd.

Obika, I.K. (2003). Causes of Poor Academic Achievement of students in Agricultural Science.*Unpublished thesis, ESUT, Edo.*

Obioma, G. (2009). The New 9-year Basic Education Curriculum and the Newly Approved Senior Secondary School Curriculum Structure, Speech Delivered by Executive Secretary, Nigerian Educational Research and Development Council [NERDC] at the Sensitization and Advocacy Workshop organized for civil society organizations and media, Lagos, March 9-11.

Oduolowu, E.A.(2007). A Comparison of the Universal Basic Education (UBE) Programme in Nigeria and the Grundskola of Sweden, Essays in Education. 20, 90-102.

Offorma, G.C. (2005). Curriculum for Wealth Creation, Paper presented at the seminar of the World Council for Curriculum and Instruction (WCCI), held at the Federal College of Education, Kano, Nigeria.

Ofoha, D. (2011). Assessment of the Implementation of the Secondary School Skill-based Curriculum to Youth Empowerment in Nigeria.*Edo Journal of Councelling*. 4(1&2):75-82.

Ofoha, D. Uchegbu, C. N., Anyikwa, B. &Nkemdirim, M. (2009). A Critical Appraisal of the Mode of Implementation of Nigerian Secondary School Curriculum: Towards Socio-economic Empowerment of Youth. *Educational Research Network for West and Central Africa.*Retrieved June 22 2014, from www.rocare.org/www.ernwaca.org.

Ogbuluijah, J.N. (2014). The Impact of Students' Field Trips on Academic Performances in Agricultural Science in Selected Secondary Schools in Rivers State.*Research on Humanities and Social Sciences.* 4(17): 118-128.

Okeke, C. L. (2005). *Teaching and Training for Manpower Development*, London: Macmillan.

Okorie, J.U. (1993). An Overview of the Development of Vocational and Technical Education in Nigeria. In: Anyakoha, E.U. &Osuala, E.C. (eds) *Vocational Education and Self-Reliance*. Nsukka: NVA publishers.

Olaitan, S.O. & Ali, A. (1997).*The making of Curriculum Theory, Processand Product Evaluation*. Onitsha: Cape Publishers.

Olaitan, S.O. & Mama, R.O. (2002).*Principles and practice of School Farm Management*.Owerri-Nigeria, Cape Publishers International.

Olaitan, S.O. (2007). Review of problems of school guidance in Nigeria, *Journal of Education in Developing Areas*, 1, 10-11.

Olaitan, S.O., Asogwa, V.C. &Asougu, I. (2010).Quality Assurance of Women in Agriculture in Processing Barbara Groundnut into Okpa in Anambra State. A paper presented at the annual conference of Faculty of Education, University of Nigeria, Nsukka.

Olaitan, S.O., Nwachukwu, C.E., Onyemachi, G.I. &Ekong, A.O. (1999).*Curriculum Development and Management in Vocational Technical Education*. Onitsha: Cape Publishers International Limited.

Olaole, I.A. (2000). Enhancing Language Teaching at Primary School for the Success of UBE Programme in Nigeria: A Paper presented at one day Refresher Courses for Supervisors, Secretaries and Head Masters: Federal College of Education, Zaria.

Olatunji, S.O. (2005). Monitoring and evaluation of Agricultural ExtentionProgrammes. In:Nwachukwu, I. and Onuekwusi, G. (eds) *Agricultural Extension and Rural Sociology*. Enugu: Snap press Ltd. 287-306.

Ololube, N.P. (2009). *Understanding Teachers Professional Competencies for Education Effectiveness*. New Owerri: Springfield publishers.

Ololube, N.P., &Kpolovie, P.J. (2012).Approaches to Conducting Scientific Research in Education, Arts and the Social Sciences. *Online Journal of Educational Research*, 1 (3), 44-56.

Ololube, N.P.,&Egbezor, D.E. (2012). A Critical Assessmentof the Role/Importance of Non-formal Education to Human and National Development in Nigeria: Future Trends. *International Journal of Scientific Research in Education*,5(2), 71-93.

Omaren, S.O. (1992). The Impact of WEP on the Establishment of Agricultural Programmes in Educational Institutions in Apac and Lira District.M.Ed dissertation, Makerere University. Uganda.

Omo-Ojugo, O.O. &OhioleOhiwerei, F. (2008). School Factors Affecting the Teaching and Learning of Business Education Studies in Nigeria Schools, *Pakistan Journal of Social Studies*, 5 (7) 663-670.

Omotayo, D.M. Ihebereme, C., &Maduewesi, B. (2008).Management of Universal Basic Education Scheme (U.B.E.) for qualitative education in Nigeria, Education, 129 (2), 308-314.

Oni, J.O. (1992). Resource and Resource Utilization as Correlates of School Academic Performance.Unpublished Ph.D. Thesis, University of Ibadan.

Onwuegbune, D.U. (1996). Special methods in teaching Agriculture.Unpublished Lecture note.NwaforOrizu College of Education, Nsugbe.

Onyejemezie, O.E. (1998). Practical instructional materials. Retrieved from www.google.com on 3- 4- 2013.

Onyene, V., Olusanya, O., Salisu, R. & Johnson, O. (2007). Indigenous Orientations in Technical and Vocational Education (TVE) Programmes: Tool for Sustainable Society. Educational Research Network for West Africa and Central Africa Country: Nigeria.

Oranu, K. (2009). Planning Industrial Technology Programmes in Universities of Technology, Issues in Curriculum Evaluation and Vocational Education in Nigeria.(Curriculum Organization of Nigeria, Monograph Series). Benin, Nigeria.

Orntein, A.C., Lasley, T.J. &Mindes, G. (2005).Mentioning: A safety net for retention and tenure.Retrieved 10th June, 2015.www.nssa.us/journal/2010-33-2/2010-33-2-1-5html.

Osam, I. (2013). Implementing Vocational and Technical Education Programmes in South-South Nigeria: A case of Rivers State.*International Journal of Scientific Research in Education*, 6(2)128-148. Retrieved 29/6/2014 from http//www.ijsre.com

Osuala, E. C. (2004). *Foundation of Vocational Education*. Enugu: Cheston Agency Ltd.

Owoeye, J.S. &Yara, P.O. (2011).School Facilities and Academic Achievement of Secondary School Agricultural Science in Ekiti State, Nigeria.*Asian Social Science.* 7(7): 64-74.

Palomba, C. &Banta,T. (1999). Assessment Essentials:*Planning, Implementing, and Improving Assessment in Higher Education.*San Francisco: Jossy-Bass.

Phipps,L.J. &Osborne,E.W. (1988). Handbook on agricultural education in public schools (5th ed.). Danville, I.L..Interstate.

Popham, W. (1975).*Educational evaluation.*Englewood Cliffs, NJ: Prentice Hall

Popham, W. (1988).*Educational evaluation* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Puyate, S.T. (2004). Manpower Production for National Development. Paper presented at the Nigerian Association of Teachers of Technology Annual Conference. Ibadan, Oyo State, Nigeria.

Puyate, S.T. (2006). Facilities and the Implementation of the National Policy of Education. Paper presented at the Annual Conference of Association of Teachers of Technology. Umunze, Anambra State, Nigeria.

Puyate, S.T. (2008). Constraints to the effective Implementation of Vocational Education Program in Private Secondary Schools in Port Harcourt Local Government Area.*Asia-Pacific Journal of Co-operative Education*, 9(1), 59-71.

Remigius, O.F., Popoola, A.A., Ayodele, g. &Bimbola, K.O. (2014).Appraisal of the Impact of Agricultural Science Teachers' Computation Skills on Students' Learning Outcomes in Secondary Schools in Nigeria.SoTL Commons Conference.Paper 77.Retrieved from http://digitalcommons.georgiasouthern.edu/sotlcommons/sotl/2014/77 on 10th June, 2015.

Richa, R. (2014). For Students, Math and Science.https://blog.udemy.com/regressionanalysis.Retrieved on 28th January, 2016.

Sekamba, J.C. (1997). History and development of Education in Uganda.Fountain Publishers, Kampala, Uganda.

Seyi, D. (2014). An overview of Vocational and Technical Education in Nigeria under Secondary School Education System.International Journal of Technology. 2(6);119-122.

Shoulders, C.W. & Myers, B.E. (2012a).*Teachers' perceptions regarding experiential learning attributes in agricultural laboratories*. Paper presented at the Southern Region Association for Agricultural Education Meeting.Asheville, NC.

Towe, P. (1998). Vision and Mission of Technical, Vocational and Technological Education in Nigeria. In:Isyaku, K., Akale,M.A.G.,Maiyanga, A.A. &Olokun, M. (eds) *Vision and Mission of Education in Nigeria: The Challenge of the 21st Century*.Proceedings of the National Conference on Vision and Mission of Education in Nigeria. Kaduna: NCCE.

Tyler, R. W. (1942). General statement on evaluation.*Journal of Educational Research*. 35, 495-501.

Umoh, A.M. (2006). *BasicPsychology of Human learning*, Uyo- Nigeria.MEF (Nig) Limited.

Umoh, M. &Etuk, L.A. (2003).*Principles of Curriculum Development in Agricultural Education*.Abuja-Nigeria.Hill-Alex Ventures.

Uzosike, C. (2008). A study of the relationship between consumer behaviours and acquisition of household equipment; Implication for teaching home management in Senior Secondary Schools.Unpublished M.Ed Thesis, Ahmadu Bello University, Zaria.56-57.

Vaselinovska,S.S. (2011) . The Effects of Teaching Methods on cognitive achievement, retention, and attitude among students in biology studying. *Cypriot Journal of Educational Sciences*. 4 (1): 185.

Waliki, L.M. &Usman, M. (2009).Achieving the Millennium Devrlopment Goals – MGGs by 2015 throughEffective Teaching of Agricultural Science of Nigeria. The Voice of Teachers, 1(1), 32-36.

West African Examination Council (WAEC) (2006): *West African Senior School Certificate Examination Syllabus, Nigeria. West African Examination Council,* Pp 13-29.

Williams, J. &McClure, M. (2010). Leadership Knowledge Retention: An experimental Design of Lecture, Experiential, and Public Pedagogy. *Journal of Leadership Education*. 9 (2): 86-100.

APPENDIX I

LETTER OF INTRODUCTION



DEPARTMENT OF VOCATIONAL & TECHNICAL EDUCATION
AHMADU BELLO UNIVERSITY, ZARIA NIGERIA
FACULTY OF EDUCATION

Telephone: 069-51755, 50692
Vice Chancellor: Professor. Abdullahi Mustapha B.Sc. (Hons) Pharm(ABU), Ph.D (London) FPSN
Head of Department : Professor A.A Udoh B.Ed. (Hons) Nsukka M.Ed. & Ph.D Bus Edu. (ABU)

Your Ref: _____ 10th March, 2015
Our Ref: M.Sc/Educ/40691/2012-2013 Date: _____

Letter of Introduction

RABI MAMMAN LAFIA – M.SC/EDUC/40691/2012-2013

This is to certify that the above mentioned name is a Postgraduate student (M.Sc Agric Education) in the Department of Vocational and Technical Education, Ahmadu Bello University, Zaria carrying out a research topic: ***Assessment of Implementation of Agricultural Science Programme in Senior secondary Schools in Niger State, Nigeria.***

Please, kindly give her every assistance she may require.

Professor A.A. Udoh
HEAD OF DEPARTMENT

APPENDIXII

QUESTIONNAIRE FOR AGRICULTURAL SCIENCE TEACHERS

Teacher perception of implementation of agricultural science curriculum in senior secondary schools in Niger State, Nigeria. The key used for answering section B are: SA (Strongly Agree); A (Agree); D (Disagree) and SD (Strongly Disagree).

Instruction:Please tick(√) in the appropriate box. All sections are to be completed.

Section A:Bio-data of Respondents.

Age (in years):

(A).20-30	
(B).31-40	
(C).41-50	
(D).51and above	

Number of Years of Teaching experience:

(A).0-5	
(B).6-10	
(C).11-15	
(D)16-20	
(E).21-24	
(F).25and above	

Highest Educational Qualification:

(A).NCE	
(B). BSc Ed	
(C)B.Agric	
(D).ND.	
(E).HND.	
(F).PGDE	
(G).MSC.Ed.	
(H).MSC	
(I).PHD	

Section B: Item response scales.

S/NO	Teachers' qualification/competencies	SA	A	D	SD

1.	Teachers must possess teaching qualification of minimum of NCE				
2.	Teachers must hold a university degree in agriculture or its equivalent				
3.	Teachers must be competent in the various areas of agriculture with skill emphases.				
4	Teachers must not specialize in a particular aspect of agriculture.				
5.	Teachers must not be trained and re-trained in agricultural science teaching.				
6.	Teachers should teach well with the right method of teaching.				
7.	Teachers do not carry out the practical of agricultural science with much interest and competence.				
8.	Teachers are not highly resourceful.				
9.	Teachers do not involve and guide students in realistic farm project.				
10.	Teachers demonstrate enough interest in students and are sympathetic, humble, friendly but firm and resolute on matters of discipline.				

S/NO	**Adequacy of infrastructure/instructional facilities in senior secondary schools.**	**SA**	**A**	**D**	**SD**

11	School farms are available in all senior secondary schools for teaching agricultural science.				
12	Laboratory/laboratory materials and equipment: such as soil and rock samples, pH meter etc. are not available in senior secondary schools.				
13	Farm tools and equipment: hoes, cutlasses, rakes, spades, trowels, secateurs, shears etc. areadequately available in senior secondary schools.				
14	Tractors and animal drawn implements: such as plough, ridgers, harrows, planters, harvesters etc. are not available for teaching Agricultural science in senior secondary schools.				
15	Elementary survey equipment: measuring tapes, pegs ranging poles, theodolites etc. are not available for teaching Agricultural science in senior secondary schools.				
16	Livestock and fishery equipment: waterers, feeders, hook and line, egg candlers etc. are available for teaching Agricultural science in senior secondary schools.				
17	Fish pond is not available for teaching fishery aspect of agricultural science in senior secondary schools.				
18	Farm structure or pens for rearing Poultry/Rabbit/Pigs are not adequate for teaching Agricultural science practical in senior secondary schools.				
19	Farm structures for rearing Goat/Sheep/Cattle are available for teaching Agricultural science practical in senior secondary schools.				
20	Graphic teaching aids (teacher-made or bought): pictures, diagrams, charts etc. are adequately available for teaching Agricultural science in senior secondary schools.				

S/NO	Adequacy of funding for implementation of agricultural science curriculum in senior secondary schools	SA	A	D	SD
21.	There is a regular source of fund for Agricultural science practical in senior secondary schools from State Ministry of Education.				
22	Funds are not available for demonstration plots for conducting Agricultural Science practical incrop production in senior secondary schools.				
23.	Funds are available for field trips and exhibitions in Agricultural science in senior secondary schools.				
24.	Funds are available for purchase of mechanization equipment in senior secondary schools.				
25.	Funds are not available for animal production practical lessons in Agricultural science in senior secondary schools.				
26.	Funds for purchase of instructional materials such as simple farm tools etc. for agricultural science practical lessons are not adequately available.				
27.	Funds for agricultural science practical lessons are adequately released every session.				
28.	Funds for agricultural science practical lessons are released monthly.				
29.	Funds for agricultural science practical lessons are released termly.				
30.	Funds for agricultural science practical lessons are never available.				

S/NO	Commonly used teaching methodsin teaching agricultural science in senior secondary schools	SA	A	D	SD
31.	Teachers use mainly lecture method in teaching Agricultural science in senior secondary schools.				
32.	Teachers use discussion method in teaching Agricultural Science in senior secondary schools.				
33.	Teachers do not use demonstration method in teaching Agricultural science in senior secondary schools.				
34.	Teachers arrange field trips for studentsfor practical teaching of Agricultural science in senior secondary schools.				
35.	Teachers don't use guided-discovery method in teaching Agricultural science in senior secondary schools.				
36.	Teachers organize agricultural shows and exhibitions.				
37.	Teachers do not organize group work for students in teaching Agricultural science in senior secondary schools.				
38.	Teachers use local extension officers to teach special subject matter areas.				
39.	Teachers conduct regular continuous assessment/tests to assess students' performance in Agricultural science.				
40.	Teachers do not use guest lectures to cover technical areas.				

.