COMPARATIVE ANALYSIS OF STUDENTS' ACADEMIC PERFORMANCE IN AGRICULTURAL SCIENCE IN PUBLIC AND PRIVATE SECONDARY SCHOOLS IN KADUNA STATE, NIGERIA

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Agricultural Science subject is part of the vocational subject taught in primary schools and secondary school which inculcated the process of farming in all its branches and among other things includes the cultivation and tillage of the soil, dairying, the production, cultivation, growing, and harvesting of any Agricultural commodities, the raising of livestock or poultry, and any practices performed by a farmer on a farm as an incident to or in conjunction with some farming operations, and it may include the manufacturing or processing of coconut, tobacco, pineapples or other farm products (Bolens, 1997).

The general objectives of Agricultural science subject are to: stimulate and sustain students' interest in farming; demonstrate that farming is a dignified and paying occupation; enable students to acquire basic agricultural knowledge, practical skills and attitudes; enable students to integrate agricultural knowledge and skills in solving agricultural problems of their families and societies; prepare students for employment in farming and/or further studies in agriculture (URT, 1997).

Agricultural science subject has been taught as a core subject in ordinary level secondary schools since its introduction in 1972 up to 2004 when the government phased it out. The reason for phasing it out was to avoid placing students prematurely into vocational programmes which might not meet their future career preferences as well as the teaching process of the subject which was thought to unable students to master both vocational and cognitive skills at the end of the teaching and learning cycles, thus rendering them

incapable of undertaking self or direct employment in the formal and informal sectors (Young, 2011). The government's decision to phase out the subject met with a lot of resistance from educational stakeholders whether it was appropriate decision or not.

Agricultural science subject is the course of study which involves teaching about crop production, livestock management, soil and water conservation and various other aspects of agriculture such as nutrition which improves the quality of life for all people by helping farmers increase production, conserve resources and provide nutritious foods (Schultz et al., 2008). In this study, Agricultural science subject refers to a course of study in ordinary level secondary schools which is among optional subjects in the pre-vocational subjects' group which mainly deals with crop and livestock production as well as basics of agricultural mechanisation, economics and soil science.

Private Secondary school is known as independent schools (non-governmental) or nonstate schools that are not administered by local, state or national government, they retain right to select their student and are funded in whole or in part by charging their student tuition fees, rather than relying on mandatory taxation through government funding, but they must operates based on government stated curriculum and scheme of work from ministry of education (Heins and David, 2004). Public secondary schools are those operated, funded and overseen by government. (Thattai and Deeptha, 2001). Most of the private schools are funded, conducted and maintained by a private group rather than by government, usually charging tuition and then followed stated curriculum and syllabus as the same with the public schools operated by government (Withan and Joen, 1997).

The overall objective in every teaching –learning interaction as usually required is to bring about harmonious development of the individual and acquisition of the desired knowledge, values and skills to enable him/her function in a particular way. The process of teaching needs to be supervised for effective teaching- learning process. The syllabus and curriculum system must be given special care and consideration so as to achieve the desired objectives. Thus, when curriculum system is ensured in every school, there will be positive developments that will bring permanent change in the behavior of the learner signifying that learning has taken place.

The teaching and learning of Agricultural science as a subject in secondary schools in the world reveals an evolution from vocational basis in the first half of the 20th century (Laugo, 2009). Interest in teaching and learning Agricultural science in secondary schools seems to be growing because many governments are seeking assistance to implement the subject (Laugo, 2009). The World Bank has been investing heavily in the implementation of Agricultural science subject in secondary schools but there have been limited studies on its effectiveness on economic development (World Bank, 2005). Because the Agricultural science subject weds academic or general subjects with some degree of vocational learning, students can develop not only vocational skills in the field of agriculture, but also cognitive skills to prepare them for university studies in agriculture (Yamada, 2001).

The motive behind the introduction of Agricultural science subject in secondary schools lies on the expectation of improving quality of life attached to secondary school education especially in developing countries (Bregman and Stallmeister, 2005). Therefore, the World Bank has encouraged the teaching and learning of Agricultural science as a development strategy and as a means to make the rapid expansion of secondary school education

consistent with better match between skills learned in school and those needed in the students' families and societies (Psacharopolous and Zabalza, 1984). On this ground, different governments have introduced Agricultural science subject in their secondary schools to smoothen the transition to work particularly for the benefit of farm employment for those students whose secondary education schooling will be terminal (Benavot, 2006).

However, human societies differ in the way they teach their children values, norms and skills, while others impart skills in formal way, through organized system, that is a well recognized system approved by the ministry of education. Others prefer more traditional ways in inculcating such desired values, notwithstanding the particular society in which learning takes place, and methodology used, a number of variables interact together to bring about a stable and permanent changes in behaviour. Thus, the study intends to investigate the comparative academic achievement of secondary schools students in Agricultural science in public and private schools in three different educational zones of Kaduna State. The study also intends to look at these variables, the learner, the teacher and the learning environment, because learning can only take place where there is a learner and the learner has to be physically, mentally, socially and morally ready to learn. Thus when the learner is not fit to learn due to some health problems or interest, then the objectives of teaching and learning are hampered. Consequently, besides the two important variables mentioned in teaching learning process, the environment in which learning takes place has to be conducive for learning. In formal learning, schools are not just a place to learn, to read and write but also receive complete education. Therefore, schools have to provide suitable environment for effective and proper development of the learner so as to acquire the desired skills, but where the school environment is deficient

or lacking in the materials required for effective learning, the designed objectives cannot be achieved. The facilities required for effective teaching – learning are; adequate classroom space, curriculum system, experienced teachers, teaching –learning materials such as text books, boards, board marker, and visual aids.

The major emphasis in the Agricultural science subject syllabi across countries in the world is to enable students to develop positive attitudes towards agriculture so that they can see agriculture as a viable source of occupation that can lead to personal and community development. It aims to equip students with relevant agricultural knowledge, skills and attitudes. This is particularly important because it gives students a clear understanding that agriculture is a viable source of livelihood just like any other job in other sectors (Briseid and Caillods, 2004; Laugo, 2009).

1.2 Statement of the problem

The educational stakeholders in Kaduna State raise a lot of concern about the failing performance of public secondary school students when compared with their counterpart in private schools (El-Rufa'i, 2016). Despite the fact that, the scheme of work and curriculum for secondary schools are the same all over the country, it seems to be commonly believed that Public secondary school students are handicapped academically. However, Oke (1992), Adeyemi (1998), and Onipele (2005) stated that, "private secondary schools' students performed higher than students of public secondary schools". Also Abari and Odunayo, (2012) stated that, 'in terms of infrastructural facilities and academic achievement private secondary schools are ahead of public schools. In spite of proclaims of inducing more facilities to public secondary schools by Kaduna state government, it has been considered by people that, private secondary school students are

better over public secondary school in their final senior secondary certificate examination (SSCE) result. For all these reasons, the researcher to embark on this study in order to clear this uncertainty between public and private secondary schools students' academic performance in Agricultural Science in Kaduna State.

1.3 Objectives of the study

The general objective of the study was to compare students' academic performance in Agricultural Science in public and private secondary schools and to examine availability of infrastructural facilities between public and private secondary schools in Kaduna state, Nigeria.

The specific objectives were to:

1. compare the academic performance of male students of public and private secondary school in Agricultural Science in Kaduna state,
2. compare the academic performance of female students of public and private secondary schools in Agricultural science in Kaduna state,
3. compare the academic performance of students of public and private secondary schools in Agricultural Science in Kaduna State, Nigeria.

1.4 Research questions

The research questions were put forward to answer the following questions;

1. What is the academic performance of male student of public and private secondary schools in Agricultural Science in Kaduna State?
2. What is the academic performance of female students of Public and Private secondary schools in Agricultural Science in Kaduna State?

3. What is the academic performance of students of public and private secondary school in Agricultural Science in Kaduna State, Nigeria?

1.5 Research Hypotheses

The following Null-Hypotheses were formulated or stated

1. There is no significant difference in the academic performance of male students of public and private secondary schools in Kaduna state in Agricultural science from 2014 – 2016.
2. There is no significant difference in the academic performance of female students of public and private secondary schools in Kaduna state in Agricultural science from 2014 – 2016,
3. There is no significant difference in the academic performance of students of public and private secondary schools in Agricultural Science in Kaduna state from 2014 – 2016.

1.6 Significance of the study

The main aim of carrying out research in education is to bring about positive improvement in the practice of education through finding new knowledge or information. Therefore, this research is important in many areas to the following stakeholders in the business of education for obtaining good output in secondary school education in the state at large.

This study is significant and beneficial to the teachers in many areas. The research will make the teachers conscious of the current status of secondary school students' academic performance in both public and private schools within the state. The study will also expose to them the differences in academic performance of the students in public and

private secondary schools if there is any difference and suggest the possible ways to be followed to remedy the situation.

The study is also important to students in their learning process. The research will make them know the level of their academic performance especially in Agricultural science subjects. Thus, the students through this research will be able to grasp certain areas of their considerable effort and excellent academic performance in the Agricultural subject they studied. The study is also of paramount importance to students because the acquisition of the suitable levels of literacy, skills and values of vocational Agriculture as it is the only occupation that meets the physiological needs of mankind and will serve as bed-rock, for laying a sound foundation for their future living, improvement and development. The study is very crucial to the curriculum planners. The curriculum planners are professional individuals who are well trained in curriculum development, they are active participants in the field of curriculum and they are responsible for curriculum planning as regards to contents and implementation procedures. Therefore, curriculum planning as been seen as a collection of readings that presents the knowledge, skills and alternative strategies needed by curriculum planners and teachers at all levels of education from early childhood through adulthood. Thus, the curriculum planners through this study will have a thorough knowledge on the current academic performance of public and private secondary schools in the study areas.

The research is also useful and beneficial to the federal, state and local government education policy makers. Therefore, the outcome of this research will give them a clear picture of the level of academic performance of public and private secondary school students. Having known the academic performance of secondary school students

especially in Agriculture, the policy makers can provide all necessary teaching facilities that can boost students' performance to achieve similar objectives in both public and private secondary schools.

The public in the business of education are also expected to benefit from this study for obtaining good output in secondary education in Kaduna state at large. Afolabi (2005) stated that, "the concern of most public today is mainly on what they can do to help children to acquire a sound secondary education particularly in vocational subject like Agriculture, because of its place of influencing an individual's self reliance in students future living and academic life''. Therefore, it has been observed that qualitative education is mostly desired by the general public.

1.7 Basic Assumptions of the study

For the purpose of this research study, the researcher assumed that;

1. Academic performance of male students of public and private secondary school is estimated as high.
2. Academic performance of female students of public and private secondary school is rated as average.
3 academic performances of students of private secondary schools is higher than their counterpart in public secondary schools in Kaduna State, Nigeria.

1.8 Delimitation of the study

The scope of this study was limited to finding out the academic performance of public and private secondary school students in Agricultural science in Kaduna state, Nigeria. This research study further delimited to senior secondary certificate examination (SSCE) for three (3) sequential years (2014, 2015, and 2016) in order to answer the research

questions. Therefore, students of Agricultural science in both public and private secondary schools were covered by the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This research study reviewed related literature materials under these following sub-headings:-

2.1 Theoretical Framework

2.2 Concept of Academic Performance

2.3 Agricultural Science subject in secondary schools

2.4 Concept of teaching and learning

2.5. Teaching and Learning Strategies in Agricultural Science

2.6 Teaching and Learning Resources in Agricultural Science

2.7. Instructional facilities and students' academic performance.

2.8 Factors affecting students' academic performance in secondary school vocational Agricultural Science in Secondary Schools.

2.9 Empirical studies

2.10 Summary of the Reviewed Literature

2.1 Theoretical framework

This research looked at the theories of academic performance.

Academic performance is the outcomes of education – the extent to which a student teacher or institution has achieved their goals (Sophie *et al*, 2011). Academic performance represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in institutional environment, specifically in schools, colleges and universities (Haffie and John, 2009).

Performance as the adage goes is a journey not a destination. The journey was labeled as "Level of performance (Elger, 2010). Thelma (2014), Thelma (2014), used the ideas of the Astin (1982) to develop the pre-study theory who argued that retention and academic achievement are dependent on a combination of variable such as personal institution and demographic variable, Thelma also stated that three categories of variable are the intellectual bas of pre-study theory.

Another theory were stated by Kristu *et al*,(2000) theories of performance, which invites students to explore the possibilities of performance for creating, knowing, and stating, it survey explains, and illustrate classical, modern and post modern theories that answer the questions "What is performed, "why do people performance?" And how does performance constitute anti social and political?" He also stated that performance as the entity points to understanding text drama, culture, social poles, identify resistance, and technologies. He further narrated that performance theories are explained in ways of accessible to students, relevant to their lives, and richly illustrated with example that encourage students to think more, to think differently about performance around them, it encourage students to demonstrate, apply, extend and share their discovery about theory.

Covington (2012) in his book Goal theory motivation and school Achievement, stated that, the basic contention of achievement goal theory is that depending on their objectives, purpose, achievement goals differently influence school achievement via variation in the quality of cognitive self – regulation in their own learning including analyzing the demand and monitoring their progress toward completion of assignment. Covington further stated that specific hypothesis as achievement goal theories which is in twofold, first, that learning goals favours deep – level, strategic processing of

information, which in turn lead to increased school achievement; secondly, that performance goal trigger superficial, one–level processing that extend a stultifying influences on achievement.

Welberg (1981), theory of educational productivity, which identified 28 categories of learning influence, eleven (11) of them most influential domains of variables, eight (8) involved socio-emotional influences: classroom management, parental support, student teacher interactions, social behavior attributes, motivational effective attributes, the peer group school culture, and classroom climate.. The eleven most influential variable of learning according to Welberg are, school policies, organizational characteristics, curriculum of the school instruction characteristic, circular of the school instruction behavioural motivation, effective domain of learning, cognitive domain self-aware confidence of the students, learning ability learning goal and learning organization in approach to school work.

For the purpose of this research, the researcher used Welberg theory of educational productivity, the theory deal with cognitive, psychomotor and effective domain of learning which allows student to express their satisfaction while they were been actively involved in learning. This theory is filtered for this research study, because poor academic performance in Agricultural Science is based on the lack of practical (psychomotor) rather than classroom learning (Oni, 2015). For the students to perform good academically they ought to be actively involved through psychomotor domain (practical) in learning vocational subject especially agriculture.

2.2 Concept of Academic Performance

Winston, *et al* (2014), defined performance as the act of performing; carrying into execution or action, execution, achievement, accomplishment, representation by action, as the performance of an undertaking of a duty. Joanna, *et* '*al* (1980), defined performance as how well or how badly one does something. Academic performance is the ability to study and remember facts and being able to communicate the knowledge, verbally or down on paper (http//www.google.jam.2012). The term academic performance refers to how well a student does in school. Poor grades are considered as bad academic performance. It also refers to how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. Academic performance generally means how students are accomplishing their tasks and studies, but there are quite a number of factors that determine the level and quality of students' academic performance.

In educational institutions, success is measured by academic performance, or how well a student meets standards set out by institution. As career competition grows ever fiercer in the working world, the importance of students' doing well in school has caught the attention of parents and government education departments alike. Although, education is the only road to success in the working world, much effort is made to identify, evaluate and encourage the progress of students in schools. Parents care about their child's academic performance because they believe that good academic results will provide more career choices and job security.

Academic performance in school is evaluated in a number of ways. For regular grading, students demonstrate their knowledge by taking written and oral tests, performing

presentations, turning in homework and participating in class activities and discussions. Therefore, teachers evaluate in the form of letter or number grades and side notes to describe how well a student has done. School though invested in fostering good academic habits for the same reason, are also often influenced by concerns about the school's reputation and the possibility of monetary aid from government institutions which can hinge on the overall performance of the school.

The researcher viewed academic performance as a basic process of adopting and improving the quality and progress of students' performance, what is learned can be measured either by those things that have been observed in the behaviour of the individual or those that can be inferred. There is continuity in learning and it builds on experienced in whom it takes place, i.e. the school and academic performance is the focus of discussion in this study (Oni, 2015).

Academic performance refers to how students cope with their studies and how they cope with or accomplish different tasks given to them by their teachers (http//www.google.olaninie2012) Eyo (2012). A nation strength largely depend on the quantity and quality of her human resources, and quality of her human resources and education is pivot on which development rotate. In Nigeria, academic attainment have been regarded very seriously as the parameters for recruitment, placement and advancement in both public and private sector organization, more importantly these parameters are also highly adopted in selection of candidates for admission in the tertiary institutions and colleges. Due to this high premium placed on academic performance individuals do every possible to obtained excellent results. This no doubt places these concerned particularly students at varying levels of anxiety and tension in the process,

since success in examination many implicitly be synonymous in work and life (Fianu, 1981). This assertion is excepted by the researcher viewing this alliterative, since students considered selection of candidates for admissions into tertiary institution, recruitment and placement for advancement which depend on how one passed the examination, this become an energizing force that lead students, and their parents in selecting secondary school between private and public. This is in line with the view of Iroegbu and Manasseh (2013) in their research paper title "Effect of Test anxiety, gender and perceived self-concept on Academic performance of Nigerian student who said "Efforts should be made by school proprieties to lead learners achieved their academic performance to improve the self concept of students through modeling, conditioning, mentoring and behavior modification". The following are the academic facts resulting in poor performance.

i. Availability of infrastructure and materials, Kafui (2005) expressed that, infrastructure in the major factor that effect academic performance of students negatively, if it is not adequately provided.

ii. Poor preparation of students from lower level of the education system (Kolo, 2012) said that "both private and public secondary schools these days are teaching and student are learning only for examination purposes, course contents of subjects are no longer taught for the basic aim of wide knowledge and understanding".

iii. Absent of effective guidance services in the education system. According to Kolo (2012), Academic institutions do not give adequate attention to the counseling needs of the student. Lawver (2009) identified the counseling need of students as:

general problems, personal finance problem relating with others health and living condition. If those facts are properly met, performance of students will be increase.

iv. Organization of in-service training. Kafui (2005) stated "most of the head teachers / principal who will supervise the works of other teachers to achieved stated objectives lack basic training to make their knowledge up-to-date. Therefore, these lead to low performance of their student during examinations. Kolo (2012) stated other challenging factors that lead to students poor academic performance: Parental neglect or over pampering of their children /ward, Population explosion, Inadequate of lecture in term of quantity and its quality and Out – dated curricular content and programme.

Kafui (2005) provided the way forward to the identified factors, where he said "regular sensitization meeting and community non-formal education classes should be organized within the community to inform parents about the value of education to the children, the community and the nation". Supervision of teacher's works should be strengthened and circuit supervisors should be more regular in the school (Kafui, 2005). Nbina (2012) suggested the following to curb the started factors of low performance:

a. The authority should provide and retain qualified teachers and provide adequate teaching and learning facilities and equipments to schools. Teachers' preparation programmers should be student centered.

b. Effective and cognitive teaching strategies should be interwoven during agricultural teaching and learning since both have impact on agricultural reasoning.

c. Since not all students can afford to buy expensive textbook, the school should have an adequate and functionally library, manned by at least one professional librarian (Nbina, 2012).

2.3. Agricultural Science Subject in Secondary Schools

According to Morris and Sheffield (1976), teaching of Agricultural science in secondary schools should aim at ensuring that the learner is exposed to and taught the basic principles that are important of agricultural production in the country and exposing and involving learners in various practical and projects that will help them develop the necessary skills and abilities required in agricultural production. By the end of the Agricultural science course, the student should be able to develop an interest and awareness of opportunities that exist in the agriculture sector, create an understanding of agriculture and its importance at the household and national level, and demonstrate that farming is a profitable and dignified occupation and develop and improve the knowledge and ill basic agricultural practices. Other objectives are to provide a background for further studies in agriculture, develop self-reliance, resourcefulness, problem solving abilities and an occupational outlook on agriculture, promote good agricultural activities to enhance environmental conservation and good health, and take an active part in rural development by integrating agricultural activities in the curriculum. Morris and Sheffield (1976) further noted that despite periodic efforts of introducing Agricultural science into the schools in developing countries, penal and community demand for academic education leading to high status and pay of the modern sector has kept most schools within an academic teaching. Thus, as a means of escaping from agriculture and manual labour, schools remain oriented for the fortunate

minority who gain access to the modern rather than to the vast majority who remain in traditional agriculture

2.4 Concept of teaching and learning

Muraya and Kimamo (2011) define teaching and learning as an attempt to help someone acquire or change some knowledge, skill or attitude. They further defined teaching and learning as a process where one person, the teacher intentionally passes information to another person, the learner. Therefore, the goal of teaching is to bring about desirable learning in students. In this process, the learner is expected to received information, understand it and use it later when the need arises. For effective teaching and learning to occur, the teacher must use an effective approach of conveying the information to the learner (Muraya and Kimami, 2011). He further notes that, the way teacher teaches is important in that with the right methods and techniques, students can grasp concepts and idea while poor methods and techniques frustrated students' academic performance and minimize their chances of success. It emerge from the fore-going discussion that , for effective teaching and learning the strategies adopted by a teacher is paramount and teachers should therefore have a choice of effective teaching and learning strategies for effective learning to occur.

Muraya and Kimamo (2011) notes that, many teaching and learning strategies have been created and studied by educational researchers, classroom teachers, psychologist, industrial trainers and philosophers. He further notes that, a teaching and learning approach has four defining attributes: a coherent theoretical rationale made explicit by its creators or developers; a point of view about what and how students learnt: specific teaching behaviors that make the approach to work: and, required classrooms structure

for bringing about intended outcomes. Arising out of this, teaching and learning approaches are classified according to their in structural goals, their syntaxes(sequential patterns) and the nature of their learning environments. In this strategy, the classroom environment is characterized by cooperative task and incentives structure and by small group activity. It can be used to teach complex academic materials and can help teachers accomplish important social learning and human relations goals. It is therefore, possible to distinguish and select different teaching and learning strategies that are appropriates for attaining particular objectives in a teaching and learning situation. Teaching and learning strategies that are students-centered promote more learning, in that learning is more likely to be effective where a student plays a proactive role in the leaning process which enhance their academic performance. (Muraya, and Kimamo, 2011)

2.5 Teaching and learning strategies in Agricultural science.

Agricultural science subject is special in comparison with other subjects in that it cannot be learned solely in the field or solely in the classroom. Practical teaching and learning such as traditional apprenticeship learning should ideally be complemented by more formal learning to enable many aspects of agriculture and rural development to be seen in their true perspective (Mwangi and Mwai, 2002). Teaching and learning strategies are traditionally referred to as methods of teaching and learning. Modern trends in teaching and learning emphasize certain approaches which determine the strategy to be used. These approaches include; interactive approach, collaborative approach, transmission approach, experiential approach and facilitative approach. Interactive approach is where there is exchange of ideas between the teacher and the learner or among learners themselves as in group work. Collaborative approach is where learners share ideas in

groups or projects. Transmission approach, the teacher dominates the lesson by use of lecture. In experiential approach learners life experiences are explored and used as a basis for development of new knowledge, skills and passing judgment. Learning is based on the learner's experiences in the community. In facilitative approach the teacher provides the stimulus for learner's interaction with the new knowledge and also provides opportunities for the learners to learn. The teacher is merely a guide and director of learning/teaching (Petty, 2004). Based on the above approaches the Agricultural science teacher is the one who determines the strategy to use depending on the content he/she is teaching the learners. The most used strategies in teaching Agricultural science are lectures, demonstrations, discussion, educational visits, projects, question and answers, assignment and practical (Williams and Dollisso, 1998). Lecture as a method of teaching involve transmission of information from teacher to the learner. The teacher reads out the notes to the learners as he/she explains to them. The method is mainly teacher centered and the learner's activity is listening and taking notes. Demonstration is a practical way of explaining or describing a process or activity. The teacher demonstrates an activity before engaging the class in the same. The teacher may also use one of the learners to demonstrate the activity. Discussion is a form of interaction which involves learners' participation through talking or writing in which merits and demerits of a process or object are considered, it encourages an open exchange of ideas. Educational visits provide learners with an opportunity to explore other environments and make school life more interesting as it provides the learners with exciting experiences that bring joy and satisfaction that would not have been in the experience in the normal classroom interaction. A number of teachers are however, of the opinion that field trips are not well-

planned and scheduled (Faulker and Baggett, 2005; McKinney, 2005). According to Oluwole (1987), the practical orientation and education value of projects make students suitable for implementing the practical aspects of Agricultural science in secondary schools. Assignments are a common practice in most schools. This involves literature review and at times interview or field observations. During a study of literature ents are assisted to learn how to extract facts and figures from books and reports and to prepare a brief written report on their findings. Assignments have become an excellent teaching aid that increases the students' communication skills. Although secondary school Agricultural science teaching and learning had been in existence for many years, teaching and learning methods are still far from satisfactory because they are largely focused on transferring knowledge which is judged to be useful in examinations. Most of information is merely memorised and learners do precisely what they are told by their teachers or trainers (Faulker and Baggett, 2005; McKinney, 2005).

2.6 Teaching and learning resources in Agricultural science.

Teaching and learning resources are all materials and equipment used to enhance effective learning. A teacher selects, develops and recognises teaching and learning resources for effective teaching and learning. A teacher is therefore the most important teaching-learning resource. According to Ogweno (2015) having satisfactory facilities, equipment and materials should not be minimised in establishing the curriculum due to their contribution to the effectiveness of teaching and learning in the school. Their availability will enhance or inhibit the implementation of curriculum. It then follows that facilities, equipment and materials influence the implementation of secondary school Agricultural science subject. Because of the development in modern technology, teachers

no longer have to rely solely on words to make their meanings clear. There is great variety of materials around that can be used to make meaning more vivid and more interesting. These materials are the teaching and learning resources. Ogweno (2015) further observes that, these resources by being presented raw offer stimulating alternative to the conventional textbooks. The latter summarises, explains, interprets and as a consequence subtly structures perception and understanding thus teaching and learning resources help the learner to learn effectively. A shortage of these useful resources will impede teaching and learning. Teaching and learning resources play a key role as far as teaching and learning is concerned. Ogweno further asserts that good teachers as they teach keep in mind both what they teach and what they teach with. The availability, quality and adequacy of resources such as physical facilities and equipment will establish whether this is the case. According to UNESCO (1999), secondary school syllabus for Agricultural science, as an important teaching resource not only provides the teacher with content, but also suggests appropriate teaching and learning strategies. These teaching strategies include description, discussion, group work, observations, records and reports, visits, videos, brainstorming, demonstrations, project work and practical (UNESCO, 1999; Petty, 2004).

2.7 Instructional Facilities and Students' Academic Performance

In the review of instructional facilities it was found out that the quality of education is dependent on a variety of factors, some of which are the availability of classrooms, furniture, equipment, textbooks, libraries, laboratories and technical workshops which are very essential in teaching and learning process. Therefore, students in both developed and developing countries have shown that such factors contribute greatly to students'

achievement. Heynemann (1980) research in developed and developing countries has led him to the conclusion that students in developing countries perform much below those of developed countries because of inadequate and poor facilities. He points out comparatively the achievement of Malawi standard eight students in mathematics and science is below that of Thailand, Iran, Chile and developed countries such as Sweden, U.S.A and United Kingdom. Thus, at the minimum a school is acceptable if it can provide a place for students to work without the danger of a roof collapsing if neither wind nor rain sends students in to a corner for protection. If there is a place for each to sit down, a place to write , material to write with, and a certain minimal number of maps, charts, and reference books from which to derive information (Heyneman, 1980).

Instructional spaces as classrooms, libraries, laboratories and technical workshops are very vital in teaching and learning process. The extent to which these spaces could enhance effective teaching and learning depends on their location within the school premises, their structure and instructional facilities. It is not unlikely that well planned instructional spaces in terms of location, structure and facilities will facilitate effective teaching and learning process and as well as enhance good academic performance of the pupils. Consequently, on emphasizing the importance of instructional spaces to students' academic performance, Mark (2000) maintained that one cannot expect high level of students' academic performance where school buildings such as classrooms, libraries, textbooks, technical workshops, and laboratories are substandard. It is emphasized that clean, quiet, safe and comfortable health, environment are important component of successful teaching and learning. Similarly, Ajayi *et al* (2007) maintained that high level of student'/pupils' academic performance may not be granted where instructional

facilities such as textbooks, classrooms, libraries, technical workshops, where necessary and laboratories are structurally defective, not properly ventilated and not spacious enough for use. It was further emphasized that structural effectiveness, proper ventilation space and well located instructional space may lead in the successful teaching and learning process in the school.

In the review of educational literature, it is frequently argued that the quality of education is dependent on a variety of factors some of which are the availability of classrooms, furniture, equipment, textbooks, libraries, laboratories and technical workshops are crucial in teaching –learning process. Heyneman(1980), after conducting research in developed and developing countries has led him to the conclusion that students in developing countries perform much below than those of developed countries, because of inadequate and poor school facilities. He points out comparatively the achievement of Malawi standard eight students in mathematics and science is below that of Thailand, Iran, Chile, and developed countries such as Sweden, U.S.A. and U.K. Thus, in the context of this important aspect (school instructional facilities) there must be adequate and required number of school facilities so as to have better and qualitative education in all parts of the country. Heyneman (1980) maintained that at the minimum a school is acceptable if it can provide a place for students to work without the danger of a roof collapsing; if neither wind nor rain sends students in to the corner for protection, if there is a place for each to sit down, a place to write, material to write with and a certain minimal number of maps, charts, and reference books from which to derive information. He goes on to argue that Malawi is far from attained the goal of acceptable schools. This would equally and inevitably be applicable to most developing countries. He maintained

that, in Malawi classroom activities are frequently interrupted by rains or strong winds and it is not unusual for walls to collapse. Teachers have office or chairs, pupils' squat on the floors and write on slates or in their exercises books balancing them between their knees.

An interesting contrast is that between Maryland, U.S.A, and Malawi. A single school in Maryland invested about $ 518 per pupil for the purchase and maintenance of furniture, reading materials and equipment compared to less that is the case $ 1.00 in any given school in Malawi. Given this differences between developed and developing countries, it is evident that what pupils learn in school in less developed countries is much less than is the case in developed countries (Heynemann and Jamison, 1980)

2.8 Factors Affecting Students Performance in Vocational Agricultural Science Subject.

Kidane and Worth (2012) stated that "It was in literature that five (5) factors influence the agricultural education training, the principles were family, individual, socio-cultural, socio economic, and situational factors".

1. Family: Parents of the students are the major role players in academic achievement (Alam and Farid, 2011). In the teaching and learning process, family factors influence student's success and school achievement at all level of education. Their expectation, home environment and parental involvement in their child's education such as creating conducive home environment and the consistent precision of assistance in their studies are the main factors that could affect the student academic performance (Christenson *et al*, 1992). Marks (2006) reported that both family size and family true have effects on students academic

performance, student from large, single parents and re-constituted families were found to be groped in the academically weaker categories in the school. The study also clearly showed that family types such as single parent and reconstituted family had negative effects on students performance., Agricultural science training need to be conscious of this reality and be designed to help students overcome any negative influencing factors (Kidane and Worth, 2012).

2. Individual: In the school environment, the individual's factors such as student competence in the medium of instructional language study effort the number lectures missed and age are the most determining factors in students' educational successes and performance. If addressed can have a positive effects on students achievement (Harb and Ahmad 2006),Teddlie and Reynold (2000) stated that, "student capacity and effort have a positive effect on student's performance in the school". This shows that individual factors have a positive intervention on student's performance and achievement identifying and controlling of these factors have a positive effects on students success in school.

3. Socio-cultural: The socio-cultural factors have been major implications in the school and student achievement. Socio-cultural factors that contribute to the quality of agricultural education implementation are students mobility and racial background (Copper *et al*,1998), social class, discrimination, language and ethnicity (Emitt*etal*, 2003). Otsuka (2004) confirmed that, "student's achievement varies based on their different ethnic background". Jeyede and Okebukola (1989) reported that socio-cultural factors such as goal structure, and the American world

–viewed and societal expectation have significant efforts on student's achievement in science subject".

4. Socio-economic: Arias and walker (2004) stated that learner's family socio-economic status and home learning environment have noticeable effort on learner's performance" socio-economic factors are related indirectly to student's academic performance and achievement through parental belief, income and behavior (Davis, 2015) socio- economic status is estimated as an arrangement of factors including income, level of education and occupation (Boskey, 2009), while Davis (2005) identified that parental education and family income as factors can explain difference in grades or performance of the students in school. Harband Ahmad (2006) AbdulRahim and Uddin (2009) stated that " another factor that contributed to differences in grades and academic performance of students is how crowded a classroom or lecture hall is, the more frustrating, the learning and the poorer students will perform academically".

5. Situational factors in teaching and learning process: The school environment, such as safe - school environment, flexible grouping and provision of language support for learners, were found to effects academic achievement. A positive school culture including a shared vision, an orderly climatic condition and positive reinforcement each play a vital role in academic achievement in the teaching and learning process (Teddlie and Raynold 2000). Kidane and Worth (2012) stated that results shows that, lack of enforcement policies and weak administration are the main sources of students stress in the school environment. Similarly, Baker, (2006), suggested that an improvement in situational condition

in the school, namely, increased support from school administration and the reduction would improve students achievement.

2.9 Empirical Studies

Oni, (2015) stated that, "Empirical studies is the past of literature review of where the completed part of research studies of the past researcher, who carried out the same or similar research studies are presented in details and usually come before summary of review of literature".

Dlamin and Zwane (1999) conducted a research titled "the relationship between high school students' academic performance in science and agriculture in Swaziland". The main purpose of the research study was to determine the relationship between the performance of O-level agriculture students in the basic science and agriculture. The research was descriptive correlation, the target population was form five (5) students of one thousand and eight hundreds (1,800) who wrote the 1996 O-level agriculture examination. Stratified cluster and random sampling techniques was used, the schools was stratified by administrative region and location. A sample size representative (n = 317) was obtained using the table by Krejcie and Morgan (1979) for determining sample size, the instrument for data collection was marked scripts of the 1996 O level Agriculture examination council in Swaziland. The statistic Frequencies means standard deviation, correlation, t – test, analysis of variance and multiple regression analysis were used to test the null – hypotheses at alpha level of 0.05 significance.

The researchers found that, the performance of students in science was highly correlated with performance in Agriculture, the students from urban and single sex schools

performance significantly higher than these students from rural government and mixed schools. The researchers concluded that there are strong relationships between science and agriculture, the performance in the science was best predictor of performance in agriculture. This present research is similar to the past study based on the fact that, academic performance is one among their variables. Also the present research study is similar with the past study in the sense that, they were gender partiality like the past research study, and the present research was based on Ex post factor research design and Survey design. The present research study looked into the academic performance of private and public secondary school students, while the past study looked at relationship between academic performance of high school students in sciences and agriculture, (Dlamin and Zwane, 1999)

Wingenbatch (1999) carried out a study titled "Agriculture students" Academic Achievement, attitudes, and learning styles". The main purposes of carrying out this research study were to determine if a statistical relationship existed in a form of complex application to agricultural course during spring semester. The study was carried out in Mississippi university of United State of America. The methodology of the research was descriptive survey and correlation design were use in the study. The target population were used as the sample size for he study, that means purposive sample of college of agriculture students (n = 45) had their computing application skills tested through traditional (that is paper and pencil) and electronic mail methods. The instrument used for data collection, the study was Likert type questionnaire in addition to teaching. The Spearman – Brown reliability Coefficient was used to determine the reliability coefficient at 0.87 level of reliability.

The research results indicated / showed a significant, moderately positive association between academic achievements and can deliver method of the quiz and exam scores. Agricultural students who took the quiz using paper and pencil had significantly highest scores than students who took the quiz through an electronic version. There also a significance relationship between academic achievements and learning style for the quiz, the field independent study achieved significantly higher scores than field dependent learners.

The present study is similar to the past study because both investigated into the academic achievement and the instrument for data collection is similar to the present study. The major different of present study with the past study is that, the present took place in Kaduna State, Nigeria, and an Expo factor and Survey design researches design were used, while the past research took place in Mississippi University, United State of America.

Aminu (2000), conducted a study on the impact of social stratification on academic performance of students of secondary schools in English language between the upper and lower classes in Kura local government area, Kano state. His study revealed that even though parents have great interest towards education of their children, hence some parent's financial and social background do not allow their children to be fully educated, and as a result of this a clear distinction was found in academic performance between students from the upper and lower classes.

The above study is different from this research because it was a comparison of Academic performance of secondary school students in English language in Kura local government area, while this research is based on the comparative analysis of the academic

performance of secondary school students of public and private schools in Kaduna state not in the Kura local government area.

Kabir (2009) conducted a study on the performance of N.C.E III male and female students in Collage of Education Gumel, Jigawa state in History, he found out that male students perform better than female because of the insufficient time for the female to read as much as possible. The male students produced excellent result because they had enough time to read and conduct researches as much as they desired. This makes it possible for the male students to perform better than female students. The above comparative study is quite different from this research because his comparative study was in History of N .C.E III male and female students, but this research study is aimed at finding out the differences in academic performance among secondary school students in Agricultural science in public and private schools in Kaduna state, Nigeria, Ex post factor research and Survey design was used to find the relationship in their performance, instead of descriptive design used by the past researcher.

Olaitan (2010) conducted a research study titled "Teachers and students" Academic performance in Nigerian secondary schools: implications for the planning". The purpose of carrying out the research was to establish whether there is a relationship between teachers' qualifications and students' academic performance in the public secondary school in the selected local government in Osun State, Nigeria and to identify whether there is a relationship between teachers years of experience and students' academic performance in the public secondary schools. The methodology of the study was descriptive survey involving the use of a questionnaire, unstructured interviews and documents sampling.. The population of the study includes two hundred and ninety (290)

public secondary schools in the thirty one (31) local government areas in the Osun State. Stratified sampling technique based on the existing three senatorial districts in the state was used to sample 21 of the 31 LGAs (68%). Purposive sampling was also used to sample one public secondary school in each of the LGAs to give a total of 21 sampled schools, the teachers (n = 991) within school respondents. The senior school certificate examination results from 2000 to 2005 were use to analyze students academic performance and reflected some concerns in the school system. The data were analyzed using ANOVA.

The results of the research showed that, a positive and significant relationship existed among quantity and quality of teachers and students' academic performance in the Nigeria secondary schools. This shows that teachers competency and adequacy is a panacea for attainment of educational goals and objectives. Also based on the findings form he study, it revealed that, student's academic performance in Osun state public secondary schools is a concern. This requires prompt attention on the part of the state educational planners and policy makers to improve the academic situation of the state public secondary education. The present research study is similar to the past study because both studies are on course of finding academic performance of secondary school students, and the present study is different from the past research study based on that the present study look at both public and private secondary school students' academic performance in Kaduna State, while the past research looked at the academic performance of only public secondary school students in general subjects but, the present research study looked only agricultural sciences subject, because of its importance as vocational subject.

Adika and Christianah (2015) carried out a reaches titled" Comparative analysis of social studies academic achievement of private and public junior secondary schools' students in Ibadan North local government area of Oyo State Nigeria" the major purpose of the study is to determined relationship between the academic achievement of private and public secondary school students, in social studies. The research adopted a descriptive research and ex post- facto design, because none of variable is being manipulated (Adika and Chirstianah, 2015). The target population were private and public secondary school students, a sample of three thousand two hundred and forty – four (3,244) students were selected from both public and private junior secondary school, through simple random sampling technique, three research hypothesis were set for the study. It was found that there was a significant differences in the performance of private and public school students (3.88> 1.96), there was significant differences in the performance of male and female student in both private school (0.29< 1.96), and there was significant difference in the performances of male and female students in public junior secondary school (0.09< 1.96). The data collected for the study were subjected to descriptive and interfacial statistical analyses, frequency count and simple percentage were used to answer the research questions and hypothesis were tested using t – test statistics at 0.05 level of significance. The researchers found out that, the calculated t – value is 3.88, and the critical t – value is 1.96 at 3222 degree of freedom is significant at 0.05 level, since the calculated t – value of 3.88 is greater than the critical t – value of 1.96, this implies that there is a significant differences in the performance of students in public and private junior secondary schools, in Ibadan – North local government. The observed significant

difference is in favors of private schools with mean score of 54.67, which is greater than the mean score of public schools (52.54).

This present research study is similar to the past work because academic performance / achievement are some of their variables. The present study is similar with the past research findings because the present one deal with academic performance of students in public and private secondary schools in agricultural sciences, while the past research deals with achievement of students of private and public junior secondary schools in social studies. Also the present study different with the past research study in the form of using experimental(Ex post factor) research design and Survey research design to test the relationship of academic performance of both private and secondary schools in agricultural science and teaching facilities and teachers' welfare.

2.10 Summary of the Reviewed Literature

The researcher reviewed relevant literature materials. The Kristin's theory of performance which dealt with how the students explore creativity, knowledge and skills. It also answered the questions of "what is performance? Why do people perform? And how does performance constitute students social and political world?" the theory stated that performance. Another theory of academic performance by Keith pound, which described concepts and methodology of teaching that yet exist whose contributes greatly in the good academic performance of the teaching that yet exists whose contributes greatly in the good academic performance of the students. This study was based on those theories because for the students to perform good academically in whatever learning situation, methods of teaching matters a lot, (Walberg, 1981). Theory of educational

productivity, which identified some categories of learning influence such as classroom management parental support, students–teacher interactions, social – behavioral attribute and motivational effective attributes that really helps learners to achieve high standard of academic performance. Also students can only be successful and satisfied when they find right environment to express their skills, ability values, attitudes and that is what influence students work effectively. Money, parental advice and support are among the factors the help students in their studies.

In the empirical studies reviewed, the work at Adika and Christianah (2015), which examine the public and private school academic performances whose revealed that, there a is moderate significance in the performance of private and public secondary school students. The work of Dlamin and Zwane (1999) that took gender as the predictor of performance in agriculture, then it was reported that competency of teachers and availability of teaching facilities help greatly in attaining the educational goals among the students. Olaitan (2010) research for academic performance in secondary school students, whose stated "private secondary schools, performed better academically than public schools" while, this gone contrary to the work of Luka and Mavis (2010) that, stated "public secondary school student perform significantly higher than public secondary school students'. These empirical studies and theories became energetic forces in the reviewed literature of this study and also exerting eagerness for the researcher to investigate and identify the crux of the matter, especially in vocational subject of agriculture among the public and private secondary school students' academic performance.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter discussed on research design methodology as contained in the followings subheadings.

3.1 Research Design

3.2 Population for the study

3.3 Sample size and sampling procedure

3.4 Instrument for data collection

3.4.1 Validation 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 analyses

3.1 Research Design

The research designs of this study were Ex post factor design. Ex post factor design deal for conducting research when is not possible or acceptable to manipulate the characteristic of human participants. It is a substitute for true experiment research, and can be used to test hypotheses about cause-and-effect or correlation relationship, where it is not practical or ethical to apply a true experimental, or even a quasi experiment design.

(Kerlinger and Rint, 1986). Ex post factor research uses data already collected, but not necessary amassed for research purposes, it literally mean "from what is done afterwards" (Cohen, Maniun, and Manison, 2009). Rassaq, Gabriel, and Samuel (2000) also viewed this research design as a study which involved an investigation on entire population of people or items by collecting data from sample drown from population and assuming that, these samples are representative of the entire population.

3.2 Population for the Study

The target population was students that sat for SSCE in 2014, 2015 and 2016 in all registered private secondary schools, and public secondary schools that offer Agricultural Science in Kaduna state, Nigeria. As shown in Table 1.

Table 1: Population of Students that sat for SSCE in Public and Private Secondary Schools in Kaduna State, that offers Agricultural Science

S/N	Year	No. of students sat for SSCE.		No. of students passed.		% passed	
		Public	Private	Public	Private	Public	Private
1	2014	15,393	10260	5358	7798	34.8%	76%
2	2015	15664	12108	8436	6437	53.9%	53.1%
3	2016	16285	12211	6964	7993	42.8%	65.5%

Sources: Public Relation Officer, Ministry of Education. (August, 2016)

3.3 Sample Size and Sampling Procedure

For the purpose of this research study, the researcher used purposive sampling procedure. Henrry (1990), stated that, " the purposive sampling procedure was used to arrive at a sample that can adequately answer the research questions, the selection of purposive sampling is often accomplished by applying expert knowledge of the target population to

select in a non-random manner, a sample that represent a cross-section of the target population". Therefore, based on that, the researcher selected two educational zones out of the educational zones available in the state, these educational zones are; (Anchau educational zones and Zonkwa educational zone) the researcher used purposive sampling in selecting four secondary schools, two from each educational zone, where one was public secondary school and the other one private secondary school. These are presented in Table 1.

Table 2. **Sample Size for the Study**.

S/N	Educ. Zone	Name of Sec. sch. selected	No. of student Sat for SSCE		
			2014	2015	2016
1	Anchau	PUBLIC: GSS Pambegua	108.	110.	95
		PRIVATE: BCSS Pambegua	44.	69	69
2	Zonkwa	PUBLIC: GSS Zangon-Kataf	116.	115.	123.
		PRIVATE: S.T. Francis Zonkwa.	78.	57.	82

Field Study, 2017.

The Researcher examined their Student's Senior Secondary Certificate Examination (SSCE) results for three (3) consecutive years, which was from 2014, 2015, and 2016.

Table 3. Number of Students (Males and Females) That Passed SSCE (Agricultural Science) in 2014, 2015 and 2016.

S/N	Name of School	Year	Males	Females
1	GSS Pambegua	2014	34	23
		2015	35	19
		2016	41	18
2	BCSS Pambegua	2014	14	13
		2015	12	13
		2016	22	14
3	GSS Zangon-Kataf	2014	30	24
		2015	11	6
		2016	18	7
3	S.T Francis	2014	36	20
		2015	19	16
		2016	39	26
	Total:		311	199

3.4 Instrument for data collection

Base on the research design of the study (Ex post factor), the researcher collected Senior Secondary Examination results of the sampled schools' students using Pencil and Paper , Ackroyd and Hughes (1981) stated that "Paper and pencil can be used to collect large amount of secondary data in a short period of time and in a relatively cost effective way. Paper and pencil is an instrument served to collect data in documented form (hardcopy) or transfer from hardcopy in to raw-data form, for further analysis (Gillhan, 2008).

3.4.1 Validation of the Instruments

Validity is the extent to which measurement instruments measure what it is supposed to measure or yield the desire results on repeated trials in a quantitative study (Kothari, 2004). Osuala (1987) stated that, an instrument for a research could be valid when it measures what is supposed to measure. The researcher adopted content validity, which involved consensus of scholars on a particular instrument on whether it is appropriate to measure a particular entity or not. Therefore, to establish the validity of the instrument, experts and professionals were consulted. This support the view of Hanger and Becker (2005) who stressed the need and significance of establishing the validity of research instrument by a panel of experts to determine if its item can obtain the desired data they are intended to obtain. Hence, the research instruments were pilot tested in two secondary schools in Zaria educational zones, this helped to identified ambiguities and grammatical errors for the researcher to correct them and ensure validity of the instruments.

3.4.2 Pilot Study

Pilot studies were carried out in one Public secondary school and one Private secondary school; these are: Government Science Secondary School Kufena, Zaria, and Saint Bartholomew's schools Wusasa Zaria, all under Zaria Educational Zone in Kaduna State. According to Emmanuel (2013), "a pilot study is carried out in different study area so far the characteristics are similar to the study area". In line with this, The Government Science Secondary School kufena Zaria, and Saint Bartholomew's Schools Wusasa Zaria was chosen for the pilot study because they shared the same characteristics with schools in the study area, and these schools offers Agricultural Science which is related to the

area of the study. The pilot study was conducted to obtain the reliability coefficient of the instrument. The results gotten were used to test for the reliability of the instrument.

3.4.3 Reliability of the Instrument

The collected data from the pilot study were statistically analyzed to determine the reliability coefficient. The Pearson product moment correlation co-efficiency (PPMCC) were used to establish the reliability of the instrument, and the result shows that (r) was 0.96. It was based on this (r) figure that instruments were administered to the respondents.. This reliability coefficient was considered adequate for internal consistency of the instrument. This was confirmed by Alphonsus (2012), who stated that "reliability coefficient of 0.50 and above is valid and reliable".

3.5 Procedure for Data Collection

The researcher obtained a Letter of Introduction from the Head of Department of Vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria, to the four (4) selected secondary schools sampled in the study area. This was used to introduce the researcher to the authority of the sampled secondary schools. Upon introduction, the researcher worked one-to-one with the examination officers to obtain their students' results for analyses.

3.6 Procedure for Data Analysis

The collected results of the students were coded and transformed from ordinal scale to interval scale and converted to raw data in order to answer all three research questions. The statistical technique used in analyzing the data collected is t-test statistical tools. The

researcher used t-test because the data are non-parametric in nature, and it is used to compare two group of population whether two population are equal or not, and to determine whether there are statistically significant differences between the means in two related and unrelated groups of students, that is why it is sometimes called students' t-test. The decision to use the variable sex was to see if gender can play a role in bringing about differences in the academic performance of both public and private secondary schools' students. The t-test is used to establish whether or not a significant difference exist between the variables at 0.05 level of significance. Based on the results of tested null hypotheses conclusion and recommendation were drown.

CHAPTER FOUR

PRESENTATION AND ANALYSES OF DATA

This chapter was presented under the following sub-headings:-

4. 1 Answer to Research Questions.

4. 2 Testing of Null Hypotheses

4. 3 Summary of the Major findings

4. 4 Discussion of the major Findings.

4.1**Answers to research questions**

Research Question One: What is the academic performance of male students of public and privates secondary schools in Agricultural Science in Kaduna state, Nigeria?

To answer question one, data collected were analysed using mean scores and standard deviation and mean difference as shown in Table 4.

Table 4: Mean academic performance of male students of public and privates secondary schools who passed at credits level and above in the years 2014, 2015, and 2016.

Types of schools	N	Mean	SD	Mean diff.
Public schools	169	28.17	10.38	
				4.5
Private schools	142	23.67	10.34	
Total	311	51.84	20.72	

Field study, 2017

Table 4, revealed that, the academic performance of male students of public secondary schools in Agricultural Science in the state was higher than private secondary school students in the years under review of 2014, 2015, and 2016. This showed that, male students of public secondary schools in Kaduna state performed higher than their counterpart in private secondary schools in Kaduna state, Nigeria

Research Question Two: What are the academic performance female students of public and private secondary schools in Agricultural Science in Kaduna state?

Table 5: Mean Academic performance of female students of public and private secondary school students with pass at credits level and above 2014, 2015, and 2016

Types of schools	N	Mean	Std Dev.	Mean Diff.
Public Schools	97	16.17	6.78	
				0.83
Private Schools	102	17	7.15	
Total	199	33.17		

Field Study, 2017.

Table 5, showed that female students of privates secondary school in Kaduna state performed academically higher than female student of public schools, they were ahead in the years under review 2014, 2015, and 2016, with the mean score of 17 and SD of 6.78 against the female students of public school that had mean scored of 16.17 ad SD of 6.78.

Research Question Three: What is the academic performance of students of public and private secondary schools in Agricultural Science in Kaduna State, Nigeria?

Table 6: mean academic performance of public and private secondary schools' students in Agricultural Science in Kaduna state.

Types of schools	N	Mean	Std Dev.	Mean Diff.
Public Schools Students	244	20.33	8.69	
				1.84
Private Schools Students	266	22.17	10.75	
Total	510	42.5		

Field Study, 2017.

Table 6, revealed that, the mean academic performance of private secondary schools was higher with mean scored of 22.17, and standard deviation of 10.75 against that of public secondary schools with mean score of 20.33 with standard deviation of 8.69, their mean difference was 1.84. This showed that students of private secondary schools in Kaduna state performed higher than their counterparts in public secondary schools in the years under study; 2014, 2015 and 2016.

4.2: **Testing of Null Hypotheses**

There are three Null Hypotheses that were postulated for the study to further probe the research questions. All the Hypotheses one, two and three were tested using t-test statistical techniques.

Ho1: There is no significance difference in the academic performance of male students of public and private secondary schools in Kaduna state.

Analysis of the data used to test null hypotheses two is presented in table 7.

Table 7: t-test between academic performance of male students of public and private secondary school students in Agricultural science in Kaduna state.

Types of schools	N	Mean	Std. Dev.	Df	T-cal	T-tab.
Male students of public	169	28.17	10.38			
				11	3.953	2.179
Male students of private	142	23.67	10.34			

Field Study, 2017.

The results of the t-test on compare academic performance of male students of public and private secondary schools in Agricultural Science, the analyses revealed that, male public students had mean of 38.17 and SD of 10.38, against the private schools students (male) that had mean of 23.67 and SD of 10.34. The t-cal value was 3.953 which were greater than t-tab of 2.179 at 0.05 level of significance.

DECISIONRULE: The t-cal of 3.953 is greater than the t-tab of 2.179 at 0.05 level of significance. Therefore, the null Hypothesis is rejected: There is a significance difference in the academic performance of male students of public and private secondary schools in Kaduna state Nigeria.

Ho2: There is no significance difference in the academic performance of female students of public and private secondary schools in Agricultural science in Kaduna state, Nigeria.

To test null hypothesis two of the female students of public and private secondary schools in Agricultural Science, the analyses is presented in table 8.

Table 8: T-test on the academic performance of female students of public and private schools in Agricultural science in Kaduna state.

School types	N	Mean	Std.Dev.	DF	T-cal	T-tab
Females students of public	97	16.17	6.78			
				11	4.012	2.201
Females students of private	102	17.0	7.15			

Field Study, 2017.

The results in table 8 present the academic performance of female students of public and private secondary schools in Agricultural science. The female students of public schools had mean of 16.17 with SD of 6.78, while female students of private schools had mean of 17.0 and SD of 7.15. The t-cal is 4.012 which are greater than t-tab of 2.201 at 0.05 level of significance.

DECISION RULE: The t-cal of 4.012 is greater than t-tab of 2.201. Therefore, the null hypothesis is rejected; significance difference exists in the academic performance of female students of public and private secondary schools in Agricultural science in Kaduna state Nigeria.

Ho3: There is no significance difference in the academic performance of public and private secondary schools' students in Agricultural Science in Kaduna state.

To test null hypothesis three of the academic performance of students of public and private secondary schools in Agricultural Science, the analyses were presented in table 9.

Table 9: t-test between academic performance of public and private secondary school students in Agricultural Science in Kaduna state, Nigeria.

Types of schools	N	Mean	Std. Dev.	Df	T-cal	T-tab.
Students of Public Schools	244	20.33	8.69			
				11	5.339	3.106
Students of Private Schools	266	22.17	10.17			

Field Study, 2017.

The results in analyses of table 9 for the academic performance of public and private secondary school students in Agricultural Science. The mean scored of students of public secondary schools was 20.33 with standard deviation of 8.69 which were lower that mean scored of 22.17 and standard deviation of 10.17 for private secondary schools students. Hence, the t-cal of the analyses was 5.339 which were greater than the t-table of 3.106 at 0.005 significance difference.

DECISION RULES: The t-cal of 5.339 was greater that t-table of 3.106. Therefore, the null hypothesis was rejected; significance difference existed between academic performance of public and private secondary schools in Agricultural Science in Kaduna State.

4.3 **Summary of the Major Findings**

From the data analysis, the followings are summary of major findings:

Male secondary school students of public schools performed higher in the years of 2014, 2015, and 2016, for student that scores credits pass (A, B, and C) , against male students of private schools. Female secondary school students' academic performance of private

secondary schools supersedes their female counterpart of public secondary schools, as shown in analyses of Table 5. Therefore female students of private secondary schools in Kaduna state performed higher than their colleagues in public schools in the study years of 2014, 2015, and 2016. This result agrees with Talatu (2013) who stated female students of private's secondary schools performed higher than their counterpart in public schools. Also, Yahaya (2003) that said that, "Gender plays role in determining academic performance.

In the overall academic performance of the public and private secondary schools students, the private secondary schools students' academic performance war higher that their counterpart in the public secondary schools as shown in table 6.

4.4 **Discussion of the Major Findings**

The study revealed that, private secondary schools students' academic performance in Kaduna state on Agricultural Science had significance improvements over public schools students', this finding is in agreement with that of Robert (2009), who stated that private secondary schools allow for minimal bureaucracy in administration and more time in teaching and learning, hence private schools achieve good results than their public counterpart.

The results of the study also revealed that, male students of public secondary schools academic performance in the years 2014, 2015 and2016 was positively higher than male students of privates schools in these years. These findings is supported by Kerka (2000) who found that, male students of public cooperated better than their counterpart, that is why they always do better under cooperating learning strategies.

The study further revealed that, female students of private schools performed higher than their female counterpart in public schools. This is in agreement with finding of Kayode (2002) who reported that " Gender differences devours girls in performance" this also goes contrary to Uwaimeiye and Ogunbameru (2005) who find out that, gender has no significant effect on male and females academic performance, the results also disagree with Adhimabi and Heneveld (1995) who observed that, male students beats female students academically.

The study also revealed that, students of private secondary schools in Kaduna state performed higher than their counterpart students of public secondary schools in Agricultural Science in Kaduna State, Nigeria This agrees with Afolabi (2005) who reported that, private schools students performed higher that students of public secondary school in their final examination.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATION

This chapter is presented under the following sub-headings:-

5.1 Summary

5.2 Contribution to knowledge

5.3 Conclusion

5.4 Limitation

5.5 Recommendation

5.6 Suggestion for further studies

5.1 Summary

The research work was on the comparative analyses of students' academic performance in Agricultural Science in public and private secondary schools in Kaduna state, Nigeria. The study had three specific objectives, three research question, and three null hypotheses. The researcher adopted ex post factor designs, the population of the study was all students of public and private secondary schools that sat for senior secondary certificate examination in Agricultural Science for the years of 2014, 2015 and 2016 in Kaduna state, Nigeria. The researcher collected students' SSCE results. Mean score and Standard deviation were used to answer the research question one, two and three, In the test of null hypotheses, t- test statistic

technique was used to test all the three null hypotheses. All the three null hypotheses were tested at 0.05 level of significance.

The study revealed that:

Male students academic performance of public secondary school was higher when compared to academic performance of their male counterpart in private schools in Agricultural Science, with the mean of 28.17 for students that had A, B, and C in their results with standard deviation of 10.38 against private school students with mean scores of 23.67 and standard deviation of 10.34.

Female secondary school student's academic performance of private schools performed higher than female counterpart of public school, they had mean scores of 17.0 with standard deviation of 7.15, while public female students' academic performance had mean of 16.17 and standard deviation of 6.78.

The study revealed that, private secondary schools student performed higher that public secondary school students, with mean scored of 22.17 with standard deviation of 10.75 against that of private secondary school student mean scored of 20.33 and standard deviation of 8.69, as shown in tables in 6 and 9.

5.2: **Contribution to Knowledge**

Many researchers had written on the academic performance of private and public primary schools and secondary schools students' in Nigeria and other part of the world. It revealed to me that, none of the researcher had discussed academic performance of public and private secondary school students in Agricultural Science in Kaduna state, Nigeria,

despite vocational importance of Agriculture. Therefore, this research brought out the real state of academic achievements of public and private secondary schools students in Agricultural science in Kaduna state Nigeria ; were male students of public secondary schools performed higher than male students in private schools, as showed in the analyses, while female students of private secondary schools performed higher than their female counterpart in public schools, as revealed in the research results, the research also revealed that, these differences in their academic performance happened due to availability of infrastructural facilities in private schools, otherwise public schools. These served as the contribution of knowledge to the world of academic.

5.3: **Conclusion**

Both public and private secondary school students are doing well in their Senior Secondary Certificate Examination (SSCE) though private secondary school students performed higher than those in public secondary schools, based on this research study this happened because of the availability of teaching and infrastructural facilities in the private schools. Also research revealed that, male students of public schools performed higher than male students of private schools, but females students of private schools performed slightly better than their counterpart of public schools, when all results of their student were analysed it revealed that, public secondary schools were ahead of private academically.

5.4: **Limitation of the study**

During the course of this work, a number of limitations were experienced by the researcher, but researcher had skipped them by the help of Zonal directors, among which are:-

1. There was difficulty in getting the students' results from the examination officers, because the officers regarded it as secrets documents for their students.
2. There was fear on the faces of the administrators both public and private secondary schools, in the sense that, the results of the research may expose their weaknesses to the wider society, which may tarnish their image or reputation.

5.5: **Recommendations**

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

1. The Government should provide more infrastructural facilities to the public secondary schools in order to enhance effective teaching and learning.
2. The public secondary schools teachers should be adopt the concept of "Improvisation " of instructional materials of teaching aid to improve effective teaching and learning.
3. There is need for Kaduna state government to sponsor seminars for all the secondary schools in Kaduna state, both public and privates for a frank talk and dialogue, for the purpose of coming up with a radical plan of actions based on recognition and understanding, collaborating, and reality directed toward checkmating further reasons of academic performance differences between

public and private secondary schools, and for the mass failure in public examinations despite their scheme of work and curriculum are all the same.

5.6: **Suggestion for further studies**

The study suggested that, male students of public secondary schools performed higher than male students of private schools in Agricultural science. otherwise, female students of private secondary schools performed higher that their counterpart in public secondary schools, and also private schools students in general performed higher than their counterpart in the public secondary schools in Kaduna state , Nigeria.

Therefore, the following suggestions were made

1. Further studies can be carried out on similar topic in the other state of the federation or other vocational subject like: Business education and Home economics.
2. Also studies can be carried out on all other conventional subject, so as to identify and examine sources of difference in public and private secondary schools students' academic performance and suggest possible ways forward.

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APPENDIXII

GOVERNMENT SECONDARY SCHOOL, PAMBEGUA, 2014 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Male	A
2	Male	D
3	Male	D
4	Male	B
5	Male	E
6	Male	A
7	Male	C
8	Male	E
9	Female	C
10	Male	B
11	Female	D
12	Female	C
13	Male	D
14	Male	D
15	Male	A
16	Female	D
17	Female	C
18	Male	B
19	Male	F
20	Male	D
21	Female	C
22	Male	F
23	Male	F
24	Female	C
25	Female	F
26	Female	C
27	Male	F
28	Male	C
29	Male	D
30	Male	C
31	Male	C
32	Male	C
33	Male	C
34	Male	F
35	Male	C
36	Male	D
37	Male	C
38	Male	E
39	Female	D
40	Female	B

41	Female	B
42	Female	D
43	Female	C
44	Male	B
45	Male	D
46	Female	D
47	Male	E
48	Male	C
49	Male	F
50	Male	C
51	Male	C
52	Male	D
53	Male	D
54	Female	C
55	Female	C
56	Male	C
57	Female	F
58	Male	E
59	Female	E
60	Female	E
61	Male	C
62	Male	F
63	Male	C
64	Male	F
65	Male	C
66	Male	E
67	Male	C
68	Male	E
69	Male	C
70	Female	C
71	Female	A
72	Female	D
73	Female	C
74	Male	C
75	Female	C
76	Male	F
77	Female	D
78	Female	D
79	Female	F
80	Female	F
81	Male	C
82	Male	F
83	Male	C
84	Male	C
85	Male	C

86	Male	C
87	Male	F
88	Male	C
89	Male	C
90	Female	F
91	Female	D
92	Female	F
93	Female	F
94	Male	A
95	Male	F
96	Male	D
97	Female	C
98	Male	F
99	Male	C
100	Female	C
101	Female	C
102	Male	F
103	Female	C
104	Male	B
105	Female	C
106	Female	C
107	Female	C
108	Female	C

APPENDIX III

GOVERNMENT SECONDARY SCHOOL, PAMBEGUA, 2015 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Male	E
2	Male	C
3	Female	E
4	Female	A
5	Female	F
6	Male	A
7	Male	F
8	Male	C
9	Male	A
10	Male	F
11	Male	A
12	Male	D
13	Male	D

14	Female	C
15	Male	B
16	Male	D
17	Female	C
18	Female	C
19	Male	D
20	Male	B
21	Male	F
22	Female	A
23	Male	F
24	Male	C
25	Male	C
26	Female	C
27	Male	F
28	Female	C
29	Male	A
30	Male	A
31	Male	C
32	Male	D
33	Male	C
34	male	C
35	Female	D
36	Male	B
37	Male	B
38	Female	C
39	Female	C
40	Female	F
41	Male	B
42	Male	F
43	Female	C
44	Male	C
45	Male	C
46	Male	B
47	Male	C
48	Male	E
49	Female	B
50	Female	F
51	Male	B
52	Female	C
53	Female	C
54	Male	F
55	Male	C
56	Female	F
57	Female	B
58	Female	B

59	Female	F
60	Male	C
61	Male	C
62	Male	F
63	Male	C
64	Female	F
65	Male	C
66	Male	C
67	Male	F
68	Mae	D
69	Male	C
70	Male	C
71	Female	A
72	Female	C
73	Male	C
74	Female	A
75	Male	A
76	Male	A
77	Male	C
78	Female	A
79	Male	C
80	Male	A
81	Male	D
82	Male	D
83	Female	A
84	Male	E
85	Male	D
86	Male	F
87	Male	D
88	Male	D
89	Female	D
90	Female	F
91	Female	D
92	Female	D
93	Female	D
94	Male	E
95	Female	D
96	Male	E
97	Female	D
98	Male	E
99	Male	D
100	Male	D
101	Male	D
102	Male	F
103	Male	D

104	Male	E
105	Male	E
106	Male	D
107	Male	D
108	Male	D
109	Male	D
110	Male	D

APPENDIX IV

GOVERNMENT SECONDARY SCHOOL, PAMBEGUA, 2016 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GEMDER	GRADE
1	Female	D
2	Female	D
3	Male	F
4	Male	A
5	Male	F
6	Male	B
7	Male	F
8	Male	C
9	Male	F
10	Female	D
11	Female	F
12	Male	C
13	Male	C
14	Female	C
15	Male	C
16	Male	D
17	Male	C
18	Male	C
19	Male	C
20	Male	F
21	Male	C
22	Female	C
23	Male	C
24	Male	C
25	Female	C
26	Male	E
27	Male	C
28	Male	C
29	Female	E
30	Female	C

31	Male	C
32	Male	C
33	Male	C
34	Male	F
35	Male	C
36	Female	C
37	Male	F
38	Male	C
39	Male	C
40	Male	C
41	Male	C
42	Male	B
43	Male	C
44	Female	E
45	Female	E
46	Male	E
47	Male	E
48	Female	B
49	Female	B
50	Male	E
51	Male	B
52	Male	E
53	Male	C
54	Male	E
55	Male	C
56	Female	C
57	Female	C
58	Male	E
59	Male	E
60	Male	F
61	Female	C
62	Male	C
63	Male	C
64	Female	C
65	Male	F
66	Female	C
67	Female	F
68	Female	F
69	Female	C
70	Female	C
71	Male	C
72	Male	E
73	Male	C
74	Male	C
75	Male	C

76	Female	E
77	Male	C
78	Male	C
79	Female	E
80	Male	C
81	Male	C
82	Female	E
83	Male	C
84	Female	C
85	Female	C
86	Female	C
87	Male	D
88	Male	C
89	Male	D
90	Male	C
91	Female	D
92	Male	C
93	Male	D
94	Male	A
95	Female	C

APPENDIX V

BEGUA COMMUNITY SCIENCE SECONDARY SCHOOL, PAMBEGUA, 2014 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Male	F
2	Male	A
3	Male	C
4	Female	C
5	Female	A
6	Male	D
7	Male	F
8	Male	F
9	Male	A
10	Female	F
11	Female	F
12	Female	E
13	Male	E
14	Female	B
15	Male	F
16	Male	C
17	Male	F
18	Male	B

19	Male	C
20	Male	D
21	Male	F
22	Male	B
23	Female	B
24	Male	F
25	Male	F
26	Female	B
27	Female	D
28	Male	C
29	Male	B
30	Male	B
31	Female	B
32	Female	C
33	Male	B
34	Female	C
35	Male	C
36	Female	A
37	Male	F
38	Male	A
39	Male	C
40	Female	D
41	Female	A
42	Female	A
43	Male	D
44	Male	B

APPENDIX VI

BEGUA COMMUNITY SCIENCE SECONDARY SCHOOL, PAMBEGUA, 2015 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Female	A
2	Female	B
3	Female	D
4	Male	C
5	Male	A
6	Male	F
7	Male	A
8	Male	E
9	Female	E
10	Male	E
11	Male	F
12	Male	D
13	Male	D

14	Male	F
15	Male	F
16	Male	D
17	Female	F
18	Female	D
19	Male	E
20	Male	D
21	Male	F
22	Male	D
23	Female	D
24	Female	B
25	Female	F
26	Male	D
27	Female	E
28	Male	F
29	Female	F
30	Male	F
31	Male	E
32	Male	F
33	Male	D
34	Male	F
35	Male	D
36	Female	C
37	Male	E
38	Female	D
39	Male	C
40	Male	E
41	Male	F
42	Female	D
43	Male	F
44	Male	C
45	Male	F
46	Female	C
47	Male	F
48	Female	F
49	Male	C
50	Male	F
51	Male	
52	Male	C
53	Male	F
54	Male	D
55	Male	F
56	Male	A
57	Male	A
58	Male	A
59	Male	F
60	Female	C
61	Male	A
62	Male	F

63	Male	E
64	Male	A
65	Male	F
66	Female	A
67	Female	F
68	Female	E
69	Female	A

APPENDIX VII

BEGUA COMMUNITY SCIENCE SECONDARY SCHOOL, PAMBEGUA, 2016 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE

S/N	GENDER	GRADE
1	Female	B
2	Male	A
3	Male	D
4	Male	C
5	Female	E
6	Female	D
7	Male	A
8	Male	D
9	Male	D
10	Male	A
11	Male	F
12	Female	C
13	Female	A
14	Female	F
15	Female	A
16	Female	D
17	Male	F
18	Male	A
19	Female	C
20	Male	D
21	Female	F
22	Male	C
23	Male	C
24	Female	E
25	Male	F
26	Male	F
27	Female	A
28	Female	F
29	Male	E
30	Male	C
31	Male	C
32	Male	C

33	Male	E
34	Female	A
35	Male	C
36	Male	C
37	Male	D
38	Male	C
39	Male	D
40	Male	B
41	Male	D
42	Male	C
43	Male	D
44	Female	B
45	Female	F
46	Male	C
47	Female	C
48	Male	E
49	Male	C
50	Feale	D
51	Male	C
52	Female	C
53	Female	C
54	Male	E
55	Male	C
56	Male	F
57	Male	C
58	Male	E
59	Female	C
60	Female	D
61	Female	F
62	Female	A
63	Male	F
64	Male	D
65	Male	C
66	Male	D
67	Female	C
68	Male	D
69	Male	A

.

APPENDIX VIII

GOVERNMENT SECONDARY SCHOOL, ZANGON-KATAF, 2014 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE..

S/N	GENDER	GRADE
1	Male	A
2	Male	A
3	Male	B
4	Female	D
5	Male	C
6	Male	F
7	Male	B
8	Male	A
9	Male	F
10	Female	C
11	Female	B
12	Female	A
13	Female	A
14	Male	F
15	Male	C
16	Female	B
17	Male	F
18	Male	F
19	Male	A
20	Male	F
21	Female	F
22	Female	A
23	Female	F
24	Male	B
25	Female	A
26	Male	F
27	Male	C
28	Male	A
29	Male	A
30	Male	A
31	Female	F
32	Male	F
33	Male	B
34	Male	E
35	Female	C
36	Female	D
37	Male	C
38	Female	D
39	Male	C
40	Male	C

41	Male	C
42	Male	D
43	Female	C
44	Male	F
45	Female	C
46	Female	F
47	Male	C
48	Male	F
49	Female	C
50	Female	D
51	Female	F
52	Female	C
53	Male	F
54	Male	D
55	Male	D
56	Male	C
57	Female	D
58	Female	D
59	Male	F
60	Male	B
61	Male	C
62	Male	D
63	Female	D
64	Female	C
65	Female	C
66	Female	D
67	Male	E
68	Male	D
69	Male	E
70	Female	D
71	Female	F
72	Male	F
73	Male	C
74	Male	F
75	Female	C
76	Female	D
77	Female	C
78	Female	D
79	Female	C
80	Male	C
81	Male	F
82	Mae	C
83	Male	F
84	Male	C
85	Female	C

86	Male	F
87	Male	A
88	Male	F
89	Male	F
90	Male	E
91	Male	E
92	Male	E
93	Female	A
94	Female	E
95	Male	E
96	Male	E
97	Male	E
98	Male	F
99	Male	F
100	Female	C
101	Female	F
102	Female	C
103	Feale	C
104	Male	C
105	Male	D
106	Female	F
107	Female	C
108	Female	D
109	Female	C
110	Female	D
111	Male	D
112	Male	C
113	Female	F
114	Female	D
115	Male	A
116	Male	F

APPENDIX IX

GOVERNMENT SECONDARY SCHOOL, ZANGON-KATAF, 2015 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE..

S/N	GENDER	GRADE
1	Male	D
2	Female	F
3	Female	B
4	Male	A
5	Male	F
6	Male	D
7	Male	E
8	Female	C

9	Male	E
10	Female	D
11	Male	F
12	Male	D
13	Male	F
14	Male	B
15	Female	D
16	Female	F
17	Female	E
18	Female	C
19	Male	D
20	Male	F
21	Male	D
22	Female	F
23	Female	D
24	Female	E
25	Male	B
26	Male	F
27	Male	D
28	Male	E
29	Male	E
30	Male	B
31	Male	F
32	Female	B
33	Male	F
34	Male	D
35	Male	F
36	Male	D
37	Male	E
38	Male	E
39	Male	D
40	Female	E
41	Female	E
42	Female	D
43	Female	E
44	Male	D
45	Male	E
46	Male	F
47	Male	F
48	Male	E
49	Male	E
50	Male	F
51	Female	D
52	Male	E
53	Male	D
54	Male	F
55	Male	C
56	Female	C
57	Female	E

58	Male	E
59	Male	E
60	Male	E
61	Female	D
62	Male	E
63	Male	D
64	Male	D
65	Male	F
66	Female	E
67	Female	F
68	Female	C
69	Female	E
70	Male	E
71	Male	C
72	Male	E
73	Male	E
74	Male	D
75	Male	F
76	Male	C
77	Male	F
78	Male	C
79	Male	C
80	Male	F
81	Male	C
82	Male	E
83	Male	F
84	Male	A
85	Male	F
86	Male	E
87	Male	E
88	Male	D
89	Male	D
90	Male	F
91	Female	E
92	Male	E
93	Male	D
94	Female	F
95	Male	D
96	Female	D
97	Male	E
98	Male	D
99	Female	D
100	Female	D
101	Female	E
102	Female	E
103	Male	E
104	Male	E
105	Male	E
106	Female	E

107	Male	F
108	Female	E
109	Male	D
1110	Male	E
111	Male	D
112	Female	E
113	Female	E
114	Female	E
115	Male	D

APPENDIX X

GOVERNMENT SECONDARY SCHOOL, ZANGON-KATAF, 2016 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Male	F
2	Male	B
3	Male	C
4	Female	C
5	Female	D
6	Male	B
7	Female	D
8	Female	D
9	Female	E
10	Male	D
11	Male	E
12	Male	E
13	Male	F
14	Female	B
15	Male	D
16	Female	E
17	Female	D
18	Female	E
19	Male	B
20	Male	F
21	Male	E
22	Male	C
23	Male	D
24	Male	F
25	Female	F
26	Male	B
27	Male	D
28	Male	F

29	Male	D
30	Female	D
31	Male	F
32	Male	E
33	Female	D
34	Female	D
35	Female	D
36	Female	D37
37	Female	E
38	Male	C
39	Male	D
40	Male	D
41	Male	D
42	Female	C
43	Male	D
44	Female	C
45	Female	D
46	Female	D
47	Male	D
48	Male	C
49	Male	F
50	Female	F
51	Female	D
52	Female	D
53	Male	D
54	Male	E
55	Female	E
56	Male	E
57	Female	C
58	Male	E
59	Male	F
60	Male	E
61	Female	D
62	Male	D
63	Male	E
64	Male	C
65	Female	E
66	Male	D
67	Male	E
68	Male	D
69	Male	D
70	Female	E
71	Male	E
72	Male	C
73	Male	C

74	Male	C
75	Male	C
76	Male	E
77	Female	D
78	Male	E
79	Male	C
80	Male	E
81	Female	D
82	Female	F
83	Male	C
84	Male	D
85	Female	D
86	Male	D
87	Male	D
88	Male	D
89	Female	D
90	Female	C
91	Female	F
92	Female	F
93	Male	F
94	Male	F
95	Female	D
96	Male	F
97	Male	E
98	Male	F
99	Male	C
100	Male	E
101	Female	E
102	Female	E
103	Male	E
104	Female	E
105	Male	E
106	Female	C
107	Male	D
108	Male	C
109	Male	C
110	Male	D
111	Female	D
112	Female	E
113	Female	E
114	Male	B
115	Male	E
116	Female	F
117	Male	D
118	Male	D

119	Female	D
120	Female	B
121	Male	D
122	Male	F
123	Male	F

APPENDIX XI

SAINT FRANCIS COLLEGE ZONKWA, ZANGON-KATAF, 2014 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Male	A
2	Male	A
3	Male	F
4	Female	B
5	Female	B
6	Male	D
7	Male	D
8	Male	A
9	Male	D
10	Male	A
11	Male	F
12	Female	A
13	Male	F
14	Male	E
15	Female	F
16	Female	A
17	Female	A
18	Female	F
19	Female	A
20	Female	A
21	Male	A
22	Female	F
23	Male	C
24	Male	C
25	Male	C
26	Male	A
27	Male	A
28	Male	F
29	Male	A
30	Male	A
3	Male	C
32	Male	C
33	Male	E
34	Male	A

35	Male	E
36	Male	C
37	Male	A
38	Male	A
39	Male	A
40	Male	A
41	Female	C
42	Male	D
43	Male	B
44	Male	E
45	Male	B
46	Male	E
47	Male	C
48	Male	A
49	Female	F
50	Female	B
51	Female	E
53	Male	B
54	Female	C
55	Male	C
56	Male	A
57	Female	B
58	Female	A
59	Male	A
60	Male	C
61	Male	A
62	Male	B
63	Male	C
64	Male	B
65	Female	A
66	Female	A
67	Female	A
68	Female	A
69	Male	F
70	Male	B
71	Male	C
72	Male	D
73	Female	A
74	Female	A
75	Female	C
76	Female	C
77	Male	A
78	Male	A

APPENDIX XII

SAINT FRANCIS COLLEGE ZONKWA, ZANGON-KATAF, 2015 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Female	D
2	Female	A
3	Female	A
4	Male	C
5	Male	F
6	Male	A
7	Male	F
8	Female	E
9	Male	E
10	Male	A
11	Female	C
12	Female	C
13	Male	D
14	Male	A
15	Male	A
16	Male	F
17	Male	A
18	Male	C
19	Male	C
20	Male	F
21	Male	F
22	Female	F
23	Female	C
24	Female	A
25	Female	A
26	Female	C
27	Male	B
28	Male	B
29	Male	B
30	Male	F
31	Female	C
32	Male	E
33	Female	B
34	Female	E
35	Male	B
36	Female	C
37	Male	C
38	Male	E
39	Male	C
40	Male	E

41	Female	B
42	Male	E
43	Male	C
44	Male	F
45	Female	B
46	Male	E
47	Male	C
48	Male	B
49	Male	E
50	Male	B
51	Male	D
52	Male	C
53	Female	C
54	Female	C
55	Female	S
56	Male	C
57	Male	F

APPENDIX XIII

SAINT FRANCIS COLLEGE ZONKWA, ZANGON-KATAF, 2016 STUDENTS' RESULTS IN AGRICULTURAL SCIENCE.

S/N	GENDER	GRADE
1	Female	A
2	Male	B
3	Male	C
4	Male	E
5	Female	A
6	Female	A
7	Male	A
8	Male	B
9	Male	E
10	Male	A
11	Male	E
12	Female	B
13	Male	A
14	Male	C
15	Male	C
16	Male	A
17	Male	C
18	Male	F
19	Female	B

20	Female	F
21	Male	A
22	Male	A
23	Male	E
24	Male	B
25	Male	C
26	Female	E
27	Female	A
28	Female	F
29	Female	A
30	Male	A
31	Male	A
32	Male	C
33	Female	C
34	Female	C
35	Female	C
36	Female	B
37	Male	B
38	Male	B
39	Female	B
40	Female	B
41	Female	C
42	Female	C
43	Male	C
44	Male	C
45	Male	C
46	Male	C
47	Male	C
48	Male	E
49	Male	C
50	Male	C
51	Male	C
52	Male	C
53	Female	B
54	Female	B
55	Female	B
56	Male	C
57	Male	F
58	Male	C
59	Female	B
60	Male	B
61	Female	B
62	Male	C
63	Male	C
64	Male	C

65	Male	B
66	Male	E
67	Male	E
68	Male	E
69	Female	C
70	Male	E
71	Female	B
72	Female	B
73	Male	B
74	Male	C
75	Female	C
76	Female	F
77	Male	A
78	Male	A
79	Female	C
80	Female	A
81	Male	C
82	Male	A

APPENDIX XIV

PERCENTAGE OF MALE STUDENTS OF GOVERNMENT SECONDARY SCHOOL PAMBEGUA THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	51.5%	46%	64%

APPENDIX XV

PERCENTAGE OF MALE STUDENTS OF BEGUA COMMUNITY SCIENCE SCHOOL PAMBEGUA THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	57.1%	26.5%	52%

APPENDIX XVI

PERCENTAGE OF MALE STUDENTS OF GOVERNMENT SECONDARY SCHOOL ZANGON-KATAF THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	49.3%	10%	26.3%

APPENDIX XVII

PERCENTAGE OF MALE STUDENTS OF SAINT FRANCIS COLLEGE ZONKWA ZANGON-KATAF, THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	67%	55.3%	80.8%

APPENDIX XVIII

PERCENTAGE OF FEMALE STUDENTS OF GOVERNMENT SECONDARY SCHOOL PAMBEGUA THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	55%	58.8%	58%

APPENDIX XIX

PERCENTAGE OF FEMALE STUDENTS OF BEGUA COMMUNITY SCIENCE SCHOOL PAMBEGUA THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	62.5%	35%	60%

APPENDIX XX

PERCENTAGE OF FEMALE STUDENTS OF GOVERNMENT SECONDARY SCHOOL ZANGON-KATAF THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	47.8%	25%	15.8%

APPENDIX XXI

PERCENTAGE OF FEMALE STUDENTS OF SAINT FRANCIS COLLEGE ZONKWA ZANGON-KATAF, THAT SCORED CREDITS (A, B, and C) IN 2014, 2015,and 2016.

YEAR	2014	2015	2016
PERCENTAGE	84.6%	78.9%	86.7%

APPENDIX XXII

QUESTIONNAIRE FOR SECONDARY SCHOOLS PRINCIPALS

Agricultural Education Section,
Department of Vocational and Technical Education,
Faculty of Education.
Ahmadu Bello University, Zaria,
Kaduna State,
Date……

Dear Respondent,

Request to Complete Questionnaire

I am a postgraduate student of Agricultural Education (Msc.Ed) in the Department of Vocational and Technical Education, Ahmadu Bello University Zaria, Kaduna State, I am presently carrying out a research on "***COMPARATIVE ANALYSES OF STUDENTS' ACADEMIC PERFORMANCE IN AGRICULTURAL SCIENCE IN PUBLIC AND PRIVATE SECONDARY SCHOOLS IN KADUNA STATE, NIGERIA".***

You are requested to help me to provide your students' SSCE results for analyses, as the purpose is purely academics, please all information supplied shall be treated as confidential. Thanks for accepting to be of help to me for this research work.

Yours faithfully,

Awwal Sa'ad IBRAHIM

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