EVALUATION OF TECHNICAL AND VOCATIONAL EDUCATION PROGRAMME IN SECONDARY SCHOOLS IN KEBBI STATE, NIGERIA

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DECLARATION

I declare that this research entitled "Evaluation of Technical and Vocational Education Programme in Secondary Schools in Kebbi State, Nigeria" has been carried out by me in the Department of Educational Foundations and Curriculum. No part of this dissertation was previously presented for another degree or diploma at this or any institution. All sources and quotations have been duly acknowledged by means of referencing.

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Aisha Abubakar ATIKU **Date**

CERTIFICATION

This dissertation entitled **"Evaluation of Technical and Vocational Education Programme in Secondary Schools in Kebbi State, Nigeria"** by Aisha Abubakar ATIKU meets the regulations governing the award of M. Ed. Educational Administration and Planning of Ahmadu Bello University Zaria, Nigeria and is approved for its contributions to knowledge and literary presentation.

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DEDICATION

This dissertation is dedicated to my beloved father, Dr. Abubakar Atiku without whom I would not be here, let alone, blossom. I am forever grateful for your boundless love and indefatigable support. And to my dear mother who has always been my rock. Both of you are forever loved and cherished. May Allah's mercy always enshroud you both in this life and the next. Amen.

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ABSTRACT

The study entitled Evaluation of Technical and Vocational Education Programme in Secondary Schools in Kebbi StateNigeria, has five objectives, some of which are to ascertain the rate of enrolment into technical and vocational subjects, enquire into the availability of teachers teaching technical and vocational subjects and examine the qualifications of teachers teaching technical and vocational subjects in secondary schools in Kebbi State. Five research questions were asked in accordance with the objectives and five null hypotheses were postulated. The target population for the study comprised 275 principals, 1,518 teachers, and 140 officials of Ministry of Education totaling 1,933. The sample size was 46 principals, 251 teachers, and 23 officials of Ministry of Education totaling 320. The study adopted quantitative research design and the data-collecting instrument for the study was a researcher-designed questionnaire. The data collected from the study were analyzed using descriptive statistics of frequency counts, and simple percentages with the aid of Statistical Package for Social Sciences (SPSS). The study employed the use of One-way Analysis of Variance (ANOVA) to analyse the data in determining level of significance. The five null hypotheses for the study were tested at 0.05 level of significance. All five of the hypotheses were retained. Findings of the study revealed low rate of students' enrolment, non-availability of adequate facilities and low level of staff development programmes for teachers of technical and vocational subjects in secondary schools in Kebbi State, Nigeria. It was recommended that the people of Kebbi state and all relevant stakeholders should; sensitize the public on the relevance of technical and vocational education by organizing campaigns and school exhibitions of technical and vocational inventions and products, the state government should sustain the present development of hiring teachers with high qualification and ensure staff development programs for teachers to keep them equipped with up-to-date knowledge and skills required for accomplishment of instructional goals as well as personal and professional growth.

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LISTS OF ABBREVIATIONS

FME	Federal Ministry of Education
FRN	Federal Republic of Nigeria
JSS	Junior Secondary School(s)
LGA	Local Government Area
LGEA	Local Government Education Authority
SMoE	State Ministry of Education
SSCE	Senior Secondary Certificate Examination
SSS	Senior Secondary Schools
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WAEC	West African Examination Council

DEFINITION OF OPERATIONAL TERMS

Availability: The condition of being available, especially of being easily accessible or obtainable.

Enrolment: To enroll means to officially register as a member of an institution or a student on a course.

Evaluation: A systematic collection and analysis of data in order to assess the strengths and weaknesses of programs, policies, and organizations to improve their effectiveness.

Facilities: Places, amenities, or pieces of equipment provided for some particular purposes.

Qualification: A pass of an examination or an official completion of a course, especially one conferring status as a recognized practitioner of a profession or activity: an official requirement.

Staff Development: The activities and programs (formal or informal) that help staff members learn about responsibilities, develop required skills and competencies necessary to accomplish institutional and divisional goals and purposes, grow personally and professionally to prepare themselves for advancement, and to create an environment conducive to success.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Education is concerned with growth and development of human beings, so great importance is attached to it all over the world. Its essence is teaching and learning the knowledge, skills and habits of a group of people. Teaching and learning are two major aspects of the educational process. While teaching requires imparting knowledge and skills from a teacher to a learner, learning requires the learner to acquire knowledge and skills from the teacher, and as a result of this adjust to the changing world. This teaching-learning connection works best when there are effective teachers working with students who are ready and motivated to carry on learning every day and both activities are demanding and challenging.

Evaluation is an integral part of any teaching and learning programme. Whenever a question is asked and answered, evaluation takes place. Maheshwari (2017) defined evaluation as a concept that has emerged as a prominent process of assessing, testing and measuring. Its main objective is qualitative improvement. Evaluation is an applied inquiry process for collecting and synthesizing evidence that culminates in conclusions about the state of affairs, value, merit, worth, significance, or quality of a program, product, person, policy, proposal or plan (Merten, 2014).

In a world that is constantly changing due to tremendous contributions of science and technology, every society that desires advancement pays particular attention to Technical and Vocational education, that is, tremendous efforts are put in by educational institutions to keep up with the recent advances in technology in order to effectively achieve teaching and learning objectives. It is the immense importance

accorded to and the investments made on Technical and Vocational education that has made the developed nations a force to be reckoned with.

Encyclopedia Britannica (2014) defined Technical education as the academic and vocational preparation of students for jobs involving applied science and modern technology, while Vocational education is instruction intended to equip persons for industrial or commercial occupations. Technical and vocational subjects taught in Nigerian schools include; Agricultural science, Computer Studies, Metal-work, Food and Nutrition, Basic Technology, Wood-work, Technical Drawing and Fine Art.

Technical education facilitates the acquisition of practical and applied skills as well as basic scientific knowledge, it is therefore a planned program of courses and learning experiences that begins with exploration of career options, supports basic academic and life skills, and enables achievement of high academic standards, leadership, preparation for industry-defined work, and advanced and continuing education (CTE, 2009). Technical and vocational education is often used interchangeably to refer to the same type of Education (Okoro, 1999).

According to the 2004 Nigerian National Policy on Education (in Okafor, 2011), technical and vocational education is concerned with qualitative technological human resources development directed towards a national pool of skilled and self-reliant craftsmen. Haq and Haq as cited by Okafor (2011, p.6) observed that, unemployment rates in the East Asian economies remained low essentially because the population possessed employable vocational and technical skills.

Okwelle and Okeke, (2013), discussed that Technical and Vocational education is a part of the formal education system in Nigeria incorporated in the three levels of education (primary, secondary and tertiary) with a view to meet the nation's need for

skilled manpower and support the economic state of individual and the nation in general. Vocational and technical education has been an integral part of national development strategies in many societies because of the impact on human resource development, productivity and economic growth.

The goals of technical and vocational education according to the Federal Republic of Nigeria in her 2004 National Policy on Education are to:

(a) Provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical levels;

(b) Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development;

(c) Give training and impart the necessary skills to individual who shall be self-reliant economically.

Some of the pre-vocational subjects taught at the junior secondary level in Nigeria include Basic Science and Technology, Business Studies, Home Economics, Computer Science and Agricultural Science, Iboikwe (2015). And at secondary level, the vocational subjects include Auto-Mechanics, Wood work, Catering,Home management,and Welding. A good rate of student enrolment into technical and vocational subjects is necessary for the above goals to be achieved. There can obviously be no teaching and learning without learners. Blaugin Chiokwu and Asogwa **(**2012, p. 90 - 91) stated categorically that, unemployment is increasing because many more students study academic rather than vocational subjects.

Also, there has to be enough and qualified teachers. ‘Teachers who teach core academic courses in vocational technical schools are required to meet the definition of a Highly Qualified teacher. A teacher who teaches a core academic course in a vocational technical school must hold a Bachelor's degree, possess a valid and active MA teaching

license, and demonstrate subject matter competence in order to be considered Highly Qualified" Massachusetts Department of Elementary and Secondary Education (2011). Bereday (1980) stressed that the strength of the education system must largely depend on the quality of its teachers. It is also important that facilities should be available, up to date, properly utilized and maintained so as to ensure that teaching and learning of technical subjects can be carried out effectively and efficiently. There should also be continuous staff development programs for the teachers to enable them grow personally and professionally. This will help boost their potentials, confidence and promote readiness for delivery of high quality instruction.

It is clear that Nigeria is still not adequately preparing youth and adults who are skilled enough to take up successful roles in occupations in various sectors of economic and social life. Most Nigerian graduates (including graduates of Vocational and Technical disciplines) lack the skilled proficiency required for handling equipment as opposed to their counterparts/colleagues in other parts of the world, and are incompetent in various aspects in their work life.

Hence it can be said that not much impact is being made in the improvement of teaching and learning of technical and vocational subjects. The focus of this research will be to investigate how teaching and learning takes place with reference to technical and vocational education programme in secondary schools in Kebbi state with the aim of identifying and suggesting appropriate solutions to the problems.

1.2 Statement of the Problem

The rate of unemployment in Nigeria is alarming considering that an impressively large population of the citizenry is educated. Most Nigerian youths fall short of skilled proficiency and competency necessary for facing the challenges of work. Afemikhe (2007) lamented that products of the Nigerian secondary education system

are unemployable as they are not fit for purpose. This statement sparks serious concern and it therefore becomes necessary to look into the secondary education with focus on vocational and technical subjects so as to unravel the factors responsible for this problem with the aim of proffering effective solutions.

Enrolment into technical and vocational subjects in schools is challenged by many factors, such as students' negative attitude towards vocational and technical subjects, gender imbalance due to socio-cultural and religious practices, poor image of technical and vocational education in our society (Afemike, 2007).

Most schools in Nigeria do not have enough teachers in vocational and technical education. There are many cases where a teacher of one technical/vocational subject is used by the school to teach three other technical subjects he or she did not specialize in because trained teachers are not available. Thus, students are denied access to the teacher who is seen as an initiator, facilitator, planner, implementer, power broker, adjudicator, bargainer and mediator of educational programs Ukeje in Ani (pp 240, 2010). And in cases where teachers are available, most are not qualified enough to effectively teach technical and vocational subjects in secondary schools in Kebbi state. Most of them are Ordinary National Diploma (OND) and Higher National Diploma (HND) holders from polytechnics.

It is disturbing that facilities for teaching and learning of technical and vocational subjects in many secondary schools are not adequate and where available are poorly maintained or even left laying fallow without being put to effective use, which is a serious waste of resources (Mungani, 2011).

Also, Ntukidem and Etudor (2003) discovered that there are usually no provisions for staff development programs for teachers of technical and vocational

subjects, therefore, teachers are not conversant with current information which is necessary for advancement, are not motivated, lack the necessary skills/ competencies required for accomplishment of goals and purposes, as well as personal and professional growth. Boyle (2004), Anderson and Dyke (2002)in Ani (pp 240, 2010) stated that many teachers do not have a detailed up-to-date knowledge of the subject they teach. Most of the teachers of technical and vocational subjects in Nigerian secondary schools need frequent training and retraining in order to become more efficient and effective. Educators need to change with the times.

These problems aroused the interest of the researcher to embark on a formal inquiry into student enrolment, availability and qualification of teachers, facilities and staff development programs with hope to establish the truth about why technical and vocational education in Nigeria has not succeeded in addressing the key issues of development, unemployment and the inability of school leavers to create jobs and be self-reliant, and resultantly suggest solutions to problems realized.

1.3 Objectives of the Study

The study was set to:

1. ascertain the rate of students' enrolment into technical and vocational subjects in secondary schools in Kebbi State;
2. enquire into the availability of teachers of technical and vocational subjects in secondary schools in Kebbi State;
3. examine the qualifications of teachers of technical and vocational subjects in secondary schools in Kebbi State;
4. assess the facilities available for teaching and learning of technical and vocational subjects in secondary schools in Kebbi State;

5. identify staff development programmes for teachers of technical and vocational subjects in secondary schools in Kebbi State.

1.4 Research Questions

The following questions were asked to guide the study

1. What is the rate of students' enrolment into technical and vocational subjects in secondary schools in Kebbi State?
2. Are there enough teachers of technical and vocational subjects in secondary schools in Kebbi State?
3. Are there qualified teachers of technical and vocational subjects in secondary schools in Kebbi State?
4. Are there facilities available for the teaching and learning of technical and vocational subjects in secondary schools in Kebbi State?
5. What staff development programs are in place for teachers of technical and vocational subjects in secondary schools in Kebbi State?

1.5 Hypotheses

The following null hypotheses were postulated:

1. Ho_1: There is no significant difference in the opinions of principals, teachers and officials of Ministry of Education (respondents) on students' enrolment into vocational and technical subjects in secondary schools in Kebbi state.

2. Ho_2: There is no significant difference in the opinions of principals, teachers and officials of Ministry of Education (respondents) on the availability of teachers of technical and vocational subjects in Kebbi State.
3. Ho_3: There is no significant difference in the opinions of principals, teachers and officials of Ministry of Education (respondents) on the qualification of

teachers of technical and vocational subjects in secondary schools in Kebbi State.

4. Ho_4: There is no significant difference in the opinions of respondents on the availability of facilities for technical and vocational education programme in secondary schools in Kebbi State.
5. Ho_5: There is no significant difference in the opinions of principals, teachers and officials of Ministry of Education (respondents) on staff development programmes for teachers of technical and vocational subjects in secondary schools in Kebbi State.

1.6 Basic Assumptions

The study is based on the assumptions that:

1. a large number of students enroll into technical and vocational subjects in secondary schools in Kebbi State;
2. there are enough teachers teaching technical and vocational subjects in secondary schools in Kebbi State;
3. the teachers are qualified and competent to teach technical and vocational subjects in secondary schools in Kebbi State;
4. the facilities for teaching and learning of technical and vocational subjects are adequate, and in good shape in secondary schools in Kebbi State; and
5. there are staff development programmes arranged for teachers teaching technical and vocational subjects in secondary schools in Kebbi State.

1.7 Significance of the Study

This study examined the current condition of teaching and learning of technical and vocational subjects in secondary schools with a view to assess the strengths and weaknesses of the program towards improving effectiveness. Findings from this study

will help parents understand the importance and need for technical vocational education and this will boost enrolment into the subjects in secondary schools in Kebbi. It is also hoped that the findings of the study will cause curriculum planners, policy makers, principals as well as teachers to plan, develop and implement more inclusive content and programs aimed at meeting vocational and technical instructional objectives. The study will hopefully help students become better acquainted with their individual as well as collective responsibilities so as to maximize the quality of learning experiences, and guide teachers to improve personally and professionally, and also to prepare themselves for advancement through staff development programs.

This study would enable researchers to have a framework for subsequent studies in this area and also serve as reference work for researchers who intend to do similar study. Also, this study intends to better inform the people on how to intervene in the teaching and learning of technical vocational subjects in secondary schools which will no doubt effectively address the issue of unemployable youth and unemployment in Nigeria, to plan for, and to equally put the necessary machinery in place geared at repositioning and transforming the educational system to be more responsive to the needs of the society.

1.8 Scope of the Study

The study involved principals and teachers of public secondary schools and Ministry of Education officials. The study was conducted in some selected secondary schools in the educational zones of Argungu, Birnin Kebbi, Bunza, Gwandu, Yauri and Zuru in Kebbi State due to limited time and resources.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

A lot of theories related to teaching and learning are discussed in this chapter. However, this research focuses on evaluation of teaching and learning of vocational and technical subjects and how it could secure quality teaching and learning in schools. This chapter gives a conceptual framework against which respondents' notions can be examined.

2.1.1 Concept of Teaching

Transfer of knowledge is a fundamental process of life and survives through various processes of observation, assimilation, communication and dissemination of knowledge and skills known as learning and teaching. The concepts of learning and teaching are intertwined. An individual has to have existing knowledge and/or skill to be able to impart or teach it, meaning one must have learnt before they can teach. Both learning and teaching are innate characteristics of living things and both occur formally or informally; either through deliberate, conscious attempts (within institutions designed for the purpose of teaching and learning; known as schools) or unintended, unconscious observations (experiences outside school). The systematic process of teaching and learning especially at a school or university is known as education.

There are so many different definitions of teaching. "In its broadest sense, teaching is a process that facilitates learning" (Alberta, 2016). Teaching is the specialized application of knowledge, skills and attributes designed to provide unique service to meet the educational needs of the individual and of society. The choice of learning activities whereby the goals of education are realized in the school is the responsibility of the teaching profession.

In addition to providing students with learning opportunities to meet curriculum outcomes, teaching emphasizes the development of values and guides students in their social relationships. Teachers employ practices that develop positive self-concept in students. Although the work of teachers typically takes place in a classroom setting, the direct interaction between teacher and student is the single most important element in teaching.

From an educational point of view, Kumar (2009) explains that "teaching includes all the activities of providing education to other. The person who provides education is called the teacher." And the teacher uses different methods to make students understand and learn subjects. In planning instruction, effective teachers draw on a growing body of research knowledge about the nature of learning and on craft knowledge about teaching that has stood the test of time. Typically, they consider the special characteristics of the material to be learned, the background of their students, and the conditions under which the teaching and learning are to take place.

2.1.2 Concept of Learning

Learning is a process that has been occurring ever since the first generation of humans. It is a complex process that happens in the brain. "Learning is about a change: the change brought about by developing a new skill, understanding a scientific law, changing an attitude. The change is not merely incidental or natural in the way that our appearance changes as we get older" (Sequeira, 2012). Learning is a relatively permanent change, usually brought about intentionally.

Piaget (1987) original definition of learning is that "Learning is a mental process that depends on perception and awareness, on how additional stimuli and new ideas get integrated into the old knowledge database and how through reasoning, the whole

database gets reorganized which results in alterations of the mental structures and creation of new ones". Any measurable and relatively permanent change in behavior through experience, instruction, or study is known as Learning. Learning can be formal or informal. We learn informally from what we experience day by day which make us change the way we think and act. Learning may also be formal and planned in a structured way, in a school or college.

Bhatia (2003) defined learning as "an activity every learner engages in, within and outside the classroom. It is an important phase of human life." Only through learning has a member of any civilization been able to better themselves and the lives of all the generations that follow them. In this light, Ayeni (2011) opined that effective teaching - learning process is no doubt the hob of students' academic performance and leads to quality education in secondary schools.

2.1.3 Concept of Evaluation

For any project or program to be successful, there must be a system with which its effects and the degree to which it has achieved its objectives can be tested and assessed. This testing and assessing process is called evaluation. There are many, many definitions of evaluation, several of which capture the core of evaluation in education. Some of these definitions from various perspectives shall be discussed majorly focusing on educational views.

The Oxford dictionary defines evaluation as the making of a judgment about the amount, number, or value of something. In Merriam-webstar thesaurus, it is defined as an opinion on the nature, character, or quality of something. A look at the Medical Dictionary explains evaluation to mean a critical appraisal or assessment; a judgment of the value, worth, character, or effectiveness of something; measurement of progress.

Evaluation, according to Edem (2000) is a value judgment about a given situation in accordance with either qualitative or quantitative and acceptable criteria. For Barsaga (2004), it is the systematic process of analyzing collecting and data in order to determine whether, and to what degree objectives have been or are being achieved.

2.2 Technical and Vocational Programme in Secondary Schools

The Federal Government of Nigeria (2004; National Policy on Education) defines vocational and technical education and all forms of education that prepares individuals specifically for the world of work as Technology Education. Technical and vocational subjects include: Agricultural science, Business studies, Commerce, Finance, Home Economics, Basic Technology, Food and Nutrition, Accounting Furniture Making, Mechanics and Welding, Fine art, Technical Drawing and Wood work. Most countries in Africa generally support the general objectives of vocational / technical education to provide general education, knowledge and skills in technical /vocational fields, in order to meet national manpower requirements in agriculture, business, industry and other technical services, Kerre (1995).

Kerre (1995) went on to list 10 specific objectives. These objectives were related to exposure to a wide range of practical activities at the basic education level; interpretation, application and translation of basic knowledge and understanding of fundamental facts and principles of scientific processes and techniques to be able to produce and use tools and labor-saving devices and in calculation of an appreciation of human labor as an individual resource. The objectives also include equipping students with relevant productive and entrepreneurial skills, the acquisition of skills to protect, utilize and conserve the environment and to increase scientific and technological literacy among the youth.

From the general objectives listed for the countries studied by Kerre (1995), there is clarity in the policy framework and encourages development of appropriate technologies which enable the nation to meet its national developmental needs as well as to remain competitive in a technological international market. It is generally conceded that efforts at providing effective vocational / technical education and training in Africa (as in some other developing countries) have not succeeded, Mungani (2011). Kerre and Kwende (1995:42) explain that the absence of professionally trained technical / vocational experts limits the effectiveness of technical / vocational initiatives in developing countries of Africa.

The National Policy's aims and objectives on career oriented as enshrined in the NPE document are designed to achieve both technological and economic advancement of Nigeria. Thus, at the junior level (JSS) seven programme areas of pre-vocational education have been identified. Each of these programme areas is treated in an integrated Bbasis at the JSS level while opportunity is given to students at the senior secondary level (SSS) to concentrate on three components of each programme in the first year of the SSS. This is intended to allow the students to have a more in-depth study and preparation for not only the SSS final examination, but also for entry into the world of work or further studies. The following are the structures of pre-vocational and vocational subjects in Nigerian secondary schools as contained in the 2004 edition of the National Policy on Education. All are elective subjects except Basic Technology which has been listed as a core subject at the JSS level.

2.2.1 Pre-Vocational Electives (Junior Secondary School (JSS) Level)

Junior secondary school technical vocational subjects include; Agricultural Science, Business Studies, Home Economics, Local Crafts, Computer Education, Fine Arts (Culture and Creative Arts) and Basic Technology.

2.2.2 Vocational Education Electives (Senior Secondary School (SSS) Level)

The subjects are same as those in the Junior levels and some others like Applied Electricity, Auto Mechanics, Commerce and Accounting are also introduced at the secondary levels.

It should be noted that availability and utilization of adequate, state-of-the-art and well-maintained facilities is paramount to effective and efficient teaching and learning of technical and vocational subjects. New ways of teaching and learning are requiring teachers to assume the roles of coach and facilitator and to situate student learning in real-world contexts (Brown, 2000).The teachers are expected to have sound knowledge of their subject areas to be able to select appropriate and adequate facts for planning of lesson notes, effective delivery of lessons, proper monitoring and evaluation of students' performance, providing regular feed-back on students' performance, improvisation of instructional materials, adequate keeping of records and appropriate discipline of students. They must also have access to information which is up-to-date, reliable and relevant to the educational needs of students. (Ayeni, 2010). Enyi in Ani, (pp 240) has noted that the inadequacy of facilities, equipment, materials and other tools of learning handicaps educational programs in the country. In the same vein, Idialu (2014), stressed that to achieve the objectives of vocational and technical education, there is the need to create an enabling environment for the teaching and learning of vocational and technical education in our schools in order to ensure good quality teaching and learning environment that is crucial to helping students in high academic standards improved quality in teaching and examination." Olaitan (in Idialu, pp 4.) bemoaned the condition under which vocational and technical education is imparted is poor, most secondary and tertiary institutions lack equipment for training, lack workshops and workshop facilities, have ill-equipped laboratories and libraries.

Students in this program are supposed to be exposed to a work environment while in school to enable them fit in and outside the school environment. The acute shortage/lack of infrastructure and equipment e.g. machinery, laboratories, tools, is a result of successive government in Nigeria starving vocational and technical education of funds leading to poor or lack of laboratories, workshops, and training facilities.

Wodi (2012), opined that "it is impossible for vocational/technical education to be strong in the absence of stable power supply to operate the machines where available. Nor can it thrive where technical/vocational subjects are taught theoretically like in history, for lack of fund to procure necessary equipment, construct workshops, and employ trained teachers."

2.3 Student Enrolment in Technical and Vocational Subjects

The image of technical and vocational education in Nigeria is tainted by the societal misconception that it is for school dropouts and children from poor homes. There is very little knowledge and understanding of the real importance, values and contributions of technical and vocational education to everyday life. Amongst several other factors that negatively affect the progress of technical and vocational education in Nigeria are gender, the inflexible traditional methods of teaching, unavailability of sufficient qualified teachers and the general negative attitudes of people to technical vocational subjects. Parents or guardians choose subjects for their children without minding the child's abilities, interests and weaknesses in the areas they select for them as they target future careers for their children. Abdullahi and Bamanja (2001) lamented that "many parents fail to properly assess the potentials of their children." Most parents push their children too hard to achieve their own dreams and desires rather than their children's. This can be said to contribute to the sorely growing number of unqualified professionals as such people lack interest, aptitude and strength required for meaningful

participation and success at their workplaces. At junior secondary level there is high student enrolment, because it is compulsory for all students to offer the technical and vocational subjects taught. However, only a few students choose to offer it in senior secondary when they are free to select subjects. As (Oriahi *et al*, pp 3) explained, negative attitude towards a given subject leads to lack of interest and when subjects are to be selected, as in senior secondary schools, it leads to avoiding the subject or course.

Gender is in fact one other major factor that influences student enrolment into vocational and technical subjects in secondary schools. It is generally believed that socio-cultural and religious practices are at the root of this imbalance. Aigbomian (2002) observed that boys perform better than girls in science, technical and mathematical subjects. Also, girls are very often actively shielded from participating in rigorous vocational activities. In Nigeria, for example, boys are usually exposed to receive training from their fathers, on farming, blacksmithing, carpentry etc., to prepare them for a socially acceptable adult life. In most countries of Africa, same is the experience when boys are informally inducted into the trades and professions of their fathers. Etzkowitz et al (2000) in discussing the place of women in science and technology (this discussion is limited to the processes by which women achieve final positions as senior academics) sees the process of gender differentiation beginning at a very early age. They suggested that women have no inherent incapability to follow a career in science but that they follow a 'pipeline' process.

Hornig's study on different gender responses to views about science and technology found that women expressed more anxiety than men about science and technology 'taking over the world', displacing jobs, and the motives of private interest in the development of science and technology (Hornig, 1992). To the contrary, men found new scientific and technological discoveries "exciting", supported their

advancement, and viewed them as potential solutions to societal problems. Similarly, Napolitano and Ogunseitan's (1999) survey of 111 male and 135 female respondents observed that women had a greater tendency to express disapproval of novel genetically-based procedures compared to men. For example, the study found that 63 per cent of men held a positive view that genetic engineering is a socially beneficial field of scientific research compared with only 48 per cent of females. These observations suggest that there are distinct attitudinal differences between men and women in how they view and engage with science and technology.

In this light, Ndiga (2004) recommended that gender neutrality must be practiced in the choice of field of study so as to avoid gender segregation. She added that teaching of subjects traditionally taken by girls in technical and vocational education should be enhanced by updating content and facilities and by bringing in a technological orientation such as computers and the use of other modern technology. She also suggested that entrepreneurial skills should be built into the course and that postgraduate technical and funding assistance should be provided to encourage entrepreneurial ventures especially for girls.

Another factor that influences students' enrolment into technical and vocational subjects, especially in Africa is career advice by parents and teachers. Okeke (2000) confirmed that parents have significant effect on students' choice of career and subjects. Some parents do not regard vocational and technical subjects with much dignity and tend to prefer enrolling their wards for subjects that will prepare them to become for example, medical doctors or barristers in the future. Salami (1992) asserted that the Nigerian society of our time regards technical education as a form of education meant for people who are backward academically, that is why most people enroll in it as the last resort and prefer to invest in or contribute to science and liberal education. The

negative attitude towards the subjects seemed to influence choice of the subjects alongside other factors like; previous examination results in the subject and career prospects. An upward trend in enrollment of all the technical and vocational subjects are important in our society since skills acquired will be able to complement academically oriented professions, (Ndiga, 2004).

In the study "What Room for Skills Development In Post-Primary Education: A Look at Selected Countries," Palmer (2007) looks at ten selected countries (Ethiopia, Ghana, Kenya, Rwanda, South Africa, Tanzania, Uganda, India, China and Vietnam) and examines what room there is for skills development in 'post primary education'. Of the ten countries examined in Palmer (2007), Rwanda has the highest enrollment in technical subjects at the secondary level (35%), followed by Tanzania (13%) and South Africa (5.8%). The study notes that Sub- Saharan Africa (6.1%) and South and West Asia (1.2%) have little room for Technical education at the post-primary school level. Given the above, it is a matter of concern that Africa lags behind the rest of the world in technology and still it continues to pay little attention to technical education and technological research.

According to the Department for Children Schools and Families (DCSF, 2008), the UK Government strives to preserve interest in Science, Technology, Engineering and Mathematics (STEM) subjects at secondary and tertiary level education. It has continued to show a firm commitment and is determined to identify new ways and inject more money to motivate and inspire many more young people to take up STEM subjects and achieve good results, following their journeys into the STEM pipeline, that is, taking up science subjects post-16 study and university or vocational education and, subsequently, moving on into rewarding and progressive careers. The Nigerian Government would do well to take similar drastic measures to tackle the issue.

2.4 Availability of Technical and Vocational Subject Teachers and Teacher Qualification

Vocational and technical subject teachers are considered subject experts. They develop a student's occupational or technical skills; therefore, they should prove competent in their specific fields. Oni (2007) stated that, "a developing nation needs efficient services of technicians, engineers, and technologists who have received formal training from vocational-technical institutions". The most acute problem is that of shortage of qualified teachers (Okorie 2001).

It is also a problem that most (qualified) technical teachers lack adequate industrial experience, which is necessary for effective and efficient instruction. "Teachers who know their subject matter thoroughly are more effective and efficient at organizing subject matter, connecting the subject with the students' previous knowledge, finding useful analogies and examples, presenting current thinking on the subject and establishing appropriate emphases."Tiberius and Tipping (1990) opined that ideally, vocational and technical subject teachers in public schools are required to have a certificate or degree; having gained experience in classroom instruction and course development. However, many teachers teaching the subjects in most secondary schools are not professionally trained or qualified.

The engagement of majority of untrained teachers with a minimum academic qualification of Ordinary Level, Ordinary National Diploma to teach vocational subjects is still a problem in most Nigerian schools. It can also be found in most schools, that some teachers teach subjects they did not specialize in, and this greatly compromises the quality of teaching of technical and vocational subjects. For example, a Biology teacher may be found teaching both Agricultural science and Home economics. Adebile and Ojo (2012, lamented that quality teachers are few. Sadly, the situation is that, where trained technical and vocational subject teachers are available, they are only a few. As

in science, vocational-technical teachers are few compared to teachers in traditional schools (Oni, 2006). The situation Amedome and Fiagbe, (2013), noted in their paper "Challenges facing technical and vocational education in Ghana" p. 253-251, is no different from that of Nigeria. They explained that the teachers are not enough and when they are more, majority of them have short falls in practical experience. Some of them have not worked in the industries to enrich their skills before coming to the classroom and therefore find it very difficult to deliver or make the necessary impact as far as acquisition of practical skills are concerned.

Another problem bothering the success of teaching and learning of technical and vocational subjects in schools was discussed by Jegede (2005), in a study investigating the computer attitudes of teacher educators found that vocational-technical education teachers showed the least positive attitudes about computer. This seems to suggest that vocational education in Nigeria is particularly disadvantaged in that the curriculum still emphasizes manual traditional skills over the use of technology. Nyagura and Reece in Mungani (2011), observed that most teachers are poorly trained academically and professionally resulting in their lack of sufficient skills to organize and manage their classes for effective and efficient curriculum implementation. Rural secondary school teachers lack adequate professional support directed at improving their classroom skills and school heads provide minimal instructional support to their teachers. Ayeni (2011), concluded that teachers' instructional task performance can be enhanced with a good qualification and experience in teaching, while the challenges that teachers face in the tasks of instructional inputs and curriculum delivery require effective capacity development during service, so as to improve the quality of teaching in secondary schools and the overall quality of the education system.

2.5 Resource and Facilities for Technical and Vocational Subjects

Resources and facilities are very much needed for effective teaching and learning of TVS. Seyi (2014) stated clearly that to teach Vocational and Technical subjects, there must be adequate provision of facilities in terms of space, equipment, to ensure quality of education. The training environment should be like the work environment. He stressed that teaching with real materials and real situation can help to encourage the students to learn and enhance quality. The Roberts Review has identified 'out-of-date' laboratories and equipment as one of the deep-seated issues, alongside the shortage of well-qualified teachers, which also needs to be addressed in order to improve the UK's future supply of high science and engineering skills. Inadequacy or in severe cases, lack of equipment (tools and machinery) and facilities or infrastructure necessary for effective teaching and learning of the subjects at such a crucial stage of learning consequently results in deficiencies in the future areas of specialty of the individuals (learners).

In his work, Ogidefa (2010) revealed that most materials and facilities are grossly inadequate for the student population, most are outdated or stolen, and funds are not made available to procure the required instructional materials, equipment and procurement of the necessary facilities. Babalola in Adebile and Ojo (2012) lamented that vocational education equipment are allowed to deteriorate because spare parts are hard to find, probably due to the cost of maintenance which may exceed the potential benefits.

The table 1 shows some technical and vocational subjects and some resources /facilities essential for each subject.

Table 1: Facilities for Technical and Vocational Subjects

Subject	Resources and Facilities
Agricultural Science	School Farm, digger, trowel, tractor, ridger, mower, plougher
Basic Technology	Workshop, work benches, tools racks or boxes, lathe machine
Business Studies	Textbooks, computers, workbooks
Home Management	Laboratory, catering utensils, cooking stoves, tables.
Computer Studies	Computer Laboratory, Computers, Machine operators, book keeping, stenographic services, printing
Technical Drawing	Drawing studio, T-square, iron square, pegs, profile, drawing boards, drawing instruments, standard drawing sheets of various sizes
Carpentry/Furniture Making	Workshop, material (timber), Jack plane, smoothing plane, crosscut sawing machine, drilling machine, Chisel (different sets), Claw hammer, Mallet, screw driver, sash (set)
Motor Vehicle Mechanics	Model vehicle, bolts, nuts, studs, grease, oil, brake fluid, hydrometer, used battery model, tyres, complete engine, beam setter, battery charger, fuel pump and oil pump models, service equipment.
Fabrication and Welding	Anvil, swage block, leg vice, sets of hammer, punchers, drifts, shield, oxygen, cylinders and acetylene, welding set goggles, regulations arc
Block laying and Concreting	Drilling, grinding and cutting machine, circular saw, molding machine, first aid box, boots, concrete mixer, shovels, diggers, coarse aggregate, fine aggregate, blocks, cement

Source: Unesco (unesdoc.unesco.org)

As Sir Roberts (2002) commented, science, design and technology laboratories and equipment are vital to pupils' education, both through directly educating pupils about areas of science and technology, and in making them become more interested and enthusiastic to continue to study science and technology subjects further. Modern well-equipped laboratories are more likely to influence students' perceptions and choices.

2.6 Need for Staff Development for Teachers in Technical and Vocational Subjects

Improving teachers' skills an d knowledge is one of the most important investments of time and money that nations make in education. Staff development programs also known as professional development programs can be expressed as learning opportunities designed to update, improve and enhance knowledge and skills thereby maximizing professional and personal development of staff. Staff development programs may include formal courses given for academic credit or certificate of completion by an accredited college, university, technical/vocational school or institute, special skills school, or adult education school; a seminar, workshop or special emphasis short-duration programs presented by an approved provider; or training obtained at a conference or professional organization. Training is essentially to increase the productivity of the teachers by influencing their behaviors. The training given varies in type and extent and according to the nature and skills of the jobs involved as well as the experience of the employees' concerned (Arikewuyo, 2006). He pointed that the aim of training is to equip individuals with the necessary skills to enable them to find employment, to gain promotion and to have reasonable expectation of redeployment in the event of their being made redundant.

Staff development programs provide educators with the tools, ideas, and hands-on experience necessary for the success of their career, thereby motivating excellent output, improved performance of staff and achievement of objectives. Moreover,

professional development and other organized in-service programs are designed to foster the growth of teachers that can be used for their further development (Crowther et al in Simon, 2012).

Research shows that an inspiring and informed teacher is the most important school-related factor influencing student achievement, so it is critical to pay close attention to how we train and support both new and experienced educators. It is critical for veteran teachers to have ongoing and regular opportunities to learn from each other. Ongoing professional development keeps teachers up-to-date on new research on how children learn, emerging technology tools for the classroom, new curriculum resources, and more (Edutopia, 2008). Professional workshops and other formally related meetings are a part of the professional development experience (Ganzer, 2000).

Champion (2003) posited that regular opportunities and experiences for professional development over the past few years had yielded systematic growth and development in the teaching profession. However, Ajokporise (2010) lamented that "many vocational personnel are not catching up with global trends." And that "the attitude of vocational education teachers to innovation is poor." Changes in the workplace require continual professional development as a means of skill upgrading, even for teachers with degrees in education. New ways of teaching and learning are requiring teachers to assume the roles of coach and facilitator and to situate student learning in real-world contexts. New school-to-work programs are requiring teachers to collaborate with business representatives in the community and partner with employers and with other educators to develop integrated curricula. Teachers must be able to use new technologies, which are continually changing the ways that people live, work, and learn. To respond to these changing roles and responsibilities, teachers need an effective

professional development plan that can help them keep current and embrace new ways to improve their practice (Brown, 2000).

Mohammed (2006), Madumere- Obike (2007), Ntukidem and Etudor (2003) stressed on the importance of continuing professional development for the teachers who are the ones to translate the training acquired to better classroom practices. Continuing staff development programs for teachers is about reinforcing all the dimensions of good teaching throughout a teachers' career. It is a means of increasing the competence level of teachers in a way that would enable them to contribute to a knowledge base that would in turn also contribute to development of teaching as a profession. Zehr(1998) also bemoaned the shortage of certified vocational teachers which led to hiring people from industry to fill teaching vacancies. Although, this industry based teachers have the technical skills required in the workplace, many lack the instructional background that will enable them to manage the classroom and inspire learning. In their paper, Komba and Nkumbi (2008) concluded that opportunities for professional development are ad hoc, irregular, unfairly distributed, unplanned and uncoordinated. Teacher Professional Development should be incorporated in the strategic plan at all levels and should be budgeted for. To address this problem, some schools are using provisional certification options in hiring industry employees, with the stipulation that these teachers obtain educational credits toward licensure within a given period of time following their employment.

Support for beginning teachers is often uneven and inadequate. New teachers often are assigned to the most challenging schools and classes with little supervision and support. Nearly half of all teachers leave the profession in their first five years, so more attention must be paid to providing them with early and adequate support, especially if they are assigned to demanding school environments. Mentoring and coaching from

veteran colleagues is critical to the successful development of a new teacher. Great induction programs create opportunities for novice teachers to learn from best practices and analyze and reflect on their teaching. The continuum of novice to expert teacher is vital. It is very strongly felt that staff development in all stages of a teacher's career is vital to the success of students and their job satisfaction, as well as movement on the continuum, (Edutopia, 2015).

It is conceivable that teachers who are exposed to staff development programs will be more effective in their job performance than those who were not. Implied in this, is the fact that staff development plays a very important role in raising teachers' teaching performance, raising the interest of the teachers towards the subject they are teaching and the teaching profession, as well as, raising their self-confidence, hence, making provision for the professional growth of teachers often leads to greater teacher effectiveness. Ayeni (2011), stressed that the inadequacies in teacher professional development constitute gap that can possibly lower the standard of teachers' instructional task performance and the rate at which students understand the subject matter in schools. Given the importance of staff development programs in the career of serving teachers, there seem to be no alternative to sustained, continuous staff development practices. As Ekpo et al. (2013) affirmed, to meet the needs of the changing world, there is need for continuous staff development programme. He maintained that well packaged staff development programme with current issues in education is likely to further equip teachers with more techniques and competences to discharge their duties effectively.

2.7 Empirical Studies

The teaching-learning process is a complex one. Evaluating the effectiveness of this process is very crucial for progress. Zonkwa's (2004) study concluded that,

appropriate evaluation methods should be adopted in teaching technical subjects. The population of the study was 44 school administrators and 66 technical teachers from Kaduna state, the sample frame of population was adopted through descriptive survey research design and questionnaire was used to collect data. The findings of the study showed that there was the problem of unavailability of technical subject teachers in schools and where there were teachers, they lacked industrial experience. It also revealed that there were no workshops or laboratories for vocational subjects in the schools. Ayeni's (2011) study concluded that teachers' instructional task performance can be enhanced with a good qualification and experience in teaching, while the challenges that teachers face in the tasks of instructional inputs and curriculum delivery require effective capacity development during service, so as to improve the quality of teaching in secondary schools and the overall quality of the education system. The descriptive survey design was used in the study. Respondents included 60 principals and 540 teachers randomly selected from 60 secondary schools. Selection of the secondary schools was based on stratified random sampling method.

The study by Ndiga (2004), adopted a descriptive survey design and used questionnaires and interview schedules to gather information. The sample size comprised 575. Simple random sampling was conducted to select the sample. Both qualitative and quantitative method of data analysis was used. The study concluded that there was need to cultivate a positive image of technological and vocational education as the negative attitude towards the subject seemed to influence choice of the subject alongside other factors like; previous examination results in the subject and career prospects.

Kemunto's (2011) study employed descriptive survey research design. It investigated the teaching and learning of vocational subjects in Kajiado County, Kenya.

10 secondary schools were selected representing 20% of the schools in the district with 200 students, 10 principals and 14 technical and vocational teachers. Questionnaires, interview schedules, participant observation and document analysis were used to collect data. The study established that most technical and vocational teachers were not adequately trained or in-serviced. Also in Ayeni Adeolu (2011), "Teachers' Professional Development and Quality Assurance in Nigerian Secondary Schools" The descriptive survey design was used. Respondents included 60 principals and 540 teachers randomly selected from 60 secondary schools. Selection of the secondary schools was based on stratified random sampling method. The findings indicated that teachers' work was being hampered by shortage of instructional materials, poor condition of infrastructure and lack of necessary equipment for their conveniences, inadequate financial resources to attend in-service training and excessive workload.

The literature by Bvekerwa, Chavunduka, Absalom and Chinyemba (2011), evaluated the availability of resources for teaching and learning technical and vocational subjects in secondary schools in Makonde district, Zimbabwe. The population was all 41 schools and 54 teachers in Mashona land West Province, all schools were located in Makonde District. Tools for data collection were questionnaires and documentation review. The study focused on availability of teachers, staff development for teachers, availability of required infrastructure and material resources for technical and vocational subjects. The findings revealed that there were inadequate material resources for the implementation of technical vocational subjects.

In the study carried out by Komba and Nkumbi (2008), a total of 186 respondents were purposively sampled and reached. Data on the nature, importance, organization, motivation, adequacy of and support for Teacher Professional Development, were gathered using questionnaires, interviews and observation checklist.

The findings indicated that at all levels (national, district, ward and school levels), Teacher Professional Development was poorly coordinated and rarely budgeted for.

The above empirical studies were related to the topic under study, because they focused on implementation of technical and vocational subjects in secondary schools and importance of staff development in education. However, since there was little evidence from the available literature concerning evaluation of teaching and learning technical and vocational subjects in Kebbi state, this study was carried out in an attempt to come up with research-based suggestions that are needed to guide effective implementation of technical and vocational subjects in its secondary schools. This study evaluated the teaching and learning of technical vocational subjects in secondary schools in Kebbi state. The data was analyzed and its facts presented by the use of frequency distributions and percentage. Also, ANOVA was used to test the research hypotheses.

2.8 Summary

This chapter dealt extensively with the concept of evaluation of teaching and learning of technical and vocational subjects in secondary schools. It provides indebt understanding of the major areas that are related to this study. Such areas are the teaching and learning of technical and vocational subjects, student enrolment, teacher availability and qualification, availability of resources and facilities and staff development programs for technical and vocational teachers. Technical and vocational education ensures acquisition skills for the world of work and therefore enhances self-reliance. Its high relevance to the progress and development is recognized hence, its inclusion in the Nigerian curriculum.

Among factors that impede the progress of technical vocation education is that parents or guardians choose subjects for their children without minding the child's abilities, interests and weaknesses in the areas they select for them as they target future careers for their children. Bamanja (2001) lamented that "many parents fail to properly assess the potentials of their children." Most parents push their children too hard to achieve their own dreams and desires rather than their children's. This can be said to contribute a lot to the sorely growing number of unqualified professionals as such people lack interest, aptitude and strength required for meaningful participation and success at their workplaces. Gender is another factor that influences student enrolment into vocational and technical subjects in secondary schools. Ndiga (2004) recommended that gender neutrality must be practiced in the choice of field of study so as to avoid gender segregation. She added that teaching of subjects traditionally taken by girls in technical and vocational education should be enhanced by updating content and facilities and by bringing in a technological orientation such as computers and the use of other modern technology. Entrepreneurial skills should be built into the course and that postgraduate technical and funding assistance should be provided to encourage entrepreneurial ventures especially for girls, (Ndiga, (2004).

Also, there is the sore case of shortage of qualified professional teachers of technical and vocational subjects in secondary schools. Ojo (2012, lamented that quality teachers are few. Sadly, the situation is that, where trained technical and vocational subject teachers are available, they are only a few. Amedome and Fiagbe, (2013 explained that the teachers are not enough and when they are more, majority of them have short falls in practical experience. Some of them have not worked in the industries to enrich their skills before coming to the classroom and therefore find it very difficult to deliver or make the necessary impact as far as acquisition of practical skills are

concerned. The teachers are expected to have sound knowledge of their subject areas to be able to select appropriate and adequate facts for planning of lesson notes, effective delivery of lessons, proper monitoring and evaluation of students' performance, providing regular feed-back on students' performance, improvisation of instructional materials, adequate keeping of records and appropriate discipline of students (Ayeni,2010). Ajokporise (2010) lamented that "many vocational personnel are not catching up with global trends. Changing roles and responsibilities necessitate teachers need for effective professional development plan that can help them keep current and embrace new ways to improve their practice (Brown, 2000). Teachers must also have access to information which is up-to-date, reliable and relevant to the educational needs of students (Ayeni, 2010).

Availability and utilization of adequate, state-of-the-art and well-maintained facilities is paramount to effective and efficient teaching and learning of technical and vocational subjects. It was noted by Enyi in Ani, (pp 240) that inadequacy of facilities, equipments, materials and other tools of learning handicaps educational programs in the country. Oyerinde (1987) concluded that "on the whole, our educational system doesn't produce sufficiently functional and productive people." It is really shocking that this is still the case today.

In order for efficient and effective teaching and learning of technical and vocational subjects, high student enrolment, teacher availability and qualification, facilities and resources and staff development programs are aspects which need to be evaluated so as to be aware of the success or failure of the program.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter is constituted by the following: Research Design, the population of the study, sample and sampling technique, instrumentation, validity and reliability of instrument, pilot study, procedure for collection of data and data analyses technique.

3.2 Research Design

Quantitative research design will be used in this study. A research design is the overall strategy chosen to integrate the different components of the study in a coherent and logical way, thereby ensuring the research problem being effectively addressed. Quantitative research involves counting and measuring of events and performing the statistical analysis of a body of numerical data (Smith in Matreev, 2002). The researcher considered quantitative design appropriate due to its strength in achieving high levels of reliability of gathered data due to controlled observations, laboratory experiments, mass surveys or other form of research manipulations. This quantitative research involves the collection of data using questionnaire.

3.3 Population of the Study

In research, population is known as a well-defined collection of individuals or objects known to have similar characteristics. The population for this study covered all the 275 public secondary schools owned by Kebbi State Government and the population of target respondents are principals, teachers and Ministry of Education officials (MOE) in the 21 local government areas under 6 educational zones in the State. The total number of technical and vocational subject teachers in public secondary schools is 1518, the number of public secondary school principals is 275 and the number of Ministry of Education officials is 140 in Kebbi State. Table 2 displays population of the study.

Table 2: **Population of the Study**

Population	Number
Principals	275
Teachers	1,518
Ministry of Education Officials	140
Total	1,933

Source: Kebbi State Ministry of Education (2015)

3.4 Sample and Sampling Techniques

A sample is that portion of the population that is studied; it is what the researcher selects for the purpose of data collection and analysis (Best & Kahn, in Nasir, 2005). In order to determine the required sample size for the study from the population of respondents totaling 1,933; Krejcie and Morgan (1970) table for determining sample size from a given population (See Appendix) was used to determine 320. The researcher adopted 95 percent confidence level and margin error of 5 percent. Table 3 displays the sample of the study.

Table 3: Sample Size of the Study

Group of Respondents	Population	Sample Size
Principals	275	46
Teachers	1,518	251
Ministry of Education Officials	140	23
Total	**1,933**	**320**

The study is quantitative research; and due to the features of the schools (day & boarding) and in urban and rural areas, the researcher adopted purposive sampling in determining 70 sampled schools. According to Korb (2012) in purposive sampling, researcher uses his expert judgement to select participants that will serve as representative of his population and in doing so the researcher should consider factors that might influence the population such as socio-economic status, intelligence, access to education etc. This enables the researcher to select a sample that can adequately represent the target population.

3.5 Instrumentation

The instrument for the collection of data for this study is questionnaire named "Evaluation of Technical and Vocational Education Programme" (ETVEP). Questionnaire is a series of relevant questions sometimes statements which are usually used to elicit information from the target population of a given study (Razaq & Ajayi, 2000). Dalen (1973) in Adeyanju (1980) stated that for some studies, providing respondents with carefully selected and ordered questions is the only way to elicit the data required to confirm or disconfirm a hypothesis. Some of the administrative or psychological advantages of questionnaire include: Access to a large number of individuals at a minimum cost, and the possibility of guaranteed anonymity which is likely to make the respondent have greater confidence that his/her responses will not be identified as coming from him/her, especially if such responses are likely to be disapproved. The researcher considered the questionnaire as one of the most appropriate instruments of data collection for this study based on the above reasons. The questionnaire was designed into two sections, A and B. Section A sought information on selected personal data of respondents. Section B had sections consisting of 40- items relevant for answering research questions posed in the study. Five-point Likert scale pattern of Strongly Agree (SA=5), Agree (A=4), Undecided (U=3), Disagree (D=2) and Strongly Disagree (SD=1) was used for this study.

3.5.1 Validity of the Instrument

Validity refers to how well an instrument measures what it is purported to measure. The content validity of the instrument was determined by experts in the department of administration and planning to ascertain its ability to precisely measure what it is expected to measure. The instrument was content and face validated by experts from the Department of Administration and Planning, Ahmadu Bello

University, Zaria. The instrument was used as experts agreed that the instrument was relevant and appropriate.

3.5.2 Pilot Study

A pilot study was conducted to specifically pre-test the instrument. It covered three schools namely; GGSS Birnin Kebbi, GDSS Nadaniya, Birnin Kebbi, GJSS Gwadangwaji, Salamatu Hussaini GGSS, Birnin Kebbi, GDSS Makera, in Kebbi State. 50 copies of questionnaires were administered to the respondents (Principals, Teachers and Officials of Ministry Education). The aim of the pilot study was to ascertain the reliability of the instrument, the difficulty level and whether it had power to discriminate over results. The instrument was administered and scored by the researcher and research assistants. This paved way for corrections of the questionnaires items for immediate commencement of field work.

3.5.3 Reliability of the Instrument

In order to find the reliability of the instrument, the researcher conducted a reliability test of the data collected from the pilot study and generated Cronbach's alpha value for the items of the instrument. Cronbach's Alpha is a popular method to measure reliability of an instrument. The items were analyzed with the aid of Statistical Package for Social Sciences. The whole instrument proved to have an excellent level of internal consistency with Cronbach's alpha value more 0.9 (0.934).

3.6 Methods of Data Collection

The researcher visited part of the selected secondary schools and established rapport with the school administrators as well as respondents. Similarly, the researcher employed the service of research assistant for the other part of the schools. During the data collection, both the researcher and research assistance guided the respondents on how to fill-in the questionnaire. This method deemed the best, because it facilitated on

the spot collection of the completed instrument. Visit to the selected schools made it possible to get information that is more accurate. The administration of the copies of questionnaires took couple of 15 before retrieving. The purpose of the 15 days' interval was to provide the respondents enough time to complete the instrument objectively.

3.7 Methods of Data Analysis

The data collected from the study was analyzed using descriptive statistics of frequency counts, mean, and percentages with the aid of Statistical Package of Social Sciences (SPSS). In order to test the null hypotheses of the research to determine the level of significance, the researcher adopted One-way between groups, Analysis of Variance (ANOVA).

The researcher tested the hypotheses against 0.05 level of significance. In the calculation, if the calculated p value, $p > 0.05$ the null hypothesis is accepted and if the calculated p value (less than) $p < 0.05$ or $p = 0.05$ the null hypothesis is rejected. In course of data analyses and interpretations strongly agree and agree were considered as "agree," while disagree and strongly disagree as "disagree" and undecided was treated separately.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The study was on the Evaluation of Technical and Vocational Education Programme in Secondary Schools in Kebbi State. This chapter covered the report of the research findings based on the data collected from respondents. The data on demographic variables of respondents were presented in tables of frequencies, simple percentage and responses of the respondents on the research questions were presented in tables of frequencies, percentages and mean. Similarly, in order to determine level of significance differences between the groups of respondents, the null hypotheses for the study were tested against p = 0.05 level of significance using One-way between groups Analyses of Variance (ANOVA). The groups of respondents comprised principals, teachers, and officials of Ministry of Education. The researcher used the data in answering the research questions and testing the null hypotheses for the study. As mentioned earlier the data were collected using closed ended questionnaire based on 5-points Likert-Scale format. The data were presented and analyzed under the following sub-heading:

4.2 Demographic Variables of Respondents

4.3 Opinion of Respondents on the Students' Enrolment of Technical and Vocational Subjects in Secondary Schools in Kebbi State.

4.4 Opinion of Respondents on the Availability of Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State.

4.5 Opinion of Respondents on the Qualification of Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State.

4.6 Opinion of Respondents on the Availability of Facilities for Teaching and Learning Technical and Vocational Subjects in Secondary Schools in Kebbi State.

4.7 Opinion of Respondents on the Staff Development Programmes for Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State, Nigeria

4.8 Hypotheses Testing.

4.9 Summary of Findings

4.10 Discussion of Findings

4.2 Demographic Variables of Respondents

The bio-data of respondents designed in the research instrument comprised status, gender of respondents, zonal location of selected school, type of school and location of school. The table 4 depicted demographic variable of respondents:

Table 4: Demographic Variable of Respondents

Bio-Data	Description		Frequency	Percent
Status	Principal		154	48.2
	Teacher		91	28.3
	Ministry Officials		75	23.5
		Total	320	100.0
Gender	Male		227	70.8
	Female		93	29.2
		Total	320	100.0
Qualification	OND		6	1.8
	NCE		8	21.2
	HND		30	9.3
	BSc.		122	38.1
	PGDE		59	18.4
	MSc.		35	11.0
		Total	320	100.0
Experience	0 – 5		91	28.3
	6 – 10		102	31.9
	11 – 15		82	25.7
	16 – 20		45	14.1
		Total	320	100.0
Location	Rural		82	24.8
	Urban		238	74.2
		Total	320	100.0
Nature of School	Technical/Vocational School		181	56.6
	Non-Technical/Vocational School		139	43.4
		Total	320	100.0

Table 4 represents the bio data of the respondents. The status of the respondents is in three categories; 154 representing 48.2 % are principals, followed by teacher with 91 representing 28.3% and 75 respondents representing 23.5% are ministry of education

officials (MOE). On gender, the table shows that 227 respondents with 70.8 percent are male and 93 respondents representing 29.2 percent are female. Still on the table, the qualification of the respondents shows that 6 respondents representing 1.8 percent have OND certificate, 68 respondents with 21.2 percent have NCE, 30 respondents representing 9.3 have HND, 122 respondents representing 38.1 have B.Sc., respondents with PDGE are 59 representing 18.4 percent and respondents with M.Sc are 35 representing 11.0 percent.

The years of working experience from the respondents on the table shows that 91 respondents with 28.3 percent have worked between 0-5 years, 102 persons representing 31.9 worked between 6-10 years, 82 respondents representing 25.7 worked between 11-15 years and 45 respondents representing 14.2 worked between 16-20 years.

The location of the respondents in the table shows that 82 respondents representing 25.6 percent are in rural area while 238 respondents with 74.4 percent are in urban area. Similarly, the table shows the nature of schools in Kebbi State. 181 respondents representing 56.7 percent are in technical/vocational school while 139 respondents with 43.3 percent are in non-technical/vocational school.

4.3 Opinions of Respondents on the Students' Enrolment into Technical and Vocational Subjects in Secondary Schools in Kebbi State

This section presents the opinion of respondents on the enrolment of technical and vocational subjects in secondary schools in Kebbi State using 1-10 items in the section B of the questionnaire.

Item 1 is to find out from the respondents if enrolment into agricultural science subject is high. Item 2 seeks to know if enrolment into basic technology subject is low. Item 3 is to find out from the respondents if enrolment into home management subject is high.

Furthermore, item 4 attempts to find out if enrolment into business studies subject is low. Item 5 solicits the opinion of respondent on whether enrolment into technical drawing subject is high. Similarly, item 6 seeks to know if enrolment into food and nutrition subject is low. Likewise, item 7 solicit the opinion of respondents on whether enrolment into computer studies subject is high.

In the same vein, item 8 wants to know if enrolment into clothing and textile subject is low. Item 9 is to find out whether enrolment into wood subject is high. Finally, item 10 solicits the opinion of the respondents on whether enrolment into commerce subject is low. Thus, responses of all respondents were collected, analysed and presented in table 4.3.

Table 5: Opinion of Respondents on the Student' Enrolment into Technical and Vocational Subjects in Secondary Schools in Kebbi State

		Agree		Undecided		Disagree		
S/N	**Items Statement**	**F**	**%**	**F**	**%**	**F**	**%**	**Mean**
1.	Enrolment into agricultural science subject is high	176	54.9	9	2.7	135	42.4	3.33
2.	Enrolment into basic technology subject is low	163	51.0	18	5.7	139	43.3	3.20
3.	Enrolment into home management subject is high	169	52.9	39	12.2	112	34.9	3.38
4.	Enrolment into business studies subject is low	174	54.4	26	8.1	120	37.5	3.29
5.	Enrolment into technical drawing subject is high	81	25.2	52	16.1	187	58.7	2.60
6.	Enrolment into food and nutrition subject is low	167	52.2	54	16.9	99	30.9	3.42
7.	Enrolment into computer studies subject is high	200	62.5	39	12.2	81	25.3	3.60
8.	Enrolment into clothing and textile subject is low	206	64.3	31	9.7	83	26.0	3.64
9.	Enrolment into wood work and subject is high	79	24.6	45	14.0	196	61.4	2.94
10.	Enrolment into commerce subject is low	189	58.9	36	11.3	95	29.8	3.42

Table 5 shows item 1-10 in the opinion of respondents on the enrolment of technical and vocational subjects in secondary schools in Kebbi State. Item 1 shows that respondents agreed that enrolment into agricultural science subject is high with 176 (54.9%) agreed and means scores of 3.33. From item 2, the responses of the respondents agreed that enrolment into basic technology subject is low with 163 (51.0%) agreed and mean scores of 3.20. In item 3, on the statement of enrolment into home management

subject is high, respondents concurred with 169 (52.9%) agreed and mean scores of 3.38. In respect to item 4, respondents agreed that enrolment into business studies subject is low because of 174 (54.4%) respondents agreed with the mean score of 3. 3.29. Similarly, in item 5, the responses of the respondents disagreed that enrolment into technical drawing subject is high where the mean the respondents is 2.60 and 187 (58.7%) respondents disagreed.

Furthermore, responses of the respondents on item 6 on enrolment into food and nutrition subject is low agreed the enrolment is low with 167 (52.2%) agreed with mean scores of 3.42. In item 7, the responses show that enrolment into computer studies subject is high with the decision mean of 3.60 for the respondents and scores of 200 (62.5%) respondents agreed. Likewise, from item 8, the responses agreed that enrolment into clothing and textile subject is low since the means score for principal is 3.64, and 206 (64.3%) agreed. In the same vein, responses from item 9 disagreed that enrolment into wood work and subject is high with the decision mean of 2.94 for and scores of 196 (61.4%) disagreed. In item 10, respondents agreed that enrolment into commerce subject is low since the means scores are 3.42, and scores of 189 (58.9%) agreed.

4.4 Opinion of Respondents on the Availability of Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State

This section presents the opinion of respondents on the availability of technical and vocational teachers in secondary schools in Kebbi State. Item 1 is on finding out whether Agricultural science teachers are adequate. Item 2 is on whether Basic technology teachers are not adequate. Item 3 is about finding out if Home management teacher are adequate. Item 4 solicits the opinion of respondents on whether Business studies teachers are not adequate.

Furthermore, item 5 seeks to know if Technical drawing teachers are adequate. Item 6 is finding out if Food and nutrition teachers are inadequate. Item 7, solicits the opinion of respondents on whether Computer studies teachers are adequate. Item 8 is finding out whether Clothing and textile teachers are not adequate. Likewise, item 9 is seeking the opinion of the respondent on whether Wood work teachers are adequate. Finally, item 10 is about finding out if Commerce teachers are not adequate.

Table 6: Opinion of Respondents on the Availability of Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State

		Agree		Undecided		Disagree		
S/N	**Items Statement**	**F**	**%**	**F**	**%**	**F**	**%**	**Mean**
1.	Agricultural science teachers are adequate	188	58.7	20	6.1	112	35.2	3.39
2.	Basic technology teachers are not adequate	28	8.7	6	1.8	286	89.5	2.23
3.	Home management teacher are adequate	144	45.0	44	13.7	132	41.3	3.13
4.	Business studies teachers are not adequate	132	41.1	45	14.2	143	44.7	2.93
5.	Technical drawing teachers are adequate	84	26.1	23	7.2	213	66.7	2.61
6.	Food and nutrition teachers are inadequate	130	40.5	23	7.1	167	52.4	2.92
7.	Computer studies teachers are adequate	173	54.0	29	9.2	118	36.8	3.23
8.	Clothing and textile teachers are not adequate	154	48.0	69	21.5	97	30.5	3.45
9.	Wood work teachers are adequate	100	31.2	85	27.0	165	51.6	2.84
10.	Commerce teachers are not adequate	161	50.3	26	8.1	133	41.6	3.18

Table 6 shows item 1-10 in the opinion of respondents on the availability of technical and vocational teachers in secondary schools in Kebbi State. Item 1 shows that respondents agreed that agricultural science teacher are adequate since the decision mean for the respondents is 3.39 with scores of 188 (58.7%) agreed. For item 2 on basic technology teacher are not adequate, the responses disagreed with 286 (89%) disagreed with mean score of 2.23. On item 3 respondents agreed that home management teachers are adequate with 144 (45%) agreed and mean score of 3.13. Item 4 shows that respondents reject that business studies teacher are not adequate with 143 (44.7%) disagreed, 45(14.2%) undecided and mean score of 2.93. In the same vein, in item 5 the mean score rejects that technical drawing teachers are adequate with 213 (66.7%) of respondents disagreed with mean score of 2.61.

Moreover, item 6, responses rejected that food and nutrition teachers are inadequate with 167 (52.4%) disagreed with mean score of 2.92. Similarly, responses from item 7 agreed that computer studies teacher are adequate with the decision mean of 3.23 with 173 (54%) agreed. Likewise, item 8, the respondents agreed that clothing and textile teachers are not adequate with 154 (48%) agreed, 69 (21.5%) undecided and a mean score of 3.45. Furthermore, item 9 rejects that wood work teachers are adequate, this could be seen from the responses of the respondents where 165 (51.65) disagreed with mean score of 2.84. However, item 10 shows that commerce teachers are not adequate because 161 (50.3%) respondents agreed that commerce teachers are not adequate with a mean score of 3.18.

4.5 Opinion of Respondents on the Qualification of Teachers of Technical and Vocational Subject Teachers in Secondary School in Kebbi State

This section is about opinion of respondents on the qualification of technical and vocational subject teachers in secondary school in Kebbi state, Nigeria. To achieve this, item 21-25 in questionnaire were used. Item 1 is about if Teachers are ordinary national diploma (OND) holders from polytechnic. Item 2 is to finding out whether Teachers are Nigeria certificate in education (NCE) holders from colleges of education. For item 3, it seeks the opinion of the respondents on if Teachers are higher national diploma (HND) holders from polytechnics. Item 4 wishes to determine if Teachers are bachelor degree holders from universities. And, item 5 solicits the opinion of the respondents on whether the Teachers are master's degree holder from universities.

Table 7: Opinion of Respondents on the Qualification Teachers of Technical and Vocational Subject Teachers in Secondary School in Kebbi State

		Agree		Undecided		Disagree		
S/N	**Items Statement**	**F**	**%**	**F**	**%**	**F**	**%**	**Mean**
1.	Teachers are ordinary national diploma (OND) holders from polytechnic	102	31.9	26	8.1	192	60.0	2.48
2.	Teachers are Nigeria certificate in education	271	84.7	27	8.5	22	6.8	4.09

	(NCE) holders from colleges of education							
3.	Teachers are higher national diploma (HND) holders from polytechnics	245	76.5	56	17.5	19	5.9	3.73
4.	Teachers are bachelor degree holders from universities	239	74.8	40	12.5	41	12.7	3.85
5.	Teachers are master's degree holder from universities	162	50.6	36	11.3	122	38.1	2.71

Table 7 shows item 1-5 in the opinion of respondents on the qualification of technical and vocational subject teachers in secondary school in Kebbi State, Nigeria. The respondents disagreed on item 1 that teachers are Ordinary National Diploma (OND) holders from polytechnic with 192 (60%) disagree and mean of 2.48. From item 2, the responses of the respondents agreed that teachers are Nigeria Certificate in Education (NCE) holders from Colleges of Education with 271 (84.1%) agree and mean of 4.09. Item 3 indicates that the respondents agree with the statement that teachers are Higher National Diploma (HND) holders from polytechnics with 245 (76.5%) agree and mean of 3.73. Similarly, item 4 shows that the respondents agree with the statement that teachers are Bachelor's Degree holders from universities where the mean scores is 3.85 with 239 (74.8%) agree. Finally, on item 5, result shows that respondents agreed that teachers are Master's Degree holder from universities with 2.71 mean score and 162 (50.6%) agree.

4.6 Opinion of Respondents on the Availability of Facilities for Teaching and Learning Technical and Vocational Subjects in Secondary School in Kebbi State

This section presents the opinion of respondents on the availability of facilities for teaching and learning technical and vocational subjects in secondary school in Kebbi state Nigeria. Items 26-35 in the questionnaire relates to the section.

Item 1 is to find out if there is a school farm for agricultural science practical with livestock, tools and machinery for teaching and learning of the subjects. Item 2 seeks to determine whether is there is a well-equipped workshop for teaching and learning basic technology/technical drawing with necessary equipment. Item 3, is to find out if there is a well-equipped home management/food and nutrition laboratory available for effective teaching and learning of the subjects. Similarly, item 4 attempts to find out if there is an up to date computer laboratory fully equipped with functioning computer and accessories. Likewise, item 5 is looking at there is a well-equipped clothing and textile/fine arts laboratory in the school.

Furthermore, item 6, it about identifying if there is an up to date workshop for wood work/ carpentry is available in the school with material and equipment like jack plane etc. Item 7 is soliciting the opinion of the respondent whether there is a laboratory/workshop for fabrication and welding well-equipped with shield, oxygen etc. on item 8, the researcher wants to find out if Block laying and concreting work space are equipped with drilling, grinding etc. in the same vein, item 9 intends to know whether there is Motor vehicle mechanics workshop is available and equipped with model vehicle, battery charger etc. finally, item 10, seeks to find out if The school library is modern and is equipped with up to date text books, good seats and tables and is conducive.

Table 8: Opinion of Respondents on the Availability of Facilities for Technical and Vocational Education Programme in Secondary School in Kebbi State

S/N	Items Statement	Agree		Undecided		Disagree		Mean
		F	%	F	%	F	%	
1.	There is a school farm for agricultural science practical with livestock, tools and machinery for teaching and learning of the subjects	52	16.2	4	1.3	264	82.5	2.12
2.	There is a well-equipped workshop for teaching and learning basic technology/technical drawing with necessary equipment	38	12.0	20	6.2	262	81.8	2.01
3.	There is a well-equipped home management/food and nutrition laboratory available for effective teaching and learning of the subjects	42	13.0	30	9.4	248	77.6	2.15
4.	There is an up to date computer laboratory fully equipped with functioning computer and accessories	119	37.3	17	5.4	184	57.5	2.68
5.	There is a well-equipped clothing and textile/fine arts laboratory in the school	24	7.4	42	13.0	254	79.6	1.86
6.	An up to date workshop for wood work/ carpentry is available in the school with material and equipment like jack plane etc.	40	12.5	22	6.9	258	80.6	1.94
7.	There is a laboratory/workshop for fabrication and welding well-	25	7.7	39	12.2	256	80.1	1.91
8.	Block laying and concreting work space are equipped with drilling, grinding etc.	39	12.1	36	11.4	245	76.5	1.89
9.	Motor vehicle mechanics workshop is available and equipped with model vehicle, battery charger etc.	28	8.8	84	26.1	208	65.1	1.83
10.	The school library is modern and is equipped with up to date text books, good seats and tables and is conducive	63	19.6	27	8.3	230	72.9	2.19

Table 8 shows item 1-10 on the opinion of respondents on the availability of facilities for technical and vocational subjects in secondary schools in Kebbi State, Nigeria. Item 1 shows that respondent disagree that there is a school farm for agricultural science practical with livestock, tools and machinery for teaching and learning of the subjects, this could be seen in table where 264 (82.5%) disagree with mean score of 2.12. Result from Item 2 indicates that respondent rejects the premise that there is a well-equipped workshop for teaching and learning basic technology/technical drawing with necessary equipment with mean 2.01 and 262 (81.8%) disagree. Item 3 shows that the responses disagreed with the statement that there is a well-equipped

home management/food and nutrition laboratory available for effective teaching and learning of the subjects with mean score of 2.15 and 248 (77.6%) disagree. For item 4, result shows that respondents reject the assertion that there is an up to date computer laboratory fully equipped with functioning computer and accessories with 184 (57.5%) disagree and mean of 2.68. Similarly, on item 5, respondents disagreed with the statement that there is a well-equipped clothing and textile/fine arts laboratory in the school with 254 (79.6%) disagree and mean of 1.86.

Furthermore, item 6 shows that respondent rejected the premise that an up to date workshop for wood work/ carpentry is available in the school with material and equipment like jack plane with 258 (80.6%) disagree and mean score 1.94. For item 7, responses opposed the statement that there is a laboratory/workshop for fabrication and welding well-equipped with shield, oxygen etc. This is because scores recorded indicates 256 (80.1%) disagree with a mean of 1.91. In the same vein, item 8, on block laying and concreting work space are equipped with drilling, grinding etc, the respondents disagree with the statement with 245 (76.5%) disagree and a mean of 1.89. Likewise, item 9 on motor vehicle mechanics workshop is available and equipped with model vehicle, battery charger etc; the respondents disagree with the statement with 208 (65.1%) disagree and a mean of 1.83. Finally, respondents disagree with item 10 on statement that the school library is modern and is equipped with up to date text books, good seats and tables and is conducive, since the mean score is 2.19 with 230 (72.9%) disagree.

4.7 Opinion of Respondents on the Staff Development Programmes for Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State

This is centered on item 1-5 which about the opinion of respondents on the staff development programs for teachers in technical and vocational subjects in secondary

schools in Kebbi state, Nigeria. Item 1 is set to find out if new teachers undergo adequate training and inducting programs before they start teaching. Item 2 is about whether new teachers are properly supervised, supported, mentored and coached regularly by veteran colleagues. Item 3 is on whether skill upgrading seminars and workshops are frequently organized for teachers in the school. Item 4, solicits the opinion of respondents on whether Teachers are frequently go for short-duration programs or trainings at conferences or relevant professional organizations. And, item 5 is about finding out Both new and experienced teachers have ongoing and regular opportunities to learn from each other through meetings organized solely for the purpose of catching up with global trends.

Table 9: Opinion of Respondents on the Staff Development Programmes for Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State

		Agree		Undecided		Disagree		
S/N	**Items Statement**	**F**	**%**	**F**	**%**	**F**	**%**	**Mean**
1.	New teachers undergo adequate training and inducting programs before they start teaching	201	62.7	23	7.3	96	30.0	2.99
2.	New teachers are properly supervised, supported, mentored and coached regularly by veteran colleagues	159	49.8	24	7.5	137	42.7	3.09
3.	Skill upgrading seminars and workshops are frequently organized for teachers in the school	65	20.2	43	13.4	212	66.4	2.43
4.	Teachers are frequently go for short-duration programs or trainings at conferences or relevant professional organizations	80	24.9	31	9.8	209	65.3	2.74
5.	Both new and experienced teachers have ongoing and regular opportunities to learn from each other through meetings organized solely for the purpose of catching up with global trends.	128	39.9	13	4.1	179	56.0	2.90

Table 9 shows items 1-5 on the opinion of respondents on the staff development programs for teachers in technical and vocational subjects in secondary schools in Kebbi state, Nigeria. Item 1 shows that new teachers undergo adequate training and inducting programs before they start teaching, this confirms with means score of

principal with 201 (62.7%) agree and a mean score of 2.99. Similarly, item 2 indicates that new teachers are properly supervised, supported, mentored and coached regularly by veteran colleagues, this could be seen from the responses of the respondents with 159 (49.8%) agree, 24(7.5%) undecided and a mean score of 3.09. However, responses from item 3 indicates that the respondents disagree that skill upgrading seminars and workshops are frequently organized for teachers in the school with the decision mean of 2.74 and 212 (66.4%) disagree. Respondents on item 4 disagreed with the statement that teachers frequently go for short-duration programs or trainings at conferences or relevant professional organizations because the mean score 2.74 and 209 (65.3%) disagree. As for item 5, responses show that respondents disagreed with statement that both new and experienced teachers have ongoing and regular opportunities to learn from each other through meetings organized solely for the purpose of catching up with global trends, with 179 (56.0%) disagree and a mean of 2.90.

Table 10: Summary of Opinion of Respondents on Evaluation of Teaching and Learning of Technical and Vocational Subjects in Secondary Schools in Kebbi State, Nigeria

S/N	Item Statement	Category of Respondents	Responses: Agree F	Agree %	Undecided F	Undecided %	Disagree F	Disagree %	Mean
1	Opinions of Respondents on the Students' Enrolment of Technical and Vocational Subjects in Secondary Schools in Kebbi State	Principals, Teachers and Officials of Ministry of Education	1,604	50.1	349	10.9	1,247	39.0	**3.28**
2	Opinion of Respondents on the Availability of Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State	Principals, Teachers and Officials of Ministry of Education	1,294	40.4	370	11.6	1,536	48.0	**2.99**
3	Opinion of Respondents on the Qualification of Teachers of Technical and Vocational Subject in Secondary School in Kebbi State	Principals, Teachers and Officials of Ministry of Education	1,019	63.7	185	11.5	396	24.8	**3.37**
4	Opinion of Respondents on the Availability of Facilities for Teaching and Learning Technical and Vocational Subjects in Secondary School in Kebbi State	Principals, Teachers and Officials of Ministry of Education	470	14.7	285	8.9	2,445	76.4	**2.06**
5	Opinion of Respondents on the Staff Development Programs for Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State	Principals, Teachers and Officials of Ministry of Education	633	39.6	134	8.4	2,433	76.0	**2.83**

Table 10 shows items1-5 on the summary of the opinion of respondents on the evaluation of teaching and learning of technical and vocational subjects in secondary schools in Kebbi state, Nigeria. Item 1 shows that there is low students' enrolment in technical and vocational subjects in secondary schools in Kebbi state, frequency of 1,604 (50.1%) confirms this with a mean score of 3.28. Item 2 indicates that there is availability of teachers of technical and vocational subjects in secondary schools in

Kebbi State with 1,536 (48.0%) at a mean score of 2.99. Item 3 shows that respondents agree that there exists a high level of qualification of teachers of technical and vocational subject in secondary school in Kebbi state evident in the frequency 1,019 (63.7%). In item 4, respondents agree that there is low availability of facilities for teaching and learning technical and vocational subjects in secondary school in Kebbi State. While item 5 shows 2,433 (76.0%) respondents agreeing there is low staff development programs for teachers teaching technical and vocational subjects in secondary schools in Kebbi state.

4.8 Hypotheses Testing

This section deals with hypothesis testing. The hypotheses are related to variables identified in the research objectives. These issues include: enrolment into technical and vocational subjects in secondary schools in Kebbi state, availability of technical and vocational teachers in secondary schools in Kebbi state, qualification of technical and vocational subject teachers in secondary schools in Kebbi state, availability of facilities for teaching and learning technical and vocational subjects in secondary schools in Kebbi state and staff development programs for teachers in technical and vocational subjects in secondary school in Kebbi state.

Five objectives were tested using ANOVA at 0.05 level of significant. A hypothesis is rejected if p-value is less than the level of significance set by the study.

4.8.1 Null Hypothesis 1

Hypothesis one states that there is no significant difference in the opinions of Principals, Teachers, Ministry of Education officials on the students' enrolment of into vocational and technical subjects on teaching and learning of technical and vocational subjects in secondary schools in Kebbi State. Item 1-10 in the questionnaire relates to

these hypotheses. Responses of all stakeholders were collected, analyzed and presented in a table using ANOVA. Thus, table 4.8 gives the details.

Table 11: Summary of Analysis of Variance (ANOVA) on the Students' Enrolment into Vocational and Technical Subjects in Secondary Schools in Kebbi State

Status	Sum of square	df	Mean Square	F	Prob.	F. critical	decision
Between groups	167	2	83.827	1.700	.187	3.09	
Within groups	5423.354	225	49.303				Retained
Total	5591.009	226					

Table 11 shows f-ratio value (1.700) at 2 df 225 and at level 0.05. The critical value (3.09) is greater than f ratio value (1.700). The probability level of significance p (.187) is greater than 0.05. This means that there is no significant difference in the opinions of respondents on the students' enrolment into vocational and technical subjects on teaching and learning of technical and vocational subjects in secondary schools in Kebbi State

4.8.2 Null Hypothesis 2

Hypothesis Two states that there is no significant difference in the opinion of Principals, Teachers, Ministry of Education officials on the availability teachers of technical and vocational subjects in secondary school in Kebbi State. Item 11-20 in the questionnaire relates to these hypotheses. Responses of all stakeholders were collected, analyzed and presented in a table using ANOVA. Thus, table 12 gives the details.

Table 12: Summary of Analysis of Variance (ANOVA) on Availability of Teachers of Technical and Vocational Subjects in Secondary School in Kebbi State

Status	Sum of square	df	Mean Square	F	Prob.	F. critical	Decision
Between groups	237.655	2	118.742	.794	.454	3.17	Retained
Within groups	16442.021	225	149.473				
Total	5591.009	226					

Table 12 shows f-ratio value (.794) at 2 df 225 and at level 0.05. The critical value (3.17) is greater than f ratio value (.794). The probability level of significance p (.454) is greater than 0.05. This means that there is no significant difference in the opinion of respondents on the availability teachers of technical and vocational subjects in secondary school in Kebbi State.

4.8.3 Null Hypothesis 3

Hypothesis three states that there is no significant difference in the opinion of Principals, Teachers, Ministry of Education officials on the qualification of teachers of technical and vocational subjects in secondary school in Kebbi State.

Item 21-25 in the questionnaire relates to these hypotheses. Responses of all stakeholders were collected, analyzed and presented in a table using ANOVA. Thus, table 13 gives the details.

Table 13: Summary of Analysis of Variance (ANOVA) on Qualification of Teachers of Technical and Vocational Subjects in Secondary School in Kebbi State

Status	Sum of square	df	Mean Square	F	Prob.	F. critical	Decision
Between groups	301.676	2	150.838	2.227	.113	3.25	Retained
Within groups	7751.009	225	67.721				
Total	5591.009	226					

Table 13 shows f-ratio value (2.227) at 2 df 225 and at level 0.05. The critical value (3.25) is greater than f ratio value (2.227). The probability level of significance p (.454) is greater than 0.05. This means that there is no significant difference in the opinion of respondents on qualification of teachers of technical and vocational subjects in secondary school in Kebbi State, Nigeria.

4.8.4 Null Hypothesis 4

Hypothesis four states that there is no significant difference in the opinion of Principals, Teachers, Ministry of Education officials on the availability of facilities for teaching and learning of technical and vocational subjects in secondary school in Kebbi State.

Item 26-35 in the questionnaire relates to these hypotheses. Responses of all stakeholders were collected, analyzed and presented in a table using ANOVA. Thus, table 14 gives the details

Table 14: Summary of Analysis of Variance (ANOVA) on Availability of Facilities for Teaching and Learning of Technical and Vocational Subjects in Secondary School in Kebbi State

Status	Sum of square	df	Mean Square	F	Prob.	F. critical	Decision
Between groups	59.315	2	29.657	.437	.647	3.02	
Within groups	7462.721	225	67.843				Retained
Total	7522.035	226					

Table 14 shows f-ratio value (.437) at 2 df 225 and at level 0.05. The critical value (3.02) is greater than f ratio value (.437). The probability level of significance p (.647) is greater than 0.05. This means that there is no significant difference in the opinions of respondents on availability of facilities for teaching and learning of technical and vocational subjects in secondary school in Kebbi State, Nigeria.

4.8.5 Null Hypothesis 5

Hypothesis five states that there is no significant difference in the opinion of Principals, Teachers, Ministry of Education officials on the staff development programmes for teachers of technical and vocational subjects in secondary school in Kebbi State.

Item 36-40 in the questionnaire relates to these hypotheses. Responses of all stakeholders were collected, analyzed and presented in a table using ANOVA. Thus, table 15 gives the details.

Table 15: Summary of Analysis of Variance (ANOVA) on Staff Development Programmes for Teachers of Technical and Vocational Subjects in Secondary School in Kebbi State

Status	Sum of square	df	Mean Square	F	Prob.	F. critical	decision
Between groups	88.870	2	44.435	2.444	.092	3.29	
Within groups	2000.121	225	18.183				Retained
Total	2088.991	226					

Table 15 shows f-ratio value (2.444) at 2 df 225 and at level 0.05. The critical value (3.29) is greater than f ratio value (2.444). The probability level of significance p (.647) is greater than 0.05. This means that there is no significant difference in the opinions of respondents on staff development for teachers of technical and vocational subjects in secondary school in Kebbi State.

4.9 Summary of Hypotheses Testing

The study employed the use of One-way Analysis of Variance (ANOVA) to analyse the data in determining level of significance. The five null hypotheses for the study were tested against p = 0.05 level of significance. Moreover, all the five hypotheses were accepted (retained) as displayed by table 16.

Table 16: Summary of Hypotheses Testing

S/N	Hypotheses Statement	Respondents	Sig.	P Value	Decision
1	There is no significant difference in the Opinion of Respondents on Students' Enrolment into Vocational and Technical Subjects in Secondary School in Kebbi State	Principals, Teachers and Officials of Ministry of Education	3.09	p > 0.05	Ho1 Accepted
2	There is no Significant Difference in the Opinion of Respondents on the Availability of Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State, Nigeria	Principals, Teachers and Officials of Ministry of Education	3.17	p > 0.05	Ho2 Accepted
3	There is no Significant Difference in the Opinion of Respondents on the Qualification of Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State, Nigeria	Principals, Teachers and Officials of Ministry of Education	3.25	p > 0.05	Ho3 Accepted
4	There is no Significant Difference in the Opinion of Respondents on the Availability of Facilities for Technical and Vocational Education Programme in Secondary Schools in Kebbi State, Nigeria	Principals, Teachers and Officials of Ministry of Education	3.02	p > 0.05	Ho4 Accepted
5	There is no Significant Difference in the Opinion of Respondents on Staff Development Programmes for Teachers of Technical and Vocational Subjects in Secondary Schools in Kebbi State	Principals, Teachers and Officials of Ministry of Education	3.27	p > 0.05	Ho5 Accepted

4.10 Summary of Findings

The study revealed that there was;

1. low students' enrolment into technical and vocational subjects in Secondary Schools in Kebbi State;
2. availability of teachers of technical and vocational subjects in secondary schools in Kebbi State;
3. high level of qualified teachers of technical and vocational subjects in secondary schools in Kebbi State;
4. no availability of adequate facilities for technical and vocational education programme in secondary schools in Kebbi State;
5. low level of staff development programmes for teachers of technical and vocational subjects in secondary schools in Kebbi State.

4.11 Discussions of the Findings

The study was specifically designed to evaluate technical and vocational education programme in secondary schools in Kebbi State. The discussions of the research findings comprised discussions on the findings from the responses of the respondents.

Technical and vocational education is critical to national development, but it has suffered a lot of relegation in many of the African nations including Nigeria. This study discovered low rate of students' enrolment in technical and vocational subjects in secondary schools in Kebbi State. The findings are similar to what previous research discovered. For instance, African Economic Outlook (2010) as cited by Ebenechi and Baki (2015) reported that between the year 2001 and 2005, enrolment in technical and vocational education in North Africa was 22.95%, Latin America was 11.6%, South Eastern Asia was 9.5%, and Sub-Saharan Africa, Nigeria inclusive was 5.2% of the total

enrolment in schools. In Nigeria, this ugly trend in enrolment into technical and vocational education (TVE) program seems to remain unchanged. In Nigeria, higher education students' preferences between year 2007 and 2010 clearly demonstrated that the youth continue to indicate more interest in non-technical academic programs than technical or technology-oriented programs.

Hiring qualified teaching and non-teaching staff is very crucial in the management of schools. The result of the study discovered availability of adequate staff for technical and vocational subjects in secondary schools in Kebbi State. Despite this result, the Kebbi State Government need to sustain the level of teachers in the schools for effective teaching and learning technical and vocational subjects in the secondary schools in Kebbi State.

Teachers' teaching qualification is another quality of the teacher. This means that the qualification of a teacher matters when it comes to effective teaching of technology and vocational subjects. This study revealed a high level of qualified teachers of technology and vocational subjects in secondary schools in Kebbi State. Given emphasis to qualification of teachers was buttressed by different research findings. Fakeye (2012) discovered relative contribution of teachers' qualification and subject to students 'achievement.

Result of the study discovered non-availability of adequate facilities for teaching and learning technological and vocational subjects in secondary schools in Kebbi State. As human resource, facilities are also critical in ensuring effective teaching and learning. The finding of the study is similar to Obakhunme (n.d.) findings. Obakhunme (n.d) discovered non-availability of facilities in the schools covered by his study.

The findings of the study revealed low level of staff development programmes for staff of technical and vocational subjects in secondary schools in Kebbi State. Staff development is crucial to the success of any organization and one of the most important functions of Human Resource Management. Waheed (2011) pointed out that there is direct relationship between staff development and staff performance. FRN (2004, p. 26) stated that "Since no education system may rise above the quality of its teachers, and that teacher education shall continue to be given major emphasis in all educational planning and development. The document also stipulated that the goals of teacher education should be to:

a) Produce highly motivated, conscientious and efficient classroom teachers for all levels of our educational system;

b) Encourage further the spirit of enquiry and creativity in teachers;

c) Help teachers to fit into social life of the community and the society at large and enhance their commitment to national goals;

d) Provide teachers with the intellectual and professional background adequate for their assignment and make them adaptable to changing situations;

e) Enhance teachers' commitment to the teaching profession.

The test of the null hypotheses in the study revealed that the respondents did not differ in their opinion on low rate of students' enrolment into technical and vocational subjects, availability of teachers, high level of qualified teachers, non-availability of adequate facilities for teaching and learning technical and vocational subjects and low level of staff development programmes for teachers of technical and vocational subjects in secondary schools in Kebbi State.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter concludes the research on the evaluation of technical and vocational education programme in secondary schools in Kebbi State with summary of the research report. The chapter also presented a conclusion, recommendations, and suggestion for further research.

5.2 Summary

The study evaluated technical and vocational education programme in secondary schools in Kebbi State. The study was carried out with five objectives which are to; ascertain the rate of enrolment into technical and vocational subjects, enquire into the availability of teachers teaching technical and vocational subjects, examine the qualifications of teachers teaching technical and vocational subjects; assess the facilities available for teaching and learning of technical and vocational subjects; identify staff development programmes for teachers of technical and vocational subjects, in secondary schools in Kebbi State.In line with the above stated objectives, five (5) corresponding research questions and five (5) hypotheses were formulated and tested for the study. The study adopted the use of quantitative research design and a total sample population of 320 consisting46 principals, 251 teachers, and 23 officials of Ministry of Education. The researcher designed questionnaire, tagged “Evaluation of Teaching and Learning of Technical and Vocational Subjects in Secondary Schools (ETLTVS)” used for the study was pilot-tested and a liability index of 0.80 was obtained using Cronbach's Alpha techniques. Data collected were analyzed statistically using descriptive (frequency,

percentage, mean and standard deviation) and inferential statistics (Analysis of Variance - ANOVA)

5.3 Conclusions

In conclusion, the findings of the study show

1,low rate of students' enrolment into technical and vocational subjects

2, availability of teachers

3, high level of qualified teachers for technical and vocational subjects

4, non-availability of adequate facilities for teaching and learning technical and vocational subjects and

5, low level of staff development programmes for teachers of technical and vocational subjects in secondary schools in Kebbi State.

5.4 Recommendations

Based on the findings of this study, it is recommended that the people of Kebbi State and all relevant stakeholders should:

a) Sensitize the public on the relevance of technical and vocational education through regular campaigns, social media forums and school exhibitions of technical and vocational inventions and products.
b) Sustain the present development of hiring teachers with high qualifications and also enforce compulsory professional registration and certification to further register the relevance of technical vocational education. Remuneration improvement and other benefits would also motivate more teachers to aim at attaining higher qualifications to remain relevant in the system, thereby promoting quality delivery of technical and vocational instruction.

c) Sustain the present development of available teachers of technical and vocational subjects and make a projection of increasing the number of the teachers based on the anticipated future increase of students to ensure proper teacher-student ratio of technical and vocational subjects in secondary school in Kebbi State;

d) Increase and control proper maintenance of the facilities being provided for teaching and learning of technical and vocational subjects in secondary schools in Kebbi State by enforcing regular and compulsory inventory.

e) ensure that staff development programs are organized and benefitted from by enforcing compulsory attendance for teachers to keep them equipped with up-to-date knowledge and skills required for accomplishment of instructional goals as well as personal and professional growth.

5.5 Suggestions for Further Studies

Technical and vocational education has been recognized as one of the keys for national development based on the finding of the study there is need for further studies on the following:

a) Factors affecting students' enrolment into technical and vocational subjects in Kebbi State.

b) Factors affecting allocation of teaching and learning facilities for technical and vocational subjects in secondary schools in Kebbi State.

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APPENDIXES

Appendix I

Department of Educational Foundations and Curriculum

Educational Administration and Planning Section

Ahmadu Bello University, Zaria

Date: 1/7/2016

Dear Respondent,

This questionnaire has been developed for research on the Evaluation of Technical and Vocational Education Programme in Secondary Schools in Kebbi State. Thus, data collected will be used strictly for research purposes. Your sincere opinions on the issues raised would be greatly appreciated. Please note that you are to complete the questionnaire devoid of your names and that all responses will be treated with utmost confidentiality. Kindly respond to the issues by ticking (✓) to indicate your opinion on each item.

Yours sincerely,

Aisha Abubakar Atiku

EVALUATION OF TECHNICAL AND VOCATIONAL EDUCATION PROGRAMME IN SECONDARY SCHOOLS IN KEBBI STATE

SECTION A: Background Information

1. Status: Principal ( ) Teacher ( ) Official of M.O.E. ( )
2. Gender:(a) Male ( ) (b) Female ( )
3. Educational Qualification: (a) Master's degree ( ), (b) Bachelor's degree ( ), (c) NCE ( ) (d) Others, please specify . . . . . .
4. Teaching experience: (a) 0-5 years ( ), (b) 6-10 ( ), (c) 11-15 ( ), (d) 16 and above ( )
5. Location of School (a) Rural area ( ) (b) Urban area ( )
6. Nature of School (a) Technical/Vocational School ( ) (b) Non-Technical/Vocational School ( )

Tick in the column that relates to your opinion from sections B - F

SECTION B: **Enrolment into Technical and Vocational Subjects in Secondary Schools in Kebbi State, Nigeria**

S/N	ITEM STATEMENTS	RESPONSES				
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	Enrolment into Agricultural Science subject is high					
2.	Enrolment into Basic Technology subject is low					
3.	Enrolment into Home Management subject is high					
4.	Enrolment into Business Studies subject is low					
5.	Enrolment into Technical Drawing subject is high					
6.	Enrolment into Food and Nutrition subject is low					
7.	Enrolment into Computer Studies subject is high					
8.	Enrolment into Clothing and Textile subject is low					
9.	Enrolment into Wood work subject is high					
10.	Enrolment into Commerce subject is low					

SECTION C: **Availability of Technical and Vocational Teachers in Secondary Schools in Kebbi State, Nigeria**

S/N	ITEM STATEMENTS	RESPONSES				
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
11.	Agricultural Science teachers are available.					
12.	Basic Technology teachers are not available.					
13.	Home Management teachers are available					
14.	Business Studies teachers are not available.					
15.	Technical Drawing teachers are available.					
16.	Food and Nutrition teachers are available.					
17.	Computer Studies teachers are available.					
18.	Clothing and Textile teachers are not available.					
19.	Wood work teachers are available					
20.	Commerce teachers are not available					

SECTION D: Availability of Facilities for Technical and Vocational Subjects in Secondary Schools in Kebbi State, Nigeria

S/N	ITEM STATEMENTS	RESPONSES				
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
21.	There is a school farm for Agricultural science practical with livestock, tools and machinery for teaching and learning of the subjects.					
22.	There is a well-equipped workshop for teaching and learning Basic Technology/ Technical drawing with necessary					

	equipment e.g. work benches, tools rack, drawing studio and lathe machine.					
23.	There is a well-equipped Home Management /Foods and Nutrition laboratory available for effective teaching and learning of the subjects.					
24.	There is an up-to-date Computer laboratory fully equipped with functioning computers and computer accessories.					
25.	There is a well-equipped Clothing and Textiles/Fine Arts laboratory in the school.					
26.	An up-to-date workshop for Wood work/Carpentry is available in the school with material (i.e. timber) and equipment like Jack plane, smoothing plane, crosscut sawing machine, drilling machine etc.					
27.	There is a Laboratory/workshop for Fabrication and welding well-equipped with shield, oxygen, cylinders and acetylene, welding set goggles, regulations arc etc.					
28.	Block-laying and concreting work-space are equipped with drilling, grinding and cutting machine, circular saw, molding machine, first aid box, boots, concrete mixer, shovels, diggers, coarse aggregate, fine aggregate, blocks, cement etc.					
29.	Motor vehicle mechanics workshop is available and equipped with model vehicle, battery charger, fuel pump and oil pump models, service equipment					
30.	The school library is modern and is equipped with up-to-date textbooks, good seats and tables, and is conducive.					

SECTION E: Staff Development Programs for Technical and Vocational Subject Teachers in Secondary Schools in Kebbi State, Nigeria

S/N	ITEM STATEMENTS	RESPONSES				
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
31.	New teachers undergo adequate training and induction programs before they start teaching.					
32.	New teachers are properly supervised, supported, mentored and coached regularly by veteran colleagues.					
33.	Skill-upgrading seminars and workshops are frequently organized for teachers in the school.					
34.	Teachers frequently go for short- duration programs or trainings at conferences or relevant professional organizations.					
35.	Both new and experienced teachers have ongoing and regular opportunities to learn from each other through meetings organized solely for the purpose of catching up with global trends.					

Appendix II

KEBBI STATE PUBLIC SECONDARY SCHOOLS

S/N	EDUCATIONAL ZONE	L.G.A.	SCHOOLS	PRINCIPALS
1	Argungu	Argungu Augie Arewa	43	43
2	Birnin-Kebbi	Birnin Kebbi Gwandu Kalgo	46	46
3	Bunza	Bunza Suru Bagudo Dandi	40	40
4	Jega	Jega Aliero Mayyama	36	36
5	Yauri	Yauri Ngaski Koko Besse Shanga	33	33
6	Zuru	Zuru Danko Wasagu Sakaba Fakai	61	61
		Plus 16 Science and Technical schools	16	16
		Total	275	275

Source: Kebbi State Ministry of Education (2015)

Appendix II

KEBBI STATE PUBLIC SECONDARY SCHOOL TECHNICAL AND VOCATIONAL SUBJECTS TEACHERS

Education Zones	TEACHERS							Total
	Agric. Science	Economics	Commerce	Computer	Home Economics	Food & Nut.	Fine Arts	
B/Kebbi	77	34	46	10	4	-	-	**171**
Argungu	39	12	3	1	1	-	-	**56**
Bunza	25	4	3	2	-	-	-	**34**
Jega	20	10	2	2	-	-	-	**34**
Yauri	26	5	9	1	2	-	-	**43**
Zuru	115	34	14	16	18	-	-	**197**
Total	302	99	77	32	25	-	-	**535**

Source: Secondary School Management Board, Birnin Kebbi. (2015)

Appendix III

Table for Determining Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	150	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	382	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	630	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	275	50000	381
200	132	1000	278	75000	382
210	136	1400	285	100000	384

Note: - N is Population Size. S is Sample Size

Source: Krejcie & Morgan (1970)