CHAPTER ONE

INTRODUCTION

Background to the Study

Education has for long been recognized as a basic instrument of economic growth, social development and technological advancement of any society or nation. It is in recognition of this fact that government are required to commit immense resources to ensure the provision of education for their citizens and also tailored their policies towards ensuring that it is made accessible to the generality of their citizenry.

It is the key to upward mobility that lead to the progressive modernization of societies. Education indeed empowers any nation to rise to the challenges of social, cultural, economic and technological change (Oyebade,Oladipo & Adetoro 2008). As a result, virtually all countries of the world are bracing up for the challenges of modern life. Nigeria should not be an exception. Nigerian tertiary institutions should embrace the challenges in teaching and learning with technology by creating learning environment that promote active learning, critical thinking, collaborative learning and knowledge creation.

Developing 21st century literacy (information, digital and visual) among students and encouraging faculty adoption and innovation in

teaching and learning with information technology, and advancing innovation in teaching and learning with technology in an era of budget cuts.

Based on this, highly effective school system and improved students outcome should be the key objectives of the government and private sector. This is because education of highest quality is the foundation for future of the country. For the progress of a nation and the enrichment of society in general, there is need for quality education because a country's literate population is its asset. In today's world of technology and global competition, quality education is of utmost importance for societal development, and the future of the nation. Therefore, the skills, knowledge, and values to be imparted to students must be of high quality.

Business education is education for and about business or training in business skills (Esene, 2012). According to Okoli (2010), business education is that aspect of the total educational programme that provides the knowledge, skills, understanding and attitudes needed to perform effectively in the business world as a producer and/or consumer of goods and services that business offers. Business education is an important part of general education which emphasizes skill acquisition

for office use. It is a multi-disciplinary programme that encompasses Accounting, Secretarial Studies now Office Technology and Management (OTM) and Marketing/Distributive education (Okorie, 2001). An individual who receives training in business education can easily develop potentials for entrepreneurship pursuits especially in this era of economic recession and unemployment. The programme is concerned mainly with the development of relevant and saleable skills and knowledge that would enable an individual to function effectively in the world of work.

In order to actualize these lofty objectives of business education towards national, socio-economic growth and development, educational institutions and their systems must function in line with set standards. Due to this, a systematic qualitative administration, teaching and learning are required of business education in Nigeria.

However, business education being skill acquiring discipline require the use of laboratories adequately equipped with information and communication technology resources for practical skills acquisition as well as provision of information and knowledge needed for high quality teacher preparation tantamount to teacher effectiveness in the labour market. Today's labour market demands a quality workforce that can

use technology as a means to increase productivity and creativity. This includes networks such as fixed wireless and satellite broadcasting networks, telecommunications and applications like the Internet, Intranet, database management systems and multi-media tools. These skills include identifying reliable sources of information, effectively accessing these sources of information, synthesizing and communicating that information to colleagues and associates.

Information and Communication Technologies (ICTs) have become key tools and have a revolutionary impact on how people see and live in the world. It has become so important that every country, organization or institution no matter how highly or lowly placed want to identify and embrace ICT. The place of ICTs in education and the world in general cannot be ignored. Modern day business are conducted and facilitated through the use of telephones, fax machines and computer communication networks through the Internet. This phenomenon has given birth to the contemporary e-commerce, e-medicine, e-banking and e-education among others. Bandele (2006) summed up that ICT is a revolution that involves the use of computers, Internet and other telecommunication technology in every aspect of human endeavour. Bandele posited that ICT is simply about sharing and having access to

data with ease. It is regarded as super highway through which information is transmitted and shared by the people all over the world.

Information and Communication Technology resources can be described as tools through which people work with the information and communication processing needs of an organization. It encompasses the computer hardware, software; the network and several other devices (video, audio, photography, camera, etc) that convert information (text), images, sound, and motion and so on into common digital form (Vannili, 2015). ICT resources have a wider spectrum of application and utilization with enormous relevance to universities teaching and learning activities.

Utilization of ICT resources in teaching and learning is a good development with tremendous potentials for qualitative teaching and learning output on tertiary education in general and business education in particular. This is evident as the National Policy on Education (FRN, 2004.17) places emphasis on the provision and utilization of information and communication technology (ICT) when it states that “in recognition of the prominent roles of information and communication technology in advancing knowledge and skills necessary for effective functioning in the

modern world, there is urgent need to integrate information and communication technology (ICT) into education in Nigeria".

The Federal Ministry of Education (2011a) affirmed further that, quality learning outcome depends on the quality of teaching and learning inputs and the qualitative processing of the inputs which among others include the use of ICT facilities for teaching and learning. As Ijaduola (2010a) asserted, the efficiency of the product of educational institution is the result of inputs (teachers, equipment, and infrastructural facilities classroom, laboratories, libraries, computers and consumable materials) as well as the process (instructional delivery) such that where the input and process are faulty, the output will be faulty.

Over the years, the challenge in business education programme in Nigerian tertiary institutions has been the quality of the graduates in relation to employment demands. Despite numerous efforts of relevant stakeholders, criticisms still abound about the extent to which the graduates satisfy the demands of employers in different organization in the country. In other words, there is no clear evidence that the utilization of ICT has contributed to effective teaching and learning in business education in tertiary institutions in Nigeria generally and south-west in particular.

Utilization of ICT resources is expected to contribute to effective teaching and learning in business education programme and other fields of study in Nigeria. The extent of utilization by lecturers and students for qualitative outcome is yet to be determined. As posited by Bamiro and Liverpool (2002) and Akuegwu, Nwiue and Agba (2008), lecturers can only transfer ideas and skills to their students if they are masters of their trades. Aginam (2006) specifically asserted that the levels at which lecturers utilize ICT facilities in Nigerian Universities are less than five percent.

Gender is a factor that may determine the outcome of this study. Gender is the sexual characteristics designated to a person by the environment. Abul (2007) refers to gender as the socially defined capabilities and attributes assigned to persons on the basis of their alleged sexual characteristics. Similarly, Adesope, Asiabaka, and Agumagu (2009) explained that gender is the roles, attitudes, behaviour and values ascribed by the society to male and female. In the past, there has been a general view supported by research that male student perform better than female in practical oriented courses. For instance, Anigbogu (2002) pointed out that some cultures see male more superior to female and that such feelings is manifested in every aspect of their

lives. Supporting this view, Onyemelukwe (2005) explained that men use Internet and other ICT resources more than women. Also, Liverpool, Marut, and Ndam (2011) investigated the existing levels of ICT proficiency among male and female academic staff of university of Putra, Malaysia (UPM) covering word processing, spreadsheet processing, data-base management, presentation software, e-mail, world wide web, multimedia and virtual class application and reported that gap exists as male excelled in the use of web while female excelled in the use of e-mail.

Status is another factor that may determine the usage of ICT resources in universities in Nigeria. According to Suskie (2013), status is the position or rank of someone or something when compared to others in the society, organization, group etc while in the word of Vavoula (2009), status is the current state of something, the position or rank in relation to others. According to Franklin (2006), status is the particular condition that someone or something is at a specific time. From the above definitions, the word status can be said to be the current state of something or its position or state of affairs at a particular time. Status as far as used in this study denotes lecturers and students of business education in Nigeria universities.

Ownership of institution is also a factor that may determine the utilization of ICT resources in universities. Ownership of universities in Nigeria ranges from federal, state and private individuals or groups which may determine the funding, provision of resources and quality of services rendered. Bassey, Umoren, Akuegwu, Udida and Akpama (2007) noted that the academic staff in federal universities fared better than state academic staff in their job performance including the use of ICT. Supporting this view, Akuegwu, Ntukidem, Ntukidem and Jaja (2011) found that federal universities utilizes ICT facilities more than state universities due to funding. The author further buttressed that federal universities are more funded than state universities. It is on the basis of the above varied opinions as regard gender, status and ownership of universities in relation to provision and usage of ICT resources that the researcher deemed it fit to consider the significant level of these three variables to see their influence on the opinion of the respondents.

Based on the foregoing, this study therefore, determined the extent of utilization of ICT resources and its perceived contributions to business education in South-West Nigeria.

Statement of the Problem

Nigerian government and people are making significant progress towards providing education for all but appear to be losing out in the quality of education. The quality of education is the prime factor that determines the worth and significance of the system to both the recipients and the society at large. In Nigerian education system, qualitative education is a major concern to stakeholders including employers and the government. Ajayi and Adegbesan (2007) asserted that the quality of graduates of tertiary institutions in Nigeria is almost nothing to be proud of in the public. Similarly, Elele in Yusuf (2007) noted that the Nigerian education scene is quite impressive quantitatively but qualitatively deficient.

In developed countries of the world, ICTs have been found to facilitate qualitative teaching and learning in different fields of education. If ICT resources are optimally utilized in business education by competent lecturers, qualitative learning outcome in the programme will be guaranteed. However, researchers such as Aginam (2006), Akuegwu, Nwiue and Agba (2008) and Onasanya (2010) reported that most tertiary institutions lecturers in Nigeria lack adequate pedagogical knowledge for effective utilization of ICT resources for teaching. It is

uninteresting and common to see Nigerian business education graduates enroll in roadside computer centers to acquire ICT skills which ought to have been mastered in their universities days. There seems to be a gap in the practical skills especially as regards the ICT resources utilization proficiency in the present teaching of business education courses.

From the studies carried out by Bolaji (2007) and Kelly (2004) it was revealed that ICT application in tertiary institutions fall below expectation. It was observed from the complaints of some employers of labour that business education graduates especially those recruited by local and multi-national private companies could not manipulate basic ICT resources which are fundamental tools of operations in the companies (Anoke, 2008). This may not be unconnected with the reports that ICT resources are not adequately utilized in teaching business education courses in the nations' tertiary institutions. Students and lecturers have also expressed their dissatisfaction with the use of obsolete equipment and machines like manual typewriters, in teaching and learning in the field of business education when the work environments have become automated. If objective steps are not taken to enhance utilization of ICT resources in the teaching and learning

business education especially in the universities, the products will remain incapable of performing in the office and business environment of the current technological era. There are however no empirical evidences to ascertain the actual situation regarding the extent of utilization of ICT resources in universities in South-West Nigeria. This requires an empirical study to inform and direct remedial actions by relevant stakeholders hence the imperativeness of this study.

Purpose of the Study

The purpose of this study was to determine the extent of utilization of ICT resources and its perceived contributions to business education programme of universities in South-West Nigeria. Specifically, the study sought to determine the:

1. extent to which students utilize ICT resources in business education programmes in universities in South-West Nigeria;
2. extent to which lecturers utilize ICT resources in instructional delivery in business education programmes in universities in South-West Nigeria;
3. extent to which students perceive ICT resources utilization contribute to business education programmes in universities in South-West Nigeria;

4 extent to which lecturers perceive ICT resources utilization contribute to business education programmes in universities in South-West Nigeria.

Significance of the study

Findings of this study would be of immense benefits to different groups of people and entities such as business education lecturers and students of Nigerian institutions, the programme administrators in the institutions, business education curriculum planners and policy makers, employers of labour, government, the society in general and future researchers.

Findings of the study would create awareness among business education lecturers on the contribution of ICT to quality in the programme. This could cause them to embrace the challenge of embarking on retraining to acquire relevant competencies for effective utilization of ICT instruction delivery.

Business education students would benefit from the findings of the study as the effective utilization of ICT resources in instructional delivery by their lecturers would cause them to develop creative thinking and deeper interest in their studies. It will make them participate actively in

the teaching and learning process in other to possess necessary skills for success in employment.

Finding of the study would be of immense benefit to business education programme administrators in institutions, curriculum planers and policy makers. The awareness of contributions of ICT to business education programme will guide the administrators in planning and ensuring adequate provision and utilization of ICT resources for effective implementation. Curriculum planners would benefit from the findings of the study as it will help them in carrying out objective and meaningful curriculum reviews. Furthermore, the findings will be useful to policy makers in education generally and business education in particular to enact suitable policies that will enhance qualitative teaching and learning.

Employers of business education graduates will benefit from the findings of the study. This is because favorable ICT policies, adequate ICT infusion in business education curriculum, institutional support and effective utilization of ICT resources in the programme will equip the graduates for effective performance in employment. As a result, employers of graduates of the programme will benefit immensely from

an effective and efficient workforce that will contribute to the attainment of their goals.

The, findings will be of benefits to the government in order to be aware of contributions of ICT to education and making stringent policies to enforce and strengthen its utilization towards quality output (business education graduate). This will reduce the unemployment rate in the country as well as its associated social vices as these graduates will contribute to the socio-economic well being of country for the good of the government and entire society.

The findings of this study might also benefit researchers by adding to the pool of information that already exists in this area. Researchers can therefore fall back on information gathered here by replicating this study in another geo-political zone.

Scope of the Study

This study determined the extent of utilization of ICT resources and its perceived contributions to business education in South-West, Nigeria. The content scope was delimited to extent of utilization of ICT resources and contributions of ICT resources utilization to business education. Only federal and state universities that offer business

education programme in the area were covered and moderating variables were gender, status and institution ownership.

Research Questions

The following research questions guided the study:

1. To what extent do students utilize ICT resources in business education programmes in universities in South-West Nigeria?
2. To what extent do lecturers utilize ICT resources for instructional delivery in business education programmes in universities in South-West Nigeria?
3. To what extent do students perceive ICT resources utilization contribute to business education programmes in universities in South-West Nigeria?
4. To what extent do lecturers perceive ICT resources utilization contribute to business education programmes in universities in South-West Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. Male and female respondents do not differ significantly in their mean ratings on the extent students and lecturers utilize ICT

resources in business education programmes in universities in South-West Nigeria;

2. Lecturers and students do not differ significantly in their mean ratings on the extent of utilization of ICT resources in business education programmes in universities in South-West Nigeria;
3. Respondents do not differ significantly in their mean ratings on the extent students and lecturers utilize ICT resources in business education programmes in universities in South-West Nigeria based on institution ownership (federal/state);
4. Male and female respondents do not differ significantly in their mean ratings on the extent students and lecturers perceive ICT resources utilization contributes to business education programmes in universities in South-West Nigeria;
5. Lecturers and students do not differ significantly in their mean ratings on the extent ICT resources utilization contributes to business education programmes in universities in South-West Nigeria;
6. Respondents do not differ significantly in their means ratings on the extent students and lecturers perceive ICT resources utilization

contributes to business education programmes in universities in South-West Nigeria based on institution ownership (federal/state).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter deals with a review of related literature to the topic of the study under the following headings:

Conceptual Framework

Utilization

Information and Communication Technology

Business Education

Theoretical Framework

Diffusion of Innovation Theory

Unified Theory of Acceptance and Use of Technology

Theory of Human Constructivism

Theoretical Studies

Objective and Relevance of Business Education at Tertiary Level

ICT Resources for Teaching and Learning

New Technologies in Business Education

Competences Needed for ICT Utilization in Instructional Delivery

Related Empirical Studies

Utilization of ICT Resources in Business Education

Contributions of ICT utilization to Quality in Business Education

Summary of Review of Related Literature

Conceptual Framework

Relevant concepts in the topic are reviewed as follows:

Utilization

Utilization, according to Raghu (2009), is the primary method by which asset performance is measured and business determined. It is the transformation of a set of input into goods or services (Subba, 2009). Okolocha & Nwadiani (2015) defined utilization as the art of putting things or resources that are tangible or intangible to proper use. It involves creation of value in things. Fadeije (2005) asserted that utilization is the creative use of resources that will increase the probability of making the students learn and improve their performances of skills that are to be developed. As applied in this study, it is the proportion of available time (expressed in percentage) that a piece of equipment or facility is operated in the teaching of business education. It refers to the rate or how often an ICT facility in business education is put into use or services by teachers in universities. Effective teaching of any course depends on the availability of suitable instructional facilities in the school. This is mostly noticed in the vocational courses such as business education. ICT as an instructional facility is an intrinsic part of

the teaching and learning process and that achievement of the aims and objective of education in this technological era depends on proper utilization of available ICT facilities; hence, this study seeks to determine the extent of utilization of ICT resources and its perceived contributions to business education in South-West, Nigeria.

Information and communication technology

United Nations Educational, Scientific and Cultural Organization (2007) defined ICT as forms of technologies that are used to create, store, share, transmit, or exchange information. It defined the concept to include such technologies as radio, television, video, DVD, telephone and network hardware and software as well as services associated with these technologies such as video-conferencing and electronic mail. ICT is often used as an extended synonym for information technology (IT), but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), intelligent building management systems and audio-visual systems in modern information technology. ICT consists of all technical means used to handle information and aid communication, such as computer and network hardware, communication middleware and necessary software. In other words, ICT consists of IT, telephony,

broadcast media, all types of audio and video processing and transmission and network based control and monitoring functions.

Tinio (2003) defined ICTs as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. These technologies include computers, the Internet, broadcasting technologies (radio and television) and telephony. Tinio explained that ICT is used to refer to the merging (convergence) of audio-visual and telephone networks with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the audio-visual, building management and telephone network with the computer network system using a single unified system of cabling, signal distribution and management. This in turn has spurred the growth of organizations with the term ICT in their names to indicate their specialization in the process of merging the different network systems. Therefore ICT is used as a general term for all kinds of technologies which enable users to create access and manipulate information. ICT is a combination of information technology and communications technology. Olakulehin (2007) explained that ICT in the education

process has been divided into two broad categories, ICTs for Education and ICTs in Education.

Information and Communication Technologies (ICTs) for education connote the development of information and communication technology specifically for teaching and learning purposes, while the ICT resources in education involve the adoption of general components of ICT resources in the teaching/ learning process. World Bank (2002) also viewed ICT resources as consisting of the hardware, software, networks, and media for collection, storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services. ICT can be divided into two components, information and communication infrastructure (ICI) which refers to physical telecommunication systems and networks (cellular, broadcast, cable, satellite, postal) and the services that utilize those (Internet, voice, mail, radio and television) and information technology (IT) that refers to the hardware and software of information collection, storage, processing and presentation. In the context of this study, ICT resources mean the hardware devices and software packages utilized in the process of instructional delivery towards qualitative teaching and learning in business education programme.

Business Education

Business education as an integral part of vocational and technical education is a form of vocational education. Aliyu (1999) defined business education as an educational programme which involves acquisition of skills, knowledge and competences which makes the recipient/beneficiary proficient. Aliyu further affirms that business education is an umbrella under which all business programmes take a shield, such as marketing, business administration, secretarial studies and accounting. According to Idialu (2007), business education is a course of study that is directed towards developing the learner to become productive in teaching, paid employment and self-employment. Amoor and Udoh (2008) noted that business education plays a significant role in the economic development by providing knowledge into others, and handle sophisticated office technologies and information systems.

The goal of business education is primarily to produce competent, skilful and dynamic business teachers, office administrators and businessmen and women that will effectively compete in the world of work. The emergence of vocational education in the global scene is necessitated by the need to provide the society with a form of education

that promotes lifelong learning, needs of the community, innovation, employability and self reliance (Okorie, 2004). Business education is rooted in vocational education with specific mandate of providing skills, attitude and knowledge needed for employment or running a business. According to Anao in Oliver (2011), business education is sum total of knowledge, skills and attitude that are required for successfully promoting and administering business enterprises. The need for business education as a form of education is crucial especially in this era of globalization and information and communication technology in which work processes and organizations are getting increasingly flexible, multi-tasking and performance-base. Business education as a programme needs to meet up with the needs of the learner and the society. In order to achieve this, assuring quality of what is taught both skills and knowledge is very vital.

Theoretical Framework

Theories related to this study are reviewed as follows, they are:

Diffusion of Innovation Theory

This theory was first propounded by French Sociologist Gabriel Tarde and German Anthropologists Friedrich Ratzel and Leo Frobenius. The diffusion of innovation theory proposes that perceptions of

technology characteristics, such as its relative advantage, compatibility, complexity, trialability, and observability impact the adoption of any new product. The adoption as decision process requires the potential adopter collect information regarding the technology, examine the technology, and consider whether it provides sufficient improvement to deserve the investment of energy and time that is needed to add it to his/her range of skills. Therefore, people tend to explore the new technology, and experience how effectively it would work in their activities before accepting or rejecting those technologies

The theory was later influenced by Everest Rogers in 1962, based on the fact that an individual goes through a series of steps which are: knowledge, persuasion, decision, implementation, and confirmation. Rogers defines diffusion as a process by which an innovation is communicated through certain channels over time among the members of a social system. Further, innovation has been described as an idea, a product, a technology, or a program that is new to the adopting unit.

Diffusion of Innovations Theory offers valuable insights into the process of social change as the main qualities that provide a successful spread of an innovation. These include the significance of peer-to-peer conversations along with peer networks and understanding the needs of

different user segments. Spreading of new innovation can be achieved through considering five qualities related to the innovation from the perspective of the innovators; based on Rogers (2003). These five qualities are:

Relative advantage: The greater the realized relative merit of an innovation, the more quick its rate of adoption is likely to be;

Compatibility: It refers to the degree to which an innovation is perceived as being consistent with the values, past experiences, and the needs of possible adopters;

Simplicity and ease of use: New ideas that are simpler to understand for the potential adopter are adopted more rapidly than innovations that require the adopter to develop new skills and understandings.

Trialability: It refers to the degree to which an innovation can be experimented with on a limited basis;

Observable results: The easier it is for individuals to see the results of an innovation, the more likely they are to adopt it.

In the context of this study, ICT resources are innovative tools in education for quality instructional delivery which can afford the learner opportunity of global competitiveness. Nigerian universities require adequate ICT resources to augment face-to-face teaching that will

enable students to have academic networking with their teachers and counterpart across the globe. Excellent usage of adequate ICT resources is required of academic staff to promote the quality of business education programme and their product. The proponents of the theory are in line with the variables of the study based on the following reasons; the relative advantages of the utilization of ICT resources is one of the objectives of the study, while the study also intend to find out the contributions of ICT resources to the programme, this is in consonance with observable result as a proponent of the theory.

Unified Theory of Acceptance and Use of Technology

The unified theory of acceptance and use of technology (UTAUT) is a technology acceptance model formulated by Venkatesh, Morris, Davis and Davis in 2003. The theory propounded that there are four key constructs to explain user intentions to use an information system and subsequent usage behavior: performance expectancy, effort expectancy, social influence, and facilitating conditions.

Performance expectancy: The degree to which an individual believes that using the system will help them to do their job better.

Effort expectancy: The degree of ease associated with the use of the system.

Social influence: The degree to which an individual perceives that important others believe he or she should use the new system. **Facilitating conditions:** The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. That is whether individual have the personal knowledge and institutional resources available to use the system. The first three are direct determinants of usage intention and behavior, and the fourth is a direct determinant of user behavior. Gender, age, experience, and voluntariness of use are posited to moderate the impact of the four key constructs on usage intention and behavior.

The theory was developed through a review and consolidation of the constructs of eight models that earlier research had employed to explain information systems usage behavior (theory of reasoned action, technology acceptance model, motivational model, theory of planned behavior, a combined theory of planned behavior/technology acceptance model, model of personal computer use, diffusion of innovations theory, and social cognitive theory). UTAUT has been used and applied by many educational institutions and research to answer one of the most critical questions: What are the user's attitudes towards accepting ICT solution? Regardless of the level of available

infrastructures and support administrations, there is a concern as to whether teachers are prepared to integrate available technology into effective lessons for their students. From the foregoing and in connection with the context of this study, this theory is found related based on the four constructs propounded and the variables of the study especially utilization of ICT resources for teaching and learning business education courses. The major proponents of the theory deal with individual believe in the system that it will help them do better, as well as making the delivery of content easier, couple with the intention to utilize the available resources based on individual personal knowledge to use the system.

Teachers wield immense powers in influencing the use of ICT by the students. Teachers' confidence in using ICT influenced the extent to which his students use the same. This means that the teacher determines to a large extent on ICT utilization by the students. ICT resources are envisioned to aid the delivery of quality instruction if they are properly applied. Hence, their utilization will justify these assertions.

Theory of Human Constructivism

The theory of human constructivism was propounded by Norak in 1993. The theory proposed that learners should be provided with

multiple representation of reality together with authentic tasks in addition to embedding learning in a rich, authentic problem-solving environment. It stressed further that, human constructivism thrives heavily on ‘’hands-on’’ activities but it is equally suitable for ‘’minds–on’’ activities depending on how the instructional strategy is structured. In constructivist classrooms where learning experiences are transmuted into authentic tasks, learners are given the opportunity to perform tasks that simulate real-life experiences. For instance, when using ICT in the learning with perspective where students are given the opportunity to use ICT to perform real - world tasks like typing of document using Word processor, creating spreadsheets in accounting classes or making PowerPoint presentations in communication skills classes, learners acquire the requisite knowledge that is needed in the real world situations which undoubtedly improve their employability upon graduation. Norak stressed further that human constructivist favour strategies that demand active participation; intensive interaction and thorough reflection and these are what ICT resources do.

ICT provides platform for students’ inquiry, analysis, and construction of new information. Learners therefore learn as they do. It is the role of the teacher therefore, to develop strategies in utilizing ICT to

achieve these. ICT resources extent of usage in implementing business education programme goes a long way to enhance the quality of the graduates.

Theoretical studies

Theoretical studies related to this study are reviewed as follows:

Objectives and relevance of business education at tertiary level

Business Education is an essential element of general education. It is concerned with the impartation of business orientation and knowledge for personal and national development. It involves teaching students the fundamentals, concepts, theories and processes of business. To Okoli (2010) Business Education is an important part of the general education which emphasizes on skills and competencies acquisition for use in offices and business related occupations. Similarly, Nwanewezi (2010) described Business Education as encompassing education for office occupations, business teaching, business administration and economic understanding. In all, Abdulkadir (2011) noted that one remarkable characteristic of business education programme is that, its products can function independently as self-employed and employers of labor. To this end, the tenet of business education embraces basic education for teaching career,

entrepreneurship, business understanding, office environment and vocational practices. Education in this field occurs at several levels, including primary, secondary and higher education, with the greatest activity in the later.

Igboke (2005) enumerated the following as the objectives of Business Education at all levels of education:

- To develop basic skills for personal use in the future
- To acquire the basic knowledge and skills of Business Education
- To relate the knowledge and skills acquired to national development
- To develop basic skills in office occupation
- To provide the needed background for teaching in business subjects
- To prepare students for further training in business studies
- To provide orientation and basic skills with which to start a life of work for those who may not undergo further training

For education to really serve as a veritable tool for socioeconomic growth and development as well as for the actualization of these lofty objectives of business education in tandem, educational institutions and its systems must function optimally in relation to its set standards. It

therefore becomes imperative for a systematic quality assurance in the administration, teaching and learning of Business Education in Nigeria. Hence, this study seeks to discuss the issues of quality in Nigerian Business Education programme in relation to its constraints and control measures.

According to Aliyu (2006) and Njuku (2006), business education is education aimed at the acquisition and development of suitable skills, competencies, knowledge, attitude and values which are necessary for entrepreneur development with emphasis on information and communication technology skills. Kwacha (2007) and Etonyeaku (2009) affirmed that business education has a formidable force that will equip individuals with appropriate skills, knowledge, abilities and competencies that will enable them to be self employed and self relevance which lead to suitable economic development. Business education is a part (specialized education) of the aggregation of formal and informal education with deliberate intention of teachers to inform students about economic and business concepts and skills that might be of use in later life that is, it is concerned with certain organized efforts of schools to equip students with economic business concepts as a vehicle for better understanding and analysis of the world in which they live. Again,

Business Education is defined as the education for and about business given to students in formal school setting to equip them with skills and competence which will make them become effective and efficient producers and intelligent consumers.

Business education is viewed from different perceptions. Some perceive business education as business subjects taught at secondary school level such as principles of account, commerce, office procedure, typewriting and shorthand. Others view it as the type of education that one receives in order to enter into the world of work that is to gain employment. This is usually given at any level of education from the secondary school level, post-secondary and tertiary level. It is a business programme offered at post-secondary school level with the following subjects such as business law, office administration, marketing, finance, secretarial administration, education, etc. The different perceptions given above have one thing in common.

Business education consist of subjects offered at different levels connotes education that prepares one for a useful living. In Nigeria set-up, business education is recognized from the secondary school both at the junior and senior segments. At the junior level, it is regarded as business studies (as an integrated course) and consists of typewriting,

shorthand, commerce, book-keeping and office practice. As specified in the National Policy on Education (revised, 2004), certain objectives are set out to be achieved at this level of acquiring business education and this include.

(a) To enable students acquire the knowledge of business studies subjects as mentioned above. This means that learners are expected to have the general knowledge of what business studies subjects entail and not to be novice in the business world.

(b) To develop basic skills of office occupation as in filling, dispatching of correspondence, record keeping, receptionist jobs, etc. These are some of the activities normally obtained in the office. It is envisaged that after the first three years at the secondary school, students should be able to perform if put in such a place.

(c) To prepare students for further learning of business studies of training in vocational subjects like typewriting, business management, commerce, etc, at the senior secondary school and with the knowledge gotten at the junior secondary school.

(d) To provide students the orientation in basic skills to start the life of work especially those who cannot further at the senior secondary

school level for one reason or the other, and make sure that they are not left doing nothing in the society.

(e) To provide basic skills of personal use of future as the case of those typing their own personal documents, or keeping personal accounts.

(f) To be able to relate the knowledge and skill acquired to the understanding of the outside business world or the nation's economy.

These objectives relate well with the five main national objectives in Nigeria as stated in the second development plan. "A united strong and self-reliance nation".

Philosophy of Business Education at University Level

The philosophy of Business Education is to make the Business Educators understand the concept and philosophy of the National Policy on Education as regards business education in national development.

Objectives of Business Education

Objectives of Business Education at university level are taken from National educational goals and objectives, which are centered on development of individual citizens physically, mentally for the acquisition of skills and competences that will enable individual citizens to

contribute meaningfully to the development of the country (NUC Minimum Standard, 2012). The objectives are summarizing thus:

1. To produce well qualified and competent graduates in business subjects who will be able to teach business subjects in our secondary schools and other related educational institutions.
2. To produce business teachers who will be able to inculcate the vocational aspects of Business Education into the society.
3. To produce business teachers who will be involved in the much desired revolution of vocational development right from the primary and secondary schools.
4. To equip students with necessary competencies so as to qualify them for a degree in Business Education.
5. To equip graduates with the skills that will enable them to engage in a life of work in the office as well as for self-employment.

Reasons for Studying Business Education

The recent rapid changes in the Nigerian economy, labour market and occupational structure signal an enviable movement towards the virtual extinction and of course, redundancy of unskilled labour. Our schools are, therefore, obligated to expose the youth to various trades as well as furnish them with such vocational skills that will make them

occupationally competent members of the society. Such business skills will further enable youth find either public employment or use their business skills to establish their own business to scrape a livelihood.

Federal government of Nigeria has been showing interest in Business Education because of the need for skilled manpower to contribute effectively to the nation's technological development. She is providing resources (in terms of money, teachers and equipment) to ensure the effective teaching of business subjects in schools.

There are a number of reasons why we should study Business Education subjects in schools.

1) **Acquisition of business skills:** The human mind needs to be trained to appreciate business skills. It is very true that people differ widely in interests, aptitudes and abilities hence not all young people have aptitude for theoretical subjects that require abstract reasoning to bring out facts and ideas. Such youths may be good in applying specific knowledge to doing something successfully with their hands, and they are well fitted to business career. The study of business education does not mean that one has an "inferior brain" to others who study theoretical subjects.

2) **Academic qualifications:** We study business subjects in schools so as to obtain academic qualifications. A programme of study in a school is usually assessed by a qualifying examination, after a period of time. A certificate is issued to give authority to the student that a certain course of study has been successfully completed. This is a stepping stone to other higher qualifications and or to obtain employment.

Similarly, the successful completion of the study of Business Education at this level will earn the National Certificate in Education, which is a basic requirement for teaching business subjects in junior secondary school, also for direct entry to the university. In fact, the sky is the limit for those who desire to pursue an academic career in Business Education.

3). Preparation for the world of work: Business education involves training of people, for specific types of work. Nowadays, there is a greater requirement for a whole variety of occupations and skills ranging from accounting to business.

Skills in Business Education

1. **Accounting education skills**

Accounting is one of the major occupation areas of vocational business education (VBE) that can prepare the Nigeria workers and

students for a job or employment within a wide range of business career such as pay-roll clerks, purchasing clerks, audit clerk, book-keeping, cashier and business teachers who undertake the teaching of accounting to other learners. According to Osuala (2009), accounting is the process by which data relating to the economics activities of an organization are measured, recorded and communicated to interested parties for analysis and interpretation. Osuala pointed out that accounting had its root on the need to keep the records of business transaction and that the chief reasons for keeping accounts are the need of the trader to know much he owes, how much he owns, how much profit has been made and what his financial position is at a given time. Udo (2006) defined accounting as the process of identifying, measuring, sorting and communicating financial information to permit informed judgments and decisions by users of the information. The author added that the role of accounting activities in the operation of business enterprise entails recording, classifying and summarizing the enterprise monetary transaction and interpreting the result for both the internal and external end users of such information. On the personal uses of accounting to VBE students, Udo (2006) opined it helps:

1. to develop in the VBE students the ability and desire to keep records for personal use;
2. to develop in the VBE students the ability to interpret and analyze business papers and records in the capacity of a final consumer;
3. to give the VBE students preliminary training for the advanced study of accounting;
4. to develop in VBE students an understanding of some of the problems and characteristics of a business enterprise;
5. to train the VBE students with knowledge of records keeping necessary to carry out a small business;
6. to train the VBE students to become book-keepers, cashiers or accountants in the business enterprises or in their self-established business ventures.

The above listed skills and competencies assist the VBE students to live and contribute meaningfully to sustainable development in Nigeria.

2. Distributive/marketing Educational Skills

This is another skills component of vocational business education programme. The word “distributive” has much to do with exchange of goods and services and as such refers to the various hands and agencies through which commodities pass from the manufacturers to

the final consumers (Udo, 2012). The curriculum objectives here states that distributive education was designed to give students an overview of the world of business and to enable them develop a better understanding of the individual's relationship with business and the place of business in a developing economy (Ekpenyong, 2005). The general objectives of education here at the senior secondary school level are to:

1. enable the students to have a broader understandings of the importance of commercial activities;
2. enable the student to cultivate the right attitude to commercial activities;
3. provide useful general notions and commercial skills necessary for those who will immediately enter into the world of work;
4. provide commercial knowledge for personal use and for further education;
5. develop the habit of the wise use of the services offered by commercial institutions (Udo, 2012).

The above objectives lay emphasis on commercial activities, skills and knowledge (Udo, 2012). Therefore commerce was designed to equip the students with the marketable knowledge and skills inherent in

commercial education and in the context of this study, commercial activities are more to be seen as performed by women rather than men (Udo, 2012). According to Udo (2012) distributive education is a programme of vocational instruction in marketing, merchandising and related management, which is designed to meet the needs of persons who have entered or preparing to enter distributive occupation. The American Marketing Association (1998) defines marketing as the performance of business activities that direct the flow of goods and services from the producers to consumers or users. Udo (2006) defined marketing as getting the right goods and services to the right people at the right place and at the right time, at the right price, with the right communication and promotion. Marketing is also defined as the performance of business activities that direct the flow of goods and services from the producer to consumer or user in order to satisfy customers. However, a market is a process of exchange between individuals or organizations which is concluded on the mutual benefit and satisfaction of their parties. According to Osuala (2009), marketing is considered from a broad based context to mean a total system of interacting business activities designed to plan, price, promote and distribute want-satisfying products and services to present and potential

consumers. Osuala added that the main responsibility of any marketing manager is to see that the marketing functions are performed in such a way that the firm makes a profit.

According to Osuala, the marketing manager will need to perform the functions of planning, organizing, staffing, directing and controlling. Osuala went on to state that the general objective of distributive education is to prepare students for gainful employment in distribution and marketing. Therefore, the objectives of marketing education should meet the social, vocational and personal needs of the business students.

3. **Office Technology and Management Education (OTME) Skills**

This is another component of business education skills and competencies inherent in the programme. It was formerly known as secretarial education (Udo, 2012). According to Ekpenyong (2005), a secretary is defined as an executive assistant who possesses a mastery of office skills and who demonstrates the ability to assume responsibility without direct supervision. He/she can exercise initiative and good judgment in decision making. The definition given above describes the scope of special class of secretaries who by virtue of their training, experience and responsibility have become assistance to their bosses.

According to Ekpenyong (2005), the secretarial profession is remarkable for its appeal to men and women who have obtained post secondary education. This is so because the secretary often works with important people and the remuneration is always very attractive. However, the secretarial profession provides a challenging job after graduation from institutions of higher learning because of changes in business technology. Ekpenyong said that even with the advanced technology now in use in the developed countries like UK, USA, China, Japan and Australia, there is yet to be found a good substitute for the secretary.

The present day secretaries are exposed to the use of information and communication technology (ICT) in their day-to-day training and working lives. According to Lucey (2007), information technology is acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro electronics-based combination of computing and telecommunication. The National Policy on Information technology (2001) describes information technology as the bedrock for national survival and development in a rapidly changing global environment. Additionally, ICT can be defined as recording and use of information and communication by electronic means. It is not just

the use of computers in business. For example, machines can be used to transmit documents overseas via various information technology applications. The present-day secretarial students are trained in the various applications of information and communication technology. This is because information technology has greatly changed the business environment and teaching and learning methods in office technology and management education programmes (OTME). Consequently, the Nigerian workers and students require a sound knowledge of ICT if they must do well in their business careers.

ICT resources for teaching and learning

Adequacy in the opinion of Ibrahim (2007) refers to the condition of being sufficient, obtainable or accessible at a particular point in time. It expresses how a material can easily be gotten and used for a particular purpose and time. In this study, adequacy means the condition with which teachers have access and make use of sufficient functional information and communication devices for effective teaching of business education in universities, it refers to the quality, quantity, functionality and disposability of information and communication technology resources to lecturers at every point in terms of effective utilization for business education teaching and learning situation. It is

agreed that information and communication technology devices are important because they help teachers to enhance the quality of instructions. Availability of sustainable information and communication technology devices in good supply and in rich variety and range is essential in education and especially for the achievement of curriculum objectives. Ibitoye (2001) noted some of the advantages of information and communication devices in heighten motivation for learning, provide freshness and variety, appeal to students of varied abilities, encourage active participation, give needed reinforcement and widen the range of students experienced. The Information and Communication Technology (ICT) software and devices available for quality teaching are discussed below:

ICT software

ICT software is a category of educational software that offers innovative computer-based and web-based management and learning options. It is also referred to as electronic learning software. It enables user to deliver courses online and instruction electronically through the Internet, an organization's Intranet or other electronic platforms for example DVD and CD-ROM (Vanilli, 2015). There are as many types of ICT software available depending on the learning needs that have been

identified. According to Vanilli, some of the most common types of ICT software are: Authoring Tools, Learning Management Systems (LMS), Content Management Systems (CMS),- Learning Content Management Systems (LCMS), and Programming Languages. High quality software takes advantage of cutting edge technology to deliver instructional sound content, especially in situations where there is little time available for development and delivery of instruction and training. The following are the various type of ICT software available:

PBWorks: PBworks (formerly known as PBwiki) is a commercial real time collaborative editing (RTCE) system created by David Weekly, with Ramit Sethi and Nathan Schmidt. It is a collaborative website and authoring tool that allows users to easily add, remove and edit content. PB Works is ideal for teachers to use in the classroom especially when they are assigning their students a group project. One feature of PB Works is that it is easy to embed video and audio into the site. This way, if the teacher needs to demonstrate something to the group or if the group had a question, the teacher can easily record a video or an audio clip for them explaining what they are to do or give them the answer to their question. Using PBWorks also gives a teacher accurate feedback on how much work each member of the group is doing. Every time

something is edited on the work it documents who made the change and also sends an email to the teacher about it if that feature is enabled. One other helpful feature of PBWorks is that it is a great educational resource for teachers as well as a support center, and even personal help via email that can directly connect the teacher with thousands of other educators (Maier and Warren, 2015).

Mavis Beacon: Mavis Beacon Typing Tutor is an application software program for teaching touch typing. The typing program was initially released in late 1987 by The Software Toolworks and has been published regularly ever since. The program includes a number of speed tests and constantly tracks the user's words-per-minute typing speed. It also includes a number of typing games of which some versions have been included since the first release. A certificate of achievement can be printed by the user upon the completion of tests. The software is used in many schools and homes to improve typing skills. Mavis Beacon Teaches Typing Platinum comes with 16 typing games. Typing software games are sometimes frowned upon because they can trivialize the learning experience and distract students from the task. In the case of this program, though, the games are designed in a way that makes you feel like one is having a good time when he is really learning. This typing

software combines touch-typing activities with detailed video instruction. Known in the application as EasyLearn, this teaching technique enhances the effectiveness of Ultimate Typing. At the beginning of each lesson, a video instructor introduces a new typing concept and demonstrates how to perform it. The program includes nine comprehensive typing courses. Each one focuses on a separate typing skill set or level, such as beginner typing, numeric keypad training and typing accuracy (Maier and Warren, 2015). For instance, the beginner typing course focuses on learning proper finger-to-key movements and building memory recall, while the advanced typing course entails practicing frequently used letter combinations to boost your overall speed and accuracy. The courses are comprised of several lessons and hundreds of practice sessions that help you further develop these specific typing skills.

The application also teaches you proper typing ergonomics, or how to correctly sit and position yourself while typing for optimal comfort and to avoid bodily stress or injury. The number of courses, lessons and exercises provided by this typing software is comparable to that of other typing programs on our lineup. However, few applications can match the instructional depth and user friendliness Ultimate Typing delivers.

Ultimate Typing: Ultimate Typing boasts a number of features that will make your learning-to-type experience advantageous and enjoyable. To make sure you get the most out of its lessons, the software employs a technique known as adaptive learning. This means the software continually tracks your progress to customize your learning. For instance, if you perform poorly on a lesson or exercise, the software prompts you to repeat it until you attain a certain skill level. Another flagship feature of this typing software is that it allows an unlimited number of users. Each user has a separate login, and the software tracks everyone's progress individually. Most typing software we reviewed is limited to just a handful of users under a single license. Ultimate Typing is truly a multiuser typing program and thus is ideal if you are a parent, teacher or employer who wants to use the program with a group of people. Ultimate Typing is one of the most polished and straightforward typing programs on our lineup. The software's interface mimics Windows, so most people will find it accessible and intuitive. Additionally, the courses and lessons are displayed in a tree structure, making the program easy to use and navigate (Brosman, 2013).

Word Processing (Microsoft Word) Compared to Using a Typewriter:

The great advantage of word processing over using a typewriter is that you can make changes without retyping the entire document. If you make a typing mistake, you simply back up the cursor and correct your mistake. If you want to delete a paragraph, you simply remove it, without leaving a trace. It is equally easy to insert a word, sentence, or paragraph in the middle of a document. Word processors also make it easy to move sections of text from one place to another within a document, or between documents. When you have made all the changes you want, you can send the file to a printer to get a hard copy. Word processors vary considerably, but all word processors support the following basic features:

- **Insert text:** Allows you to insert text anywhere in the document.
- **Delete text:** Allows you to erase characters, words, lines, or pages as easily as you can cross them out on paper.
- **Cut** and **paste:** Allows you to remove (*cut*) a section of text from one place in a document and insert (*paste*) it somewhere else.
- **Copy:** Allows you to duplicate a section of text.

- **Page size and margins:** Allows you to define various page sizes and margins, and the word processor will automatically readjust the text so that it fits.
- **Search and replace:** Allows you to direct the word processor to search for a particular word or phrase. You can also direct the word processor to replace one group of characters with another everywhere that the first group appears.
- **Word Wrap:** The word processor automatically moves to the next line when you have filled one line with text, and it will readjust text if you change the margins.
- **Print:** Allows you to send a document to a printer to get hardcopy.

Ultra Key: Ultra Key 6 is powerful typing software that is nearly three decades in the making. Developed by educators with years of experience, this program employs an effective success-based methodology. Whereas many typing programs are game-based, Ultra Key adheres to the philosophy that providing praise and encouragement for achieving goals is just as, if not more, stimulating and motivating for people learning how to touch-type. The software charts a clear and attainable path to becoming an expert typist, with an accumulative curriculum, easy-to-understand lesson objectives and personalized

performance goals. Ultra Key is engineered for schools and enterprises, but its utility doesn't end there; the software is widely used among correctional facilities, training centers, libraries and other organizations. The typing program is also ideal for use in the home. Ultra Key allows you to set your own pace, and with the ability to add up to eight individual users, the whole family can benefit from using the program.

Ultra Key provides clear, logical instruction and comprehensible exercise objectives. These are important because they help users to understand how the program works and why certain exercises are crucial to your development as a typist. Ultra Key also adapts to each individual user for more effective training and allows you to progress at your own pace. The software recommends lessons and performance goals based on an initial skills assessment. You can also repeat any lesson or typing exercise for additional practice (Kulik, 2015).

Peach Tree: Peachtree is an accounting application for small and medium-sized businesses (SMBs) made by Sage Software. Peachtree enables users to automate and manage numerous accounting tasks, like: reconciling accounts payable and receivable, creating financial statements, check invoices. Tracking banking transfers and payroll, importing and manipulating spreadsheets. Integrating scanned

documents like checks, receipts and invoices, eliminating paper from the accounting process. Sage Software's release of Peachtree Premium Accounting for construction is customized specifically for the needs of subcontractors, contractors and operations managers in the construction industry. Small construction companies and individual contractors both use construction industry-specific functions like job costing, fixed assets tracking, progress billing and advanced budgeting to control costs, track expenses and organize billing. Peachtree also makes industry specific versions for accountants, distributors, manufacturers and non-profit organizations.

Peachtree minimum system requirements include at least a 1 GHz processor and 512 MB of RAM for a single user installation of Peachtree. 1.8 GHz processor and 1 GB of RAM is recommended for multiple users. For optimal operation of either version on a given workstation, Sage suggests 1 GB of free disk space, Internet access, Internet Explorer 6.0 and at least Windows 2000 SP3 (Kulick, 2015).

Spreadsheet (Microsoft Excel)

A spreadsheet is an interactive computer application program for organization, analysis and storage of data in tabular form. Spreadsheets developed as computerized simulations of paper accounting

worksheets. The program operates on data represented as cells of an array, organized in rows and columns. Each cell of the array is a model–view–controller element that may contain either numeric or text data, or the results of formulas that automatically calculate and display a value based on the contents of other cells. Spreadsheet users may adjust any stored value and observe the effects on calculated values. This makes the spreadsheet useful for "what-if" analysis since many cases can be rapidly investigated without manual recalculation. Modern spreadsheet software can have multiple interacting sheets, and can display data either as text and numerals, or in graphical form.

Besides performing basic arithmetic and mathematical functions, modern spreadsheets provide built-in functions for common financial and statistical operations. Such calculations as net present value or standard deviation can be applied to tabular data with a pre-programmed function in a formula. Spreadsheet programs also provide conditional expressions, functions to convert between text and numbers, and functions that operate on strings of text. Spreadsheets have replaced paper-based systems throughout the business world. Although they were first developed for accounting or bookkeeping tasks, they now

are used extensively in any context where tabular lists are built, sorted, and shared.

LANPAR was the first electronic spreadsheet on mainframe and time sharing computers. VisiCalc was the first electronic spreadsheet on a microcomputer and it helped turn the Apple II computer into a popular and widely used system. Lotus 1-2-3 was the leading spreadsheet when DOS was the dominant operating system. Excel now has the largest market share on the Windows and Macintosh platforms. A spreadsheet program is a standard feature of an office productivity suite; since the advent of web apps, office suites now also exist in web app form.

A spreadsheet is an interactive computer application program for organizing, analyzing and storing of data in tabular form. Spreadsheets are developed as computerized simulations of paper accounting worksheets. The program operates on data represented as cells of an array, organized in rows and columns. Each cell of the array is a model–view–controller element that may contain either numeric or text data, or the results of formulas that automatically calculate and display a value based on the contents of other cells (Brosman, 2013).

Internet browser: An Internet browser is a software application that enables you to browse the World Wide Web, locating and accessing

web pages. Browsers translate HTML code, allowing you to read text, view images, play videos and listen to audio clips on websites. They also interpret hyperlinks that allow you to travel to different web pages when clicked on. While Internet browsers are primarily intended to access the Internet, they can also be used to access private information on web servers or through file systems. Heavy web users need an internet browser that is both fast and secure, and though all browsers enable Internet access, not all are created equal. Different browsers can render web pages differently, and there can be a large disparity in performance between the top competitors. The three main things to consider when choosing an internet browser are simplicity, speed and security. Excelling in each of these areas, Google Chrome, Firefox and Internet Explorer are among the current best Internet browsers (Lane and Porch, 2014).

E-Front: E Front is complete e-learning software with a good looking Ajax interface. It enables administrator to create and manage lessons easily with various tools like: content editors (has a flexible visual content editor and support for pictures, sound, video, flash or Java), file manager & digital library (for file sharing) test builders, ability to assign projects and creating surveys & more (Taylor and Todd, 2012).

Articulate Rapid E-learning Software: Articulate is one of the favorite tools for providing e-learning solutions. It enables you to create high quality e-learning products quickly and easily. The Articulate Rapid e-learning solution makes use of Microsoft PowerPoint for all of its functions. Once installed successfully, it adds an extra option labeled 'Articulate' on the same. What sets the e-learning solution apart from many other of its competition is the ease of use. Once you are done with creating a presentation, you can use the 'Articulate' option on your PowerPoint software and add animations that you want and make a flash file. Any learning software also needs the ability to handle questions. 'Articulate' does just that. It has a range of built in question handling options with various question types. If these are not enough, you could always use the 'Quiz maker' software which is separate software and develop your questionnaires in a better way (Taylor and Todd, 2012).

Desktop Publishing

Desktop publishing (abbreviated DTP) is the creation of documents using page layout skills on a personal computer. Desktop publishing software can generate layouts and produce typographic quality text and images comparable to traditional typography and

printing. This technology allows individuals, businesses, and other organizations to self-publish a wide range of printed matter. Desktop publishing is also the main reference for digital typography. When used skillfully, desktop publishing allows the user to produce a wide variety of materials, from menus to magazines and books, without the expense of commercial printing. Desktop publishing combines a personal computer and WYSIWYG page layout software to create publication documents on a computer for either large scale publishing or small scale local multifunction peripheral output and distribution. Desktop publishing methods provide more control over design, layout, and typography than word processing. However, word processing software has evolved to include some, though by no means all, capabilities previously available only with professional printing or desktop publishing.

The same DTP skills and software used for common paper and book publishing are sometimes used to create graphics for point of sale displays, promotional items, trade show exhibits, retail package designs and outdoor signs. Although what is classified as "DTP software" is usually limited to print and PDF publications, DTP skills aren't limited to print. The content produced by desktop publishers may also be exported and used for electronic media. The job descriptions that include "DTP",

such as DTP artist, often require skills using software for producing e-books, web content, and web pages, which may involve web design or user interface design for any graphical user interface (Maier and Warren, 2015).

Adobe Captivate: Adobe Captivate is part of the Adobe e-learning suite and it allows users to create e-learning courses without any programming or multimedia knowledge. Adobe captivate has a wide range of features such as text-to-speech functionality, ability to produce the output files in a wide range of file formats that includes AVI, which can be used for web streaming and publishing on you tube. An exciting feature of Adobe Captivate is the ability to let users customize the widgets. Widgets can be created using software such as Adobe Flash and then customized to meet the requirements of the particular course. Existing PowerPoint slides can also be involved in the projects you create using Adobe Captivate. Presentations can be imported and synchronized with the captivate files by using the options provided (Maier and Warren, 2015).

Lectora: Lectora is again one of the most popular eLearning tools which are developed by the Trivantis Corporation. It can be used to create e-learning courses and presentations. Lectora also has the ability

to import files from the Microsoft PowerPoint format and incorporate the content to produce e-learning content in various output formats ranging from a HTML web page, video files and even an executable file. Lectora supports industry standards such as SCORM, AlCC etc which allow for the development of open architecture guidelines for interoperable learning content (Brosman, 2013).

Optional Devices

These are any machines or components attached to a computer such as disk drive, printer, scanner, mouse, and modem with or without which the computer will still function effectively. Most devices require a program called a device driver that acts as a translator, converting general commands from an application into specific commands that the device understands. In the context of computer technology, a device is a unit of hardware, outside or inside the case or housing for the essential computer (processor, memory, and data paths) that serves for input or output or both.

Smart Phone: A smart phone often seen as more of a portable computer with a cell phone than a phone with computer-like functionality offers features such as email, video conferencing, text messaging, e-book reading and General Packet Radio Service (GPRS). Easy access

to the Internet, coupled with the ability to send, receive and read documents, make this a valuable tool for communication with students (Taylor and Todd, 2012).

Television: Television is a multimedia learning resources, which like films, film stripe and other related resources must be appreciated. Television makes use of teaching devices such as films, slides, models and animation. Television is a source of home entertainment, news and a medium for presentation of motion pictures in the classroom. It is a medium for presentation of instructional programmes in teaching and learning situation. These devises make it possible for teachers and students, to have control of time when a programme of interest is to be viewed, when it can be stopped, or repeated. The teacher can record any educational television programmes and play such programme back for the students at any required time.

According to (Taylor and Todd, 2012), the impact of television in school system and in learning has been felt in developed countries of the world many years back. For example "the sesames street", a TV series for preschool children, which evolved a lot of approaches in teaching, promotes learning within the circle. Television can be used in schools in four basic ways such as:

- ❖ Television programme as a tool in educational values.
- ❖ Educational Television as a network.
- ❖ Scheduled Telecast.
- ❖ Classroom Utilization of Television.

Projector: Projector is an output device that can take the display of a computer screen and project a large version of it onto a flat surface. Projectors are often used in the classrooms presentations to help make sure everyone in the room can view the presentation.

Video Projector: A video projector is an image projector that receives a video signal and projects the corresponding image on a projection screen using a lens system. All video projectors use a very bright light to project the image, and most modern ones can correct any curves, blurriness, and other inconsistencies through manual settings. Video projectors are widely used for many applications such as, conference room presentations, classroom training, home theatre and concerts. Projectors are widely used in many schools and other educational settings, sometimes connected to an interactive whiteboard to interactively teach students .A video projector, also known as a digital projector, may project onto a traditional reflective projection screen, or it may be built into a cabinet with a translucent rear-projection screen to

form a single unified display device .A few camcorders have a built-in projector suitable to make a small projection; a few more powerful "Pico Projectors" are pocket-sized, and many projectors are portable.(Lane and Porch, 2014)

Projection Screen: Projection screen is an installation consisting of a surface and a support structure used for displaying a projected image for the view of an audience. Projection screens may be permanently installed, as in a movie theater; painted on the wall; or semi-permanent or mobile, as in a conference room or other non-dedicated viewing space such as an outdoor movie screening (open air cinema).Uniformly white or grey screens are used almost exclusively as to avoid any discoloration to the image, while the most desired brightness of the screen depends on a number of variables, such as the ambient light level and the luminous power of the image source. Flat or curved screens may be used depending on the optics used to project the image and the desired geometrical accuracy of the image production, flat screens being the more common of the two. Screens can be further designed for front or back projection, the more common being front projection systems, which have the image source situated on the same side of the screen as the audience (Lane and Porch, 2014)

Interactive Whiteboards: Interactive whiteboards is electronic version of a dry-wipe board on a computer that enables learners in a virtual classroom to view what an instructor, presenter or fellow learner writes or draws. It is also called an electronic whiteboard and used in lecture or classroom environments and the technology allows you to write or draw on the surface, print off the image, save it to computer or distribute it over a network. You can also project a computer screen image on to the surface of the whiteboard and then either control the application by touching the board directly or by using a special pen. The computer image can be annotated or drawn over and the annotations saved to disc or sent by email to others.

Interactive whiteboards are like conventional whiteboards, they can help even technophobic teachers to use this medium with ease for presentations from the front of the room. They help in broadening the use of e-learning because they rapidly demonstrate the potential of alternative modes of deliver. They make it easy for teachers to enhance presentation content by easily integrating a wide range of material into a lesson, such as a picture from the internet, a graph from a spreadsheet or text from a Microsoft Word file, in addition to student and teacher annotations on these objects.It allow teachers to create easily and

rapidly customized learning objects from a range of existing content and to adapt it to the needs of the class in real time. They allow learners to absorb information more easily. They allow learners to participate in group discussions by freeing them from note-taking. They allow learners to work collaboratively around a shared task or work area. When fully integrated into a VLB (virtual learning environment) and learning object repository there is potential for widespread sharing of resources. When used for interactive testing of understanding for the entire class, they can rapidly provide learner feedback (Raymond, 2014).

Audio-Cassette Tapes: Audiotapes can be played by any standard cassette player. Through audio, the tapes can convey information that may be easier to illustrate with sound than simply through text or diagrams. It can accompany other means of instruction (print-based material, classroom teacher, etc.) and provide detailed information step-by-step (Perraton and Creed, 2002). A development team is required to develop the lesson plans, edit and record the tapes, and integrate the tapes appropriately with accompanying print-based material or other media. Audiotapes provide only one-way communication where an external instructor cannot interact directly with students and they cannot gauge the progress of the students. The

lessons on the tape must also be interactive. To increase effectiveness, the lessons must contain pauses that allow students to think and discuss.

Interactive Television: In this context, interactive television refers to instruction occurring over broadcast television. It allows learners to receive live television instruction remotely, away from the actual instructor. The instructor(s) are located at a broadcast studio and the learners view the instructor(s) on a television monitor. Interaction is provided by one or more additional components. "They can ask questions and/or provide feedback to the instructor through a number of mechanisms that can be used either independently or in combination" (Stevenson, 2001). Typically, an audio-conferencing mechanism is used for real-time interaction. Additionally, a response pad can be used to link learners to a computerized instructor console in the broadcast studio (Stevenson, 2001). There are other asynchronous aids that can also be used such as e-mail and fax.

The actual broadcast can be achieved using geo-stationary satellite, microwave, cable, or fibre optics. There are also commercial suppliers that provide the infrastructure and programme development services for interactive television. Learners usually congregate at an

interactive television site that has all the required equipment (such as satellite receivers, teleconferencing tools, and television monitors or projection systems) to receive instruction (Stevenson, 2001).

Radio: Radio is one of the oldest technologies used for distance education (Stevenson, 2001). Radio programmes can be broadcast or interactive (Oujo, 1999). Broadcast radio mirrors the traditional classroom-based model where an instructor lectures through the radio programme and students typically follow with print materials Oujo stated that It can be thought of as "strict" one-way communication where students are not expected to respond and therefore it is hard to gauge the progress of the students. Interactive radio instruction (IRI) can be described as an interactive lesson where an external teaching element is involved in classroom activities via radio allows students to participate as the lesson progresses. To be interactive, a lesson can have spaces or pauses where students can think, develop responses, discuss with other students, or assimilate the information.

Radio instruction involves the production, transmission, and reception of the radio programmes (Dock, Helwig, Adkins, Mayo, Leigh and Cash, 1999). There are different types of radio available to learners: electric radios (e.g. transistor radios), battery-powered radios, and solar-

powered crank radios (Oujo, 1999). Thus, students and the educational organizations can choose a radio that best suits their situation based on the availability of electricity and the supply of batteries. In some cases it may be more cost-effective in the long term to use a solar-powered crank radio. A local or national broadcaster is required to transmit the programme at a particular frequency and specific time. The production and development of a programme involves planning, scriptwriting, radio production, and piloting of the programmes by a development team (Dock, Helwig, Adkins, Mayo, Leigh and Cash, 1999).

DVD and CD ROMS: CD-ROMs (Compact Disc-Read Only Memory) store information digitally and they can be used on any computer equipped with a CD-ROM drive (Hampton and Bartram, 2002). DVDs (Digital Video Disk or Digital Versatile Disk) are similar to CD-ROMs and can be used the same way as CD-ROMs but contain more information. Most CD-ROMs have 650 or 700 megabytes storage space whereas most DVDs have room for 4.7 gigabytes, which equals approximately seven times more storage space than a CD-ROM. DVDs are not widely used yet, mainly because of different standards for writing to DVDs. Once the 'problem of conflicting standards is resolved, DVDs will probably supplant CD-ROMs as the preferred portable storage

medium. Depending on the complexity of the instructional content, a team of experts may be required to develop high quality product. The development team could include a computer programmer, graphic artist, content specialist, and instructional designer (Peterson and Reider, 2012).

Web-Based Training: Internet/Web-Based training provides an environment where student access and study course materials online. It may involve the use of live e-learning tools such as application sharing, Internet telephony, online whiteboards, break-away rooms, discussion boards, and chat and messaging programmes that allow real-time interaction between instructors and learners. It can also be used to transmit text, graphics, images, animation, or video. The required tools for online learning include a personal computer and an Internet connection. There are several ways a user can connect to the Internet: standard analog modem (for example, 56 Kbps), Digital Subscriber Line (DSL), cable modem, Integrated Services Digital Network (ISDN), Local Area Network (LAN), cellular, and wireless broadband (fixed wireless and satellite). All connections except for a standard analog modem connection are considered broadband connections. All of these methods allow connection to an Internet Service Provider (ISP) that provides a

gateway to the rest of the Internet. An analog modem and ISDN required a "dial up" connection where a user must dial in to connect to the ISP, whereas the other Internet access methods, denoted as "always on" connections, required no dialing (Peterson and Reider, 2012).

Web-Based Training (WBT) Programmes: many course development tools are now available, which allows instructors with no computer programming skills to develop high-quality web-based training programmes. The three most commonly used platforms are: Blackboard (http://www.blackboard.com), Desire2Learn (http://www.desire21earn.com), and WebCT (http://www:webct.com). All three solutions are server-based and allow access through a web browser to provide e-learning solutions through the Web. All three platforms have the capacity to:

- provide course materials;
- manage enrolment and registration;
- develop evaluation material such as quizzes, tests, or assignments;
- communicate with instructor(s) and students online through an announcement section, discussion boards, e-mail, real-time chat sessions or "class rooms", and an interactive whiteboard;

- take and save notes about a course;
- manage grades and provide the grades to the students;
- present important dates through a calendar tool;
- Provide links to related web sites.

The Blackboard Learning System provides course management capability. Some of the other key features include a faculty and student profile, and the ability to "create groups of students for collaborative work and enable protected discussion boards, virtual class rooms, and file exchanges for each group" (Yaskin & Gilfus, 2002). Blackboard allows students to navigate through the different parts of the course such as staff information, course documents (learning materials and aids), reading lists, assignments, communication tools, discussion board, and external links (Peterson and Reider, 2012).

Audio-conferencing: Audio-conferencing allows two-way, real-time communication between instructors and learners through audio (Stevenson, 2001). Older audio conferencing technology uses the telephone system infrastructure, where the key component is an electronic device called an audio conferencing "bridge". The bridge acts as the main hub for the conference where the participants simply dial into the bridge to connect to the conference. Calls can also be made

from the bridge itself. All the calls are combined so all the connected callers can converse simultaneously (Rao, 2001). The maximum number of participants depends on the number of telephone lines terminated at the bridge. All that is needed at each participating site is a standard telephone, radio transceivers combined with the necessary antennas, masts, and cable can also be used as the transmission medium.

Audio conferencing can also be carried out using Internet telephony where digitized voice packets are sent between individuals over the Internet. Individuals can use computer programmes such as AOL Instant Messenger, Microsoft NetMeeting, or MSN Messenger to converse with individuals. As well, some telephone and cable companies are beginning to provide Internet telephones.

Older audio-conferencing technology simply includes local or long-distance telephone costs (depending on the location of the participants), and the cost for the bridge itself or the bridging services. Internet audio-conferencing incurs the cost of Internet access and the Internet telephony equipment and/or programmes.

Audio-graphics: Audio-graphics is essentially audio conferencing accompanied by visual and graphical aids. "Graphics can be transmitted by facsimile (fax) machine, still video system, computers (text or graphic

display), or electronic drawing systems (such as electronic whiteboard) which allow a participant to draw or write on an electronic screen which is transmitted to a remote site where other participants may see it"

Along with the equipment required for audio conferencing, other components can include a PC with audio-graphics software, an interactive white board, overhead projector, or still video projector (Stevens, 2001; Audio-graphics, no date). For example, a lesson or tutorial can be taught by an instructor through an audio conference and the students may have pre-distributed materials such as Microsoft PowerPoint™ slides that accompany the lesson. The material may also be available on the Web in the form of images, text, video, or applets on a web page. Another option is to have the instructors and students interact graphically through interactive white boards during the lesson: "The computer is used as a blackboard. The graphics appear immediately on students' screens, and the students may either respond by using their own drawing pads or by speaker phone". Fax machines can be used to rapidly transmit learning materials, assignments, or test.

Video-conferencing: Videoconferencing allows participating individuals in different locations to see and hear each other in real-time through videoconferencing equipment (Stevenson, 2001). Dixon (2000)

states that it "is much more like using the telephone, with the added feature of being able to see the person you are talking to. The author further stated that videoconferencing technology uses ISDN or leased telephone lines at high hourly rates and the installation cost of this type of system is expensive. It is also a more rigid environment that requires special room set-up, advanced scheduling, and a professional operator. The more recent videoconferencing technology, however, uses the Internet as the transmission infrastructure, thus decreasing the installation and usage costs. It also has the same advantages as the Internet: flexibility, convenience, and iniquitousness.

A videoconferencing terminal consists of several components: a camera - captures live movement of the participating parties; a video display - displays the images of the other remote parties; a microphone and speakers - enables the transmission and reception of voice and audio (Stevenson, 2001).

Benefit of ICT devices and software to business education programme

Meleisea (2007) explained that the use of computer technology can be classified into three categories:

1. Computer can be considered as an object which students learn about (hardware and software).
2. Computer technologies can be an aspect, which means using them as tools in subjects such as computer-aided design courses, or as general tools in educational settings, such as the use of graphical design software to create web pages for a school.
3. Computer technologies are a medium for instructions in this category, computer technologies can be used for teaching and learning.

In the same vein, Tinio (2003) noted that there are three general approaches in the instructional use of computers and the Internet namely:

1. Learning about computers and the Internet, in which technological literacy is the end goal; it focuses on developing technological literacy. It typically includes: fundamentals basic terms, concepts and operations, use of the keyboard and mouse, use of productivity tools such as word processing, spreadsheets, database and graphics programs, use of research and collaboration tools such as search engines and e-mail, basic skills in using programming and

authoring application such as logo and hyper studio, Developing an awareness of the social impact of technological change.

2. Learning with computers and the Internet, in which the technology facilitates learning across the curriculum applications; It includes: prevention, demonstration, and the manipulation of data using productivity tools; use of curriculum-specific application types such as educational games, drill and practice, simulations, tutorials, virtual laboratories, visualizations and graphical representatives of abstract, concepts, musical compositions, and exert systems; use of information and resources on CD-ROM or online such as encyclopedia, interactive maps and atlases, electronic journals and other .
3. Learning through computers and the Internet, integrating technological skills development with curriculum applications. This combines learning about them and with them. It involves learning the technological skills “just-in-time” or when the learner needs to learn them as he or she engages in curriculum-related activity. Raymond (2012), also asserted that spreadsheet is a grid that organizes data into columns and rows. Spreadsheets make it easy to display information, and people can insert formulas to work with

the data. For example, there is a particular icon that has a formula to sum up numbers that are given. This icon is called auto sum. Information can also be sorted and filtered. People use spreadsheet programs to learn about different kinds of things, and to make decisions. Spreadsheets are based on different varieties of subjects**.** Ohakwe (2008) explained that power point is software that enables a teacher to create powerful presentation to his students. It allows the teacher to include formatted text, graphics, pictures, sound and animation in the presentations. With power point one can create educational presentations that can add variety and vitality to your teaching.

With it teaching becomes refreshing new, interesting, real, persuasive and lasting in the memories of learning. Ndukwe (2005) also observed that presentations created with power point can add audio and visual effects, making them look professional or flashy to meet high standard of presentation.

Aniekwe (2001) in her own view described e-mail as an internet-based electronics substitute for the conventional post office. A user name and password are required to get into the mail box. It is an important facility in the Internet that is connected to the computer to

functions. Mbaezue (2010) saw e-mail as a widely used Internet application that enables individuals or groups of individuals to quickly exchange messages, even if they are separated by long distances. Lecturers can use e-mails to send their lecture notes, messages and learning experience to students via mail.

The advantage of this technology is that it increase the students confidence and enable them to access learning experiences anytime, anywhere through getting access to Internet browser. The world-wide-web is the pride of the Internet and it is one of the ICT tools causing the current internet explosion**.** Blurton (2002) described the web as the printing media to the Internet and as a hypertext/hypermedia information system with information linked together in various ways. Information on the net is not static because the publisher updates it from time to time. The web provides so much information because it distributed across thousands of sites. It includes images, sound and video. No single individual or entity owns the web; rather there are a vast number of independent sites that supply information into the web. In the same vein Mbaezue (2010) noted that world-wide-web is a computer-based network of information resources and combines text and multimedia.

The web offers a place where tertiary institutions can display their services, facilities, or research, or their private lives. All communication on the web is carried out among a set of computers that are interconnected by a computer network. Web technology can be used across an Intranet (a network within an organization) or across the global Internet. Web employs two types of software: client and server. To make information available a computer runs a server programme and to obtain and display information from a server, a computer user runs a client programme. Mbaezue explained some of the features of Internet as follows: file sharing services let individuals swap music, movies, photos, sand applications, provided they do not violate copyright protection; online chat allows people to carry on discussions using written text. Instant messaging enables people to exchange text messages; share digital photo, video, and audio files; and play games in real time; Network News discussion (newsgroup), originally part of the Usenet network, are another form of online discussion. Newsgroup application software allows a user to obtain a copy of selected articles from a local news server or to use e-mail to post new message to the newsgroup.Fisher (2006) described Internet as the most visible, rapidly changing, dynamic, exciting emerging technology that electronically

connects individuals, ideas and messages not minding distance and time. In other words, the Internet is an electronic device that facilitates rapid information retrieval, storage and exchanges. It could be used to do a number of things for learning and teaching purposes. Helios (2005) noted that Internet browsing opens opportunities for students and lecturers to a variety of instructional options through multi channel learning, It could be used to explore, investigate, solve problem, interact, reflect, reason, communicate and learn many concepts in the school curriculum.

Teleconferencing is used in both formal and non-formal learning contexts to facilitate teacher-learner and learner-learner discussions, as well as to access experts and other resource persons remotely. In open and distance learning, tele-conferencing is a useful tool for providing direct instruction and learner support, minimizing learner isolation. He also listed four types of tele-conferencing based on the nature and extent of interactivity and the sophistication of the technology: 1) audio-conferencing; 2) audio-graphic conferencing,3) video-conferencing; and 4) Web-based conferencing.

Audio-conferencing involves the live (real-time) exchange of voice messages over a telephone network. When low-bandwidth text and still

images such as graphs, diagrams or pictures can also be exchanged along with voice messages, then this type of conferencing is called audio graphic. Non-moving visuals are added using a computer keyboard or by drawing/writing on a graphics tablet or whiteboard. Video-conferencing allows the exchange not just of voice and graphics but also of moving images. Video-conferencing technology does not use telephone lines but either a satellite link or television network (broadcast/cable). Web-based conferencing, as the name implies, involves the transmission of text, and graphic, audio and visual media via the Internet; it requires the use of a computer with a browser and communication can be both synchronous and asynchronous. Osazuwa (2002) listed three types of tele-conferencing as: Audio conferencing, computer conferencing, and video conferencing. Audio conferencing allows learning to take place between several people by using standard telephone lines to transmit voices only to and fro the parties involved; Computer conferencing allows for real communication between lecturers and students by connecting the personal computers to modem to dispense lectures, place advertisements of textbooks, journals and new discoveries; Video conferencing also provides students with the opportunity to learn by participating in two way communication forums.

Teachers and lecturers worldwide can be brought to remote or otherwise isolated educational facilities. Students from diverse communities and backgrounds can come together to learn about one another. Video conferencing can be considered when: a live conversation is needed; visual information is an important component of the conversation; the parties of the conversation can't physically come to the same location; or the expense or time of travel is a consideration.

Tinio (2003) explained that telephone provides a means of sending verbal messages. Such as:

- Mobile Telephone: The mobile telephone or cellular is one of the most prized possessions among users today. With cellular phone, the user need not scramble for public phones with other users. It is because of its benefits of mobility and time economy that the phone is very popular among reporters in spite of its high cost.
- Voice Mail: This is just an appendage of the electronic mail (E-mail) voice mailbox, which has almost eliminated the need for receptionists. One can leave personal or group message in several phone mailboxes or in the computer terminal hooked to a phone that will show on the message on the screen in text when the person called returns.

- Voice Processing: Voice processing is a touch-tone telephony whereby voice message switching accomplishes the same function as E-mail except that the hard copy is not available. When one sends a message, his/her voice is digitized and stored on a magnetic disc for later retrieval. The message is routed to its destination using the telephone keyboard. The message is heard upon request by the intended receiver(s). A voice store-and-forward system permits one to send one or many messages with just one telephone. Voice processing includes message switching and teleconferencing.
- Facsimile Transmission: Fax machine is otherwise known as telecopier. It is used to transmit any form of printed, typed or hand written material, drawing, diagrams or photograph from one location to another. It sends the replica of the documents. Perraton and Creed (2002) explained that Radio and television competencies have been used widely as educational tools since the 1920s and the 1950s, respectively. He narrated three general approaches to the use of radio and TV broadcasting in education as direct class teaching; School broadcasting, and general educational programming over community. Some notable

examples that have a global reach are the United States-based television show Sesame Street, and the radio programme Voice of America (Nwaerondu and Thompson, 2003).

According to Sarah and Rubina-Khan (2007), digital video recording offers many new possibilities for using video in the classroom, and in developing-country contexts, because of the compact and easily distributed nature of this technology. Digital video creates many new opportunities for viewing, editing and sharing, which were not possible with traditional video recorders and televisions. The compact and portable nature of today's video cameras make this much more feasible than Video Home System (VHS) tapes played back on a television (the way that video has traditionally been used in teacher training in most countries) for remote and resource-poor settings. Short video capture is now available in most digital cameras and many mobile phones. Some phone networks also allow sending short video clips across the network, similar to a traditional phone call.

Furthermore, digital video provides more convenient options for sharing and storing videos. Sharing digital clips can be an effective way to enhance teacher training programmes by allowing trainees to see current practices in other schools, and share cultural and methodological

videos. Again, this is particularly beneficial to remote schools which might not otherwise have this opportunity. Therefore, it makes it a particularly suitable tool for remote areas with poor communications infrastructure (Sarah & Rubina-Khan, 2007)

The pre-recorded video in higher education can be used as either a resource to supplement lectures or to substitute for lectures, but the most common use is the former. It is generally selected to help deliver curriculum in cases where visualization is important to understanding, such as scientific simulations and natural phenomena. A common constraint faced by teachers, is selecting appropriate video resources, therefore central management and dissemination of appropriate videos linked to specific curricular goals encourages optimal use of video in higher education. It is also crucial to recognize that video alone does not make an appropriate lesson, but must be combined with preparatory and follow-up activities in a holistic lesson plan.

The use of pre-recorded video, as described above, is translated into ‘learning objects’ in the modern age of computers and digital resources. Learning objects can be defined as an electronic resource that purposefully combines digital assets, such as pictures, video or audio snippets, bits of text, or smaller web-delivered applications to

communicate a specific concept or message, and therewith has an explicit learning objective inscribed to it. Pre-recorded video can be reused over and over again, according to the needs identified by the teacher. Teachers who can access a repository of learning objects can integrate them into their lesson plans as needed, providing an additional source of teaching aids to enrich the training program. As well as being used to create learning objects, video recorders can be used in teacher training centres to improve teaching practice through self assessment and reflection.

Digital video recorders are used for three main activities, namely;

1. To record actual classroom lectures and activities. This activity served the following purposes: Trainers could improve their training practice by reviewing the video and self-assessing performance; they would also be able to review the video before the next time they teach the lesson (maybe after several months) to remind themselves what worked and what did not. Trainers would be able to review trainee participation over the course of the 2.5 month period, which helped them to give final marks. Trainees could retain the subject matter content better, and could review lessons where they had specific questions by replaying the video later. Similarly, trainees who were

absent could review the actual lesson on the video. Trainees were more attentive and participated more, knowing that the lesson was being filmed. Trainees could take a CD copy of these activities, which could help to remind them of some certain processes, especially games and developing teaching aids. Recorded group work and feedback sessions will also allow the trainees in other groups to see what their fellow peers were discussing.

2. To record co-curricular activities, including school opening and closing ceremonies and local cultural events. This activity served the following purposes: Trainers could use these videos later to provide local content to support social studies lessons. Video recordings could be shared among different training institutions, to show differences between urban and rural settings, or different cultures and regions.

3. To record microteaching (practice teaching in the training centre with peers) and student teaching (school-based, with children). This activity served the following purposes: Trainees were able to see their performance, self-assess their weaknesses, and make corrections. Trainees could also compare their performance during microteaching with performance in the actual classroom. School

supervisors' comments on practice teaching to trainees in school, with help of video recording, was more effectively and positively received by trainees than without the recording (Sarah & Rubina-Khan, 2007).

Application of New Technologies in Business Education

Business education has embraced enormous changes in technology in a bid to providing quality education to students. According to Nwoji (2012), technology could be defined as the application of the scientific method to solving problems in our daily life. Put in the perspective of business education, however, technology is the application of scientific method to solving problems regarding impartation of skills to learners to meet the changing needs and demands of the society. In business education, there existed technology in a crude form but there has been a dramatic and significant change in the methods used by business education to address the changing needs of the society.

Olson in Nwoji (2012) opined that technology is a many-faceted phenomenon in materials created and advanced by man to free himself from endearment by nature, but which, when undisciplined, enslaves its own creator. By this definition, technology helps to advance man's

course in his environment but moderation and control should be exercised to direct its use to solving problems of man, if not, may be misleading in itself. The technological changes in business education are basically from information and communication technology (ICT) perspective. The society generally is ICT-driven and in order to keep abreast of this change, there must be a restructuring in the knowledge and skills given to learners/students in business education. Electronic office (e-office) is one of the phenomena of the 21st century which is a paperless office approach in which every office work is done with the use of computer. It is based on this that most business education departments across Nigeria's tertiary institutions are mandated to be building ICT centers, improving computer laboratories and offering professional courses in computer studies to produce students/graduates that can easily adapt to the ever changing business environment.

There is a nexus between the employability skills and business education curriculum design and implementation as curriculum attempts to provide the best possible learning opportunities. The restructuring of the business education curriculum to adapt to these changes in technology is seen as quality assurance. It is the curriculum that conveys the environment for effecting the effective realization of

technology impartation and adaptation on the part of business educators. The curriculum therefore stands out as a strong factor for consideration in ensuring quality assurance and or re-assurance in business education. Curriculum as a planned programme of learning experience which seeks to develop the abilities of a learner under the supervision of the school has a laudable contribution in assuring quality in business education. According to Olaitan (2009), three aspects of the curriculum determine the achievement of objectives, namely; Input, process and output. These three stages highlight the role of human and material resources needed for implementation of the curriculum, methods and techniques used by the teacher and the learners and the quality of change that has taken place in them from the interaction. These three factors are continuously assessed in the system in order to establish quality assurance. According to Moreno (2006), educational reforms all over the world are increasingly curriculum-based as mounting pressures and demands for change tend to target and focus on both the structures and very content of the school curricula.

As a result of the constant change in the society and in the world over, it becomes absolutely necessary that the content of the curriculum be reviewed from time to time to remain relevant. This change brought

about the introduction of new technologies in education which business education has a fair share of these changes. Modern business education curriculum provides the introduction of ICT in the form of ICT literacy, application of ICT, Infusion of ICT skills and ICT specialization. These reforms should add quality to business education programme towards meeting the demands of the society.

In the area of instruction, new technologies which revolve round the use of Internet and resources have emerged that are aimed at improving productivity. Typical examples of Internet teaching and learning media that facilitate teaching and learning in business education include: Projectors, E-mail, Smart boards, Mimeo boards, Teleconferencing, Video Conferencing, E-book Reader and Streaming Videos (E-How, 2012).

E-How (2012) identified some quality classroom delivery to include: Computer in the classroom, Class web site, Class blogs and wikis, Wireless Classroom Microphone, Mobile Devices and Interactive Whiteboard. These technologies interact with the teacher in a friendly manner as to motivate students into learning achievement. Also other technologies geared towards enhancing learning achievement of students are now available. These are in hardware and software forms

and include: learning software in different areas of business, iPod, CD ROMs, Modems, Laser printers, You-tube software, Digital cameras and Digital scanners

The electronic environment now in vogue has necessitated the need for electronic teaching infrastructure. A prominent tool is the smart board which commands respect as it eases the use of multi-media and greater interactivity. A significant and unique feature of the smart board is that it allows teachers or instructors to make illustrations of those business concepts that hitherto were difficult to be illustrated. In addition to the use of the Internet in business classroom, the business educator can enhance learning through the use of Computer-Assisted Instruction (CAI). According to Osuala (2004), CAI assumes that all people learn different materials in different ways at different rates of speed and thus promotes individualized instruction.

Global philosophy on education now includes these new changes in society. Their teaching strategies and training must therefore be altered and changed completely. The teacher's approach to the classroom has got so much to do with what the learner learns. The concern, therefore, should be to drive the lesson home in the most interesting way to the learners. For example, the use of Power point

presentation helps in consolidating learners' knowledge in any topic taught. However, the teacher requires the know-how of using these ICT resources. The changes in the business education programme have not shrunken the demand for business education but enlarged it. Business educators continue to prepare workers in every phase of the information cycle. One way of targeting this is for business teachers to focus on all students and its constituents. With every aspect of the society being touched by technology, the opportunity presents itself for the shaping of a new and more relevant curriculum. However, it is the educators' response to these changes that is critical to the growth and success of business education programme.

Modern offices have since transited from the manual operations, through mechanical and then to the present electronic era (Agomuo, 2005). Modern organizational practices have broadened tremendously to include the challenging need of workers to adapt to the rapidly changing techniques, new equipment and work processes. Oliver (2008) observed that since modern offices and organizations operate with and employ e-office processes, only workers who possess electronic office operations skills will be remain relevant. Today's office workers require the ability to interact with information using appropriate technology in an

expert and friendly manner. According to Drucker (2010), knowledge workers are now needed by knowledge organizations that operate in knowledge economy.

Competencies needed for ICT utilization in instructional delivery

Achilike and Okwuanaso (2001) defined competencies as those abilities of power and authority of knowledge, attitudes and facts necessary for accomplishing tasks. Azemikhah (2005) posited that competency is a quality that needs to be developed by the learner both conceptually and physically. Smith (2005) also noted competency as a condition or quality of being competent, ability, fitness, legal capacity, power or jurisdiction. It is a compendium of knowledge, skills, values, attitude and behaviour needed by an individual to perform his or her role efficiently. Folorunso (2006) explained competence as the ability to perform work activities to the standards required in employment. It embodies the ability to transfer skills and knowledge to work situation within the occupational area. According to Commission on Information and Communication Technology (2011), competency is the knowledge, skills, ability or characteristics associated with high performance on a job and it can help to distinguish high performance from average and low performance.

Skill does not depend solely upon a person's fundamental, innate capacities but must be developed through training, practice and experience an individual acquired. Skills is the ability to do something well, usually as a result of experience and training. It is a particular ability that involves special training and experience. Experience gained when knowledge acquired from a training programme is put into practice. In the absence of practice, the knowledge gained in a training programme becomes passive. Skill according to Bolt-Lee and Foster (2003), is the art of possessing the ability to power, authority, or competency etc. to do the task required of an individual on the job. ICT skills are those manual dexterities acquire by an individual's through training school or non formal school system. Two fundamental issues are used when a skill is to be acquired. According to Okoro and Ursula (2012), the first is the conditions which promote acquisition and the second is the change that will occur when the skill is acquired. However, when an individual set out to learn a new skill, he usually starts with a communicable programme of instruction. Good learners do not jump into an operation without first receiving the necessary verbal instruction. Thus the instruction given in bits, units modules in stages, perhaps must be fused together to form a skilled performance. If one invention has

influenced learning the most over the past few years it would unarguably be information and communication technology (ICT). The need for ICT skills is no longer a necessity, but imperative to individuals, group and organization in all areas of human endeavors. As the entire world is daily exhibiting and proving right the slogan of being a global village with opportunities, devices and media to reach anywhere in the world on an individual's fingers tips, it is however not an understatement to say that ICT skills is a sine-qua-non to any student who intends to excel in flying colors in his or her chosen course of study. To enhance student's performance especially in business education programme, understanding mastery and utilization of basic ICT skills is needed to ensure the acquisition of required knowledge and values.

This will make the recipients of such education (business education) functional citizen in both personal and the world of work.

UNESCO (2007) identified teacher's ICT knowledge and skills to cover word processing, Internet, file navigation, e-mail, presentation packages, spreadsheets, database and SIS Curriculum manager. Wikipedia (2012) noted that typing is a basic computer skill. Basic computer and word processing skills are required for almost every job. A word processing application can be used in a computer to create, save,

modify and print all kinds of documents-letters, reports, worksheets, agenda and much more. Some of the things needed for acquiring computer/word processing skills are computer, improved typing skills, learning to use Mozilla Firefox and Internet Explorer. Review browser and software e-mail programs.

Web usage and Internet browsing skills, this is ability to boot computer system and surf information, Skills in Internet search engines and hyperlinks navigation, to open e-mail account for submission of assignment, skills in downloading and saving learning materials from the Internet or personal study and future use, ability to do conference calls and share knowledge with other students, skills in submitting assignment and exchanging information with the lecturers, skills in using internet for assignment, research and knowledge update in business education courses, Skills in e-mail document attachment and uploading, updating personal records in the students portal at the college websites, and carrying out registration of courses and lodging complaints at the college website, skills in anti-virus installation, ability to log-on to window and retrieve learning materials

Computer application usage skills are skills needed for the use of Microsoft office (Ms-Word, excel and Corel draw) to work on the

computer, skills in inserting tables, graphs, bullets and symbols inside documents, skills in editing and formatting documents, ability to use windows icons for carrying out editing of documents, skills in saving documents in different formats such as PDF, RMTL, etc, skills in the utilizations of formulas in excel operation, skills in using graphs for presentation of information, and skills in making graphic designed or do illustrations.

Okoye (2010) explained that database is a skill that organizes collection of data for one or more purposes, usually in digital form. It refers both to the way its users view it, and to the logical and physical materialization of its data, content, in files, computer memory, and computer data storage. This definition is very general, and is independent of the technology used. However, not every collection of data is a database, the term database implies that the data is managed to some level of quality (measured in terms of accuracy, availability, usability, and resilience) and this in turn often implies the use of a general-purpose Database management system (DBMS). A general-purpose DBMS is typically a complex software system that meets many usage requirements, and the databases that it maintains are often large and complex. The utilization of databases is now spread to such a wide

degree that virtually every technology and product relies on databases and DBMSs for its development and commercialization, or even may have such embedded in it. Also, organizations and companies, from small to large, heavily depend on databases for their operations. The term database is correctly applied to the data and their containing data structures, and not to the DBMS which is a software system used to manage the database. The structure of a database is generally too complex to be handled without its DBMS, and any attempt to do otherwise is very likely to result in database corruption.

Chukwumezie (2005) narrated some networking skills to include use of file server, connect log on, retrieve a program or document, save a document to a specified location, share files with others on a network, knowledge of area network, including network access rights, security passwords, file server and zone, connect to Internet, knowledge of connecting to the Internet or an online service using the computer and modem. Organization for Economic Co-operation and Development (2005) outlined the required ICT competencies in education which revolves around electronic learning to include:

i. Web-supplemented courses focus on classroom-based teaching but include elements such as putting a course outline and lecture notes online, use of e-mail and links to online resources.

ii. Web-dependent courses require students to use the Internet for key elements of the programme such as online discussions, assessment, or online project/collaborative work, but without significant reduction in classroom time.

iii. In mixed mode courses, the e-learning element begins to replace classroom time. Online discussions, assessment, or project/collaborative work replace some face-to-face teaching and learning. But significant campus attendance remains part of the mix.

iv. In fully online courses, students can follow courses offered by a university in one city from another town, country or time zone.

According to Menwa in Owa (2005), some Internet networking skills include the following: E-mail, Newsgroup/Telecollaborating, Computer aided telephoning, World Wide Web (www), Surfing the net, Internet Relay Chart, File Sharing and Topic Sharing, Corporate lease access, Video Conferencing, Public Voice Messaging, Radio Paging, Mobile Telephone System, Internet Addressing and Host Addresses.

He also expressed that the web can access many forms of internal information. It has a single protocol that allows hypertext documents to be transferred quickly between web browsers and servers. The protocol is called hypertext protocol (http) and some of Internet features are: real time information retrieval and transfer; global access; interactive; surfing the net.

Owa (2005) enumerated telecommunication competencies to include: logon, e-mail, log-on Internet, upload, modem, download, log-off, world wide web, tele-conferencing, baud rate, and information high way. Tinio (2003) also explained that teleconferencing refers to interactive electronic communication among people located at two or more different places. According to Akinola (2005), media skills involve multimedia system, which is an exciting mix of graphics, texts animation and photographs on the computer system. It combines movies, sound and animated graphics to achieve products. With components like sound card, speakers and CD drive on the system the personal computer is turned into a music box, a film editing system, a radio box and a television system respectively. The teacher can use computer as an instructional material by drawing equipment such as filling cabinet, photocopying machine for the students to see and practice on.

Desktop publishing skill can be used for the creation of documents using page layout software on a personal computer. The term has been used for publishing at all levels, from small-circulation documents such as local newsletters to books, magazines and newspapers. However the term implies a more professional-looking end result, with a more complex layout, than word processing. There are two types of pages in desktop publishing, electronic pages and virtual paper pages to be printed on physical paper pages. All computerized documents are technically electronic, which are limited in size only by computer memory or computer data storage space. Education has the role of preparing student for adult life, and therefore it must provide student with those skills necessary to join a society where technology-related competencies, which are part of the set of the so-called '21st century competencies', is increasingly becoming an integral part of the goals of compulsory education, this implies that in a knowledge economy driven by technology, people who do not master this competencies may suffer from a new form of digital divide that affect their capacity to fully integrate the knowledge economy and society. Therefore, business education lecturers are required to posses all these information and

communication skills for their effectiveness in information dissemination, record management and general work flow.

Related Empirical Studies

Related empirical studies to this study are reviewed in this section under suitable headings as follows:

Utilization of ICT resources in Business Education

Akuegwu, Ntukidem, Ntukidem and Jaja (2011) conducted a study on ICT utilization for quality instructional service delivery among universities lecturers in Akwa Ibom and Cross River state. Four hypotheses were postulated to give direction to the study. The research design was ex-post facto and 400 lecturers made up the population, questionnaire was the instrument used for data collection while t-test and independent t-test statistical analysis were used to analyze data. The major findings of the study revealed that lecturers' utilization of ICT facilities is significantly low and that availability of ICT facilities for quality instructional service delivery in universities in Akwa Ibom and Cross River states is significantly low. The recommendations include that ICT facilities should be made adequately available by university administration such that lecturers can utilize them in their offices and classroom instructions; government at the federal and state levels

should as a matter of priority, fund universities adequately well. Modalities should be set in motion to enable university lecturers acquire ICT skills through training among others.

The study is related to the present study in that they are concerned with ICT facilities utilization for quality delivery among university lecturers in Nigeria. However, they differ as the former studied ICT facilities utilization for quality delivery among university lecturers in Nigeria while the latter focused on ICT facilities status for ensuring quality delivery among lecturers and students. Similarly, the former focused on utilization and availability of ICT while the present focused on wide variables covering utilization, students and lecturers ICT proficiency and contributions of ICT resources to business education. These gaps/differences are the objectives the present study filled.

Okolocha and Nwadiani (2014) conducted a study on assessment of utilization of ICT resources in teaching among tertiary institution business educators in South Nigeria. The purpose is to determine the extent of utilization of available ICT resources for teaching by business education in Colleges of Education and Universities. Two research questions and two null hypotheses guided the study. Descriptive survey design was adopted for the study, the population comprised 240

Business Educators while data were collected with structured questionnaire and analyzed using mean, standard deviation and t-test.

The findings revealed that ICT resources utilization in teaching business education is not popular that is, business educators rarely utilize ICT resources in the teaching of business education courses, and that there is significant difference in the opinion of business educators in colleges of education and universities regarding the ICT resources that are utilized in teaching business education courses. Recommendation were that government and other stakeholders in education should provide adequate ICT resources for the teaching of business education courses in tertiary institution and that In-service training programme such as seminars, on the job retraining programmes, workshops on ICT resources utilization should be mounted on a regular basis for serving business educators in tertiary institution. Also, relevant authorities should make adequate power supply of various sources including renewable energy available continually, among others.

This research is related to the present study in that both investigated assessment of utilization of ICT resources in teaching in tertiary institutions by business educators. The former study used descriptive research design and questionnaire for data collection while

the latter also used descriptive research design and questionnaire. The study differs in that the former concentrated on lecturers (business educators) only while the latter concentrated both on lecturers and students in business education. Lastly, the former was carried out in south with two research and two hypotheses and the latter covered South-Western part of Nigeria with four research questions and six hypotheses which will add to the body of existing knowledge on the subject matter.

Contributions of ICT resources utilization to business education

Ezeani and Akpotohwo (2014) conducted a study on integrating ICT in Accounting Education instruction in Ekiti State Universities. The purpose was to ascertain the role of ICT in the teaching and learning of accounting education courses. Three research questions and one hypothesis guided the study. Descriptive survey was adopted for the study while thirty accounting educators made up the population and questionnaire was used for data collection. Data collected were analyzed using mean and standard deviation estimate while t-test was used in testing the only hypothesis raised for the study. The major findings revealed that ICT contribute meaningfully to teaching and learning of accounting education and that, universities offering

accounting education courses in Ekiti state greatly valued the roles of ICT facilities in discharging their academic duties hence ICT facilities usage assist in the development of life and work place skills of an individual in the work environment. Based on the findings, it was recommended that accounting software packages and adequate ICT facilities should be provide for effective learning of accounting courses by school authorities in collaboration with the government.

The study is related to the present study because both are studying ICTs for teaching and learning. Another similarity is that both used questionnaire for data collection and lastly, both are conducted in the South-Western part of Nigeria. The major difference is that the former studied accounting lecturers while the latter studied both lecturers and students of business education. Also, the former focused on public and private universities while the present studied public universities offering business education. Another difference is that the former studied only one state out of the five states in South-West while the latter covered all the six state. Also, the former focused on accounting education which is an option under business education while the present study concentrated on all area of specialization in business education.

On the contribution of ICT resources utilization geared towards qualitative teaching and learning in business education. Okeke, Ezenwafor and Umoru (2012) conducted a study on perception of business educators on the impact of ICTs on the student learning in tertiary institutions in Nigeria. The purpose of the study was to ascertain the perception of business educators on the impact of ICTs on students' learning in tertiary institutions in Nigeria relative to extent of utilization. Three research questions were used for the study and the survey research design was adopted for the study. Purposive sampling was used to select 215 from a population of 466 registered members of Association of Business Educators of Nigeria (ABEN) while questionnaire was used for data collection, and arithmetic mean and standard deviation and t-test were used for data analysis.

The major findings of the study showed that ICTs can contribute to student learning in many positive ways such as developing student knowledge through inquiry and experimentation, equalizing individual differences, self-paced learning with increased capacities to deal with individual learning styles, collaborative learning, peer coaching and peer reviews, among others. Recommendations were that government at the state and federal level should endeavor to increase funding for the

education sector to enhance procurement of ICT equipment and facilities for effective educational activities in the country. Lecturers in Nigeria tertiary institutions should engage in retraining programmes to update and increase their ICT knowledge and competencies to effectively utilize the resources on student learning. Also, management of tertiary institution in Nigeria should develop sustainable maintenance culture to repair and replace damaged ICT facilities as well as seek ways to solve all the problems encountered by lecturers in utilizing ICTs on students learning.

The study is related to the present study in that both looked at contributions of ICTs to student learning. Also, the study is similar in that both studied ICT and business education in tertiary institutions in Nigeria. The major difference is that the former studied the whole country while the present concentrated on all state offering business education in South-Western Nigeria. Registered members of association of business educators in Nigeria were used for the study while the latter focused on lecturers and students of business education in South-Western part of Nigeria. The former focused on perception of business educators on the impact of ICTs on student learning in tertiary institutions while the latter historically studied utilization of ICT resources

by students and lecturers and contributions of ICT resources utilization to business education. The identified gaps or differences are the area this research filled so as to have a more generalized opinion on the topic being studied.

Summary of Literature Review

In this chapter, the meaning of ICT had been extensively treated, the literature reviewed shows that the process of learning in a virtual environment has contributed significantly towards a social change in education. This is achieved through the provision of new media allowing access to new knowledge, promoting dialogue among teachers and students, and also among students themselves. Generally, ICT has strongly affected educational service delivery practices in Nigeria, as literature clearly reveals that technology of information and communication are the new dominant tools for teaching and learning in this modern day.

In addition, the review covered relevant concepts in the title theoretical framework of the study included diffusion of innovation theory, unified theory of acceptance and use of technology and theory of human constructivism. Theoretical studies were reviewed on the objectives and relevance of business education at the tertiary level, ICT

resources for teaching and learning, new technologies in business education, competences needed for ICT utilization in instructional delivery, application of ICT in business education, among others.

The literature reviewed showed that there have been previous research efforts on ICT resources utilization. This research became imperative as most of the available studies reviewed by the researcher were limited in scope. For instance, some of the studies focused on a single variable such as ICT utilization, lecturers' proficiency in utilization of ICT among others. Some of the studies focused on students only while others centered on lecturers. None of the studies reviewed were related to ICT resources utilization by students and lecturers in business education programme of universities as well as their perceived contributions. These gaps in the existing body of knowledge necessitated the study on the extent of utilization of ICT resources and its perceived contributions to business education programme of universities in South-West Nigeria.

CHAPTER THREE

METHOD

This chapter presents the method and procedure adopted for the study covering research design, area of the study, population of the study, sample and sampling techniques, research instrument, validation of the instrument, reliability of the instrument, method of data collection and method of data analysis.

Research Design

Descriptive survey research design was used for the study. According to Uzoagulu (2011), descriptive survey research design is a method where data are usually collected with the use of questionnaire or interview, organized and analyzed to describe situations as they exist in their natural setting without interfering with them. This design is suitable for the study because it survey the opinions of a representative sample of a given population on a given phenomenon using a questionnaire. Oviawe and Oshio (2011), Ezeani and Akpotohwo (2014) and Okolocha and Nwadiani (2015) used the design and successfully conducted their research studies.

Area of the Study

This study was carried out in South-West Nigeria which comprises of six States namely: Oyo, Ogun, Osun, Ondo, Ekiti and Lagos. The study was specifically carried out in Ogun, Lagos and Ekiti States that harbors universities that offer business education programme. The states have Latitudes 50 45' and 80 15' north and longitudes 40 45' and 60 00' ' east. The area is bordered in the north by Kogi State, north-west by Ondo State, west by Osun State, east by Edo State, and by Atlantic Ocean in the south. It has an estimated land area of about 510,000 sq. km. with a population of about 24.4 million people according to the National Population Commission (2006).

The three states have 55 Local Government Areas, with state capitals in Abeokuta, Ado-Ekiti and Ikeja. The inhabitants are mostly farmers, traders and craft workers but they also have passion for education. Evidently, the increase in the number of private and public schools established in the past years, especially tertiary institutions, in the area indicates the peoples' value for education. The choice of the area for the study was informed by this high value placed on education by the people which qualified them to be among the educationally advantaged states in Nigeria. Also, the researcher's desire to appraise

the extent of compliance in implementing ICT resources in instructional development process by her tertiary institutions in this era of technological advancement.

Population of the Study

The population for this study consisted of 553 (52 lecturers and 501 final year students) of business education from the six universities that offer business education programme in South-West Nigeria. The choice of final year students was based on the fact that they have been in the university system for more than three academic sessions and they are familiar with the department and can easily form an opinion on their course of study. (See Appendix C, P168)

Sample and Sampling Technique

Sample for the study was 302 (52 lecturers and 250 final year students) of business education from universities that offer business education in the area of study. All the lecturers were used because of the size while the researcher purposively sample 50 students (25 male and 25 female) 400 level students of business education from each university for homogeneity reason. The choice of the 400 level students was based on the fact that they have studied business education for more than three academic sessions in the institution; they will be in a

better position to provide accurate and adequate information that may be required for this study. (See sample distribution Table by gender, status and institution ownership, Appendix D, P169)

Instrument for Data Collection

The instrument for data collection in this study was a questionnaire tagged “Utilization of ICT Resources in Business Education Questionnaire” (UICTRBEQ).The questionnaire was developed by the researcher based on insight from literature reviewed in line with the research questions. The instrument consisted of two part and two sections; sections A and B. Section A contained three items on the demographic data of the respondents while section B contained 48 items (26 items for lecturers and 22 items for students) each in two clusters of sections B1-B2 according to the research questions. Altogether the instrument has 51 items. Section B is a 5-point rating scale and the responses to items in section B1-B2 are of Very Great Extent (VGE), Great Extent (GE), Moderate Extent (ME), Small Extent (SE) and Very Small Extent (VSE). (See Appendix B, P163)

Validation of the Instrument

The instrument was subjected to face validity by five experts; two in Business Education, one in Measurement and Evaluation, one in Curriculum Development and Evaluation and one in Computer Science from Olabisi Onabanjo University, Ago-iwoye and Tai Solarin University of Education, Ijagun. The research title, purpose of the study, research questions and hypotheses alongside the instruments were given to the experts who were requested to make observation on the instrument to ensure the validity of the instrument. They validated the instrument relative to the appropriateness and suitability of the items, wordings and item construct. The experts' inputs were incorporated in modifying the instrument before it was approved for use by the researcher's supervisor.

Reliability of the Instrument

To determine the reliability of the instrument, it was administered to ten lecturers and twenty final year students of business education from Kwara State University, Molete, Kwara State who were not part of the study population. The data collected were analyzed with Cronbach's Alpha Reliability Coefficient and reliability coefficients of 0.85, 0.82, 0.75 and 0.86 were obtained for sections B1-B2 respectively. These high

coefficient values indicate that the instrument is reliable for the study as stated by Dowine and Heath in Nworgu (2006) that the reliability value of 0.80 and above indicate that the research instrument is reliable. This corroborates the opinion of Fulekar (2009) that an instrument is said to be reliable when the reliability coefficient can be approximated to one (1). (See Appendix E, P170)

Method of Data Collection

The instrument was administered personally by the researcher with the help of business education lecturers and the Heads of Department in the universities used for the study. The instruments were administered on the respondents through personal contact by the researcher and a lecturer. Both the lecturers and students were allowed time to complete the instruments in order to ensure a high response rate. Six weeks were used for the exercise and at the end a hundred percent response rate was achieved as all the copies were correctly filled, retrieved and used for analysis.

Method of Data Analysis

Descriptive and inferential statistics were adopted for data analysis. Mean and standard deviation were used to analyze data to answer the research questions and determine the closeness of the

respondents' mean while z-test was used to test hypotheses at 0.05 level of significance. Cluster mean was used to answer the research questions based on boundary limit of numbers below:

Responses	Rating	Boundary Limit
Very Great Extent	5	4.50– 5.00
Great Extent	4	3.50 – 4.49
Moderate Extent	3	2.50 – 3.49
Small Extent	2	1.50 – 2.49
Very Small Extent	1	1.00 – 1.49

A null hypothesis was accepted where the calculated z-value is less than the z-critical value but not accepted where the calculated z-value is equal to or greater than the z-critical value.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter presents analysis of the data collected for the study according to the research questions and hypotheses as follows:

Analysis of Data Relating to the Research Questions

Research Question 1:

To what extent do students utilize ICT resources in business education programmes in universities in South-West Nigeria?

Analysis of data in respect of research question 1 is presented in Table 1

Table 1:

Respondents' mean rating and standard deviation on extent of utilization of ICT resources by students of business education

N=250

S/N	Items on Utilization of ICT Resources	$\bar{X}$	SD	Remark
1	Word processor for typing assignment	3.84	0.72	Great Extent
2	Spreadsheet for accounting calculations	1.06	0.63	Very Small Extent
3	PowerPoint for presentation	1.24	0.60	Very Small Extent
4	E-mail for submitting assignment and communication with lecturers	2.84	0.87	Moderate Extent
5	Software for learning keyboarding	3.54	0.71	Great Extent
6	Overhead projector for presentation and micro teaching	1.26	0.67	Very Small Extent
7	Multimedia projector for presentation and micro teaching	1.28	0.66	Very Small Extent
8	Social media for tutorial and communication	3.56	0.57	Great Extent
9	Internet to search for course materials	3.75	0.77	Great extent
10	Interactive whiteboard for presentation	1.04	0.65	Very Small Extent
	Cluster Mean	**2.34**	**0.69**	**Small Extent**

Data in Table 1 show that only four out of the ten ICT resources listed (No 1, 5, 8 and 9) with mean ratings of 3.84, 3.54, 3.56 and 3.75 are utilized by students in business education to a great extent. Five ICT resources with mean ratings ranging from 1.04 to 1.28 are utilized at a very small extent in business education while one item (No 4) is utilized at a moderate extent by students in business education in the universities. The standard deviations for all the items are within the same range showing that the respondents were homogeneous in their opinion.

Research Question 2:

To what extent do lecturers utilize ICT resources for instructional delivery in business education programmes in universities in South-West Nigeria?

Analysis of data in respect of research question 2 is presented in Table2.

Table 2:

Respondents' mean rating and standard deviation on extent of utilization of ICT resources by lecturers in business education programmes N=52

S/N	Items on utilization of ICT resources	$\bar{X}$	SD	Remark
1	Power point to plan for teaching	2.04	1.12	Small Extent
2	Over head projector for delivering lectures	2.00	0.77	Small Extent
3	Internet to search for course materials for teaching	3.46	0.96	Moderate Extent
4	E-mail to assess students work/assignment	2.65	1.10	Moderate Extent
5	Internet for tutorials	2.05	1.09	Small Extent
6	Playlist aggregated objects and collection	2.38	1.01	Small Extent
7	Annotation on audio visual with my story player, etc	2.31	1.25	Small Extent
8	Animations in flash to others listed	2.40	1.24	Small Extent
9	Facsimile for lecturer-student classroom interaction	2.38	1.07	Small Extent
10	Multimedia facilities in classroom management and control	2.42	0.96	Small Extent
11	Film strip application as business education teaching aid	2.36	1.13	Small Extent
12	Multimedia projectors	2.32	1.16	Small Extent
13	Interactive whiteboards	3.09	1.07	Moderate Extent
14	Electronic organizer for information processing	2.48	0.87	Small Extent
	Cluster Mean	**2.45**	**1.06**	**Small Extent**

Data in Table 2 show that only three out of the fourteen ICT resources listed (No 3, 4 and 13) with mean ratings of 3.46, 2.65 and 3.09 are moderately utilized by lecturers in business education. The remaining eleven ICT resources with mean ratings ranging from 2.00 to 2.48 are utilized to a small extent in business education in the universities. The standard deviation for all the items range between

0.77-1.25 this implies that the respondents were far apart in their opinion.

Research Question 3:

To what extent do students perceive ICT resources utilization contribute to business education programmes in universities in South-West Nigeria?

Analysis of data in respect of research question 3 is presented in Table 3

Table 3:

Mean rating and standard deviation of students' perceptions on the extent to which ICT resources contribute to business education programmes N=250

S/N	Items on students perception on contribution of ICT resources	$\bar{X}$	SD	Remark
1	Enhances productivity in business education	3.59	0.86	Great Extent
2	Improves teaching effectiveness	4.06	0.68	Great Extent
3	Increases productivity and professional growth of lecturers	4.00	0.57	Great Extent
4	Promotes effective evaluation in business education	3.99	0.34	Great Extent
5	Facilitates decision making and problem solving	3.92	0.62	Great Extent
6	Facilitates collaborative efforts for quality assurance	4.13	0.69	Great Extent
7	Promotes c0reativity among lecturers and students	3.92	0.79	Great Extent
8	Improves employability potentials of students	4.14	0.77	Great Extent
9	Enhances the administration in the programme	3.96	0.84	Great Extent
10	Enhances the quality of research	3.86	0.81	Great Extent
11	Enhances global competitiveness of the graduates	4.14	0.75	Great Extent
12	Enhances students practical skills acquisition	4.01	0.67	Great Extent
	Cluster Mean	**3.98**	**0.69**	**Great Extent**

Result in Table 3 show that all the twelve items listed with mean ratings ranging from 3.59- 4.14 with a cluster mean of 3.98. This shows that the students are of the opinion that utilization of ICT contributes to quality of business education programme to a great extent. The standard deviations for all the items are within the same range showing that the respondents were homogeneous in their opinions.

Research Question 4:

To what extent do business education lecturers perceive ICT resources utilization contribute to business education programmes in universities in South-West Nigeria?

Analysis of data in respect of research question 4 is presented in Table 4 below

Table 4:

Mean rating and standard deviation of lecturers' perceptions on the extent utilization of ICT resources utilization contributes to business education programmes N=52

S/N	Items on lecturers' perception on contribution of ICT resources	$\bar{X}$	SD	Remark
1	Enhances productivity in business education	4.26	0.87	Great Extent
2	Improves teaching effectiveness	4.07	0.68	Great Extent
3	Increases productivity and professional growth of lecturers	4.06	0.58	Great Extent
4	Promotes effective evaluation in business education	4.24	0.34	Great Extent
5	Facilitates decision making and problem solving	3.92	0.62	Great Extent
6	Facilitates collaborative efforts for quality assurance	4.24	0.69	Great Extent
7	Promotes creativity among lecturers and students	3.92	0.79	Great Extent
8	Improves employability potentials of students	4.15	0.78	Great Extent
9	Enhances the administration in the programme	3.96	0.84	Great Extent
10	Enhances the quality of research	3.86	0.82	Great Extent
11	Enhances global competitiveness of the graduates	4.15	0.75	Great Extent
12	Enhances students practical skills acquisition	4.02	0.67	Great Extent
	Cluster Mean	**4.07**	**0.70**	**Great Extent**

Data in Table 4 show that all the twelve items listed with mean ratings ranging from 3.86- 4.26 with a cluster mean of 4.07. This shows that the lecturers are of the opinion that utilization of ICT contributes to business education programme to a great extent. The standard deviations for all the items are within the same range showing that the respondents were homogeneous in their opinions

Analysis of Data for testing the hypotheses

Null Hypothesis 1:

Male and female respondents do not differ significantly in their mean ratings on the extent students and lecturers utilize ICT resources in business education programmes in South-West Nigeria.

Data analysis for null hypothesis 1 is presented in Table 5.

Table 5:

Summary of z-test analysis for the difference between the mean ratings of male and female respondents on the extent they utilize ICT resources in business education (n=302)

Gender	n	$\bar{X}$	SD	Df	Z-cal.	Z-crit.	Alpha sig	Remark
Male	156	37.24	10.56	300	0.91	1.96	0.05	NS
Female	146	38.38	11.09					

Result in Table 5 show a calculated z-value of 0.91 which is less than z-critical value of 1.96 at 300 degree of freedom and 0.05 level of significance. This means that male and female respondents did not differ significantly in their mean ratings on the extent they utilize ICT resources in business education programme in South-West Nigeria. The null hypothesis was, therefore, upheld.

Null Hypothesis 2:

Lecturers and students do not differ significantly in their mean ratings on the extent of utilization of ICT resources in business education programmes in universities in South-West Nigeria.

Data analysis for null hypothesis 2 is presented in Table 6.

Table 6:

Summary of z-test analysis for the difference between the mean ratings of lecturers and students on the extent they utilize ICT resources in business education (n=302)

Status	n	$\bar{X}$	SD	Df	Z-cal.	Z-crit.	Alpha sig	Remark
Lecturers	52	38.08	10.96	300	2.68	1.96	0.05	S
Students	250	37.64	10.81					

Result in Table 6 show a calculated z-value of 2.68 which is greater than z-critical value of 1.96 at 300 degree of freedom and 0.05 level of significance. This means that respondents differ significantly in their mean ratings on the extent they utilize ICT resources in business education in universities in South-West Nigeria. The null hypothesis was, therefore, not upheld.

Null Hypothesis 3:

Respondents do not differ significantly in their mean ratings on the extent students and lecturers utilize ICT resources in business education programmes in universities in South-West Nigeria based on institution ownership (federal/state).

Data analysis for null hypothesis 3 is presented in Table 7

Table 7:

Summary of z-test analysis for the difference between the mean ratings of respondents from federal and state owned institutions on the extent students and lecturers utilize ICT resources in business education (n=302)

Institutions Ownership	N	$\bar{X}$	SD	Df	Z-cal.	Z-crit.	Alpha sig	Remark
Federal	60	37.65	10.79	300	2.11	1.96	0.05	S
State	242	35.82	10.85					

Result in Table 7 show a calculated z-value of 2.11 which is greater than the z-critical value of 1.96 at 300 degree of freedom and 0.05 level of significance. This means that respondents differ significantly in their mean ratings on the extent they utilize ICT resources in business education programme of universities in South-west Nigeria. The null hypothesis was, therefore, not upheld.

Null Hypothesis 4:

Male and female respondents do not differ significantly in their mean ratings on the extent students and lecturers perceive ICT resources utilization contributes to business education programmes in universities in South-West Nigeria.

Data analysis for null hypothesis 4 is presented in Table 8.

Table 8

Summary of z-test analysis of the difference between the mean ratings of male and female respondents on the extent ICT resources utilization contributes to business education programme (n=302)

Gender	N	$\bar{X}$	SD	Df	Z-cal.	Z-crit.	Alpha sig	Remark
Male	156	48.06	5.59	300	0.49	1.96	0.05	NS
Female	146	48.36	4.83					

Result in Table 8 show a calculated z-value of 0.49 which is less than z-critical value of 1.96 at 300 degree of freedom and 0.05 level of significance. This means that respondents did not differ significantly in their mean ratings on the extent ICT resources utilization contribute to business education programme of universities in South-West Nigeria. The null hypothesis was, therefore, upheld.

Null Hypothesis 5:

Lecturers and students do not differ significantly in their mean ratings on the extent ICT resources utilization contributes to business education programmes in universities in South-West Nigeria.

Data analysis for null hypothesis 5 is presented in Table 9.

Table 9:

Summary of z-test analysis of the difference between the mean ratings of lecturers and students on the extent ICT resources utilization contributes to business education (n=302)

Status	N	$\bar{X}$	SD	Df	Z-cal.	Z-crit.	Alpha sig	Remark
Lecturers	52	47.78	6.30	300	0.54	1.96	0.05	NS
Students	250	48.28	4.99					

Result in Table 9 show a calculated z-value of 0.54 which is less than z-critical value of 1.96 at 300 degree of freedom and 0.05 level of significance. This means that respondents did not differ significantly in their mean ratings on the extent ICT utilization contributes to quality of business education programme of universities in South-West Nigeria. The null hypothesis was, therefore, upheld.

Null Hypothesis 6:

Respondents do not differ significantly in their means ratings on the extent students and lecturers perceive ICT resources utilization contributes to business education programmes in universities in South-West Nigeria based on institution ownership (federal/state).

Data analysis for null hypothesis 6 is presented in Table 10.

Table 10:

Summary of z-test analysis of the difference between the mean ratings of respondents from federal and state owned institutions on the extent ICT resources utilization contributes to business education (n=302)

Institutions ownership	n	$\bar{X}$	SD	Df	Z-cal.	Z-crit.	Alpha sig	Remark
Federal	60	48.20	5.28	300	0.03	1.96	0.05	NS
State	242	48.20	5.22					

Result in Table 10 show a calculated z-value of 0.03 which is less than z-critical value of 1.96 at 300 degree of freedom and 0.05 level of significance. This means that respondents did not differ significantly in their means ratings on the extent ICT utilization contributes to quality in business education programme of universities in South-West Nigeria based on institution ownership (federal/state). The null hypothesis was, therefore, upheld.

Summary of findings

The major findings that emanated from the result of data analysis and interpretations are summarized as follows:

1. Business education students and lecturers of universities in South-West Nigeria utilize ICT resources at a small extent in business education programme.

2. Business education students and lecturers are of the perception that ICT utilization contributes at a great extent business education programme in universities in South-West Nigeria
3. Respondents differ significantly in their mean ratings on utilization of available ICT resources in business education programme in universities in South-West Nigeria as a result of status and institution ownership but did not as a result of gender.
4. Respondents did not differ significantly in their mean ratings on the extent to which ICT utilization contributes to business education programme of universities in South-West Nigeria as a result of gender, status and institution ownership.

CHAPTER FIVE

DISCUSSION OF RESULTS, CONCLUSION AND RECOMMENDATIONS

This chapter presents discussion of results of the study, conclusions, implications of the study, recommendations, limitation of the study and suggestions for further research.

Discussion of Results

Results of this study were discussed in this section under the following headings:

Utilization of ICT resources in Nigerian Universities

Contributions of ICT utilization to Business Education

Utilization of ICT resources in Nigerian Universities

Findings of the study showed that business education students and lecturers in universities in South-West Nigeria utilize ICT resources at a small extent as shown by cluster mean. This finding is in consonance with that of Okeke, Ezenwafor and Umoru (2013) which stated that university lecturers' utilization of ICT facilities for quality instructional delivery is significantly low. Also, finding of Akuegwe, Ntukidem, Ntukidem and Jaja (2011) revealed that extent of ICT

utilization for students' learning in Nigerian tertiary institutions is low. This finding buttressed the assertion of Okeke (2008) that although all tertiary institutions have made ICT literacy compulsory for lecturers and students, many institutions appear not to reap the potential of ICT on students learning. The finding also agreed with the report of Okolocha and Nwadiani (2015) that ICT resources are rarely utilized for teaching business education courses in both Colleges of Education and Universities in South-South Nigeria. Meanwhile, students' and lecturers' moderate utilization of some ICT resources could be as a result of their self provision and private use of some of the ICT resources for learning, teaching and research. Supporting this, Akpan (2014) reported that majority of university lecturers now have their personal laptop connected to the internet through the use of their personal modems with which they can access information, communicate quickly with both students and colleagues and also keep track of students records. Based on the findings low utilization of ICT resources could also be attributed to low level of ICT literacy among tertiary institution lecturers, poor funding by government, limited availability of ICT resources, epileptic power supply, time constraint and management attitude.

Furthermore, findings of the study revealed that male and female respondents do not differ significantly in their mean ratings on the extent students and lecturers utilize ICT resources in business education programme in universities in South-West Nigeria. This finding agrees with that of Okeke, Ezenwafor and Umoru (2013) and Ezeani and Ishaq (2015) that there was no significant difference between the mean rating of male and female respondents on their extent of utilization of ICT in tertiary institutions in Nigeria. This is at variance with the position of Vance, Weslum and Montaigner (2007) that males utilize e-learning resources than females in developed countries.

The study further revealed that status significantly influenced the respondents' mean ratings on the extent of ICT resources utilization in business education programme in universities in South-West Nigeria. This supports the position of Akpan (2014) who reported that students and lecturers differ on their opinion on the extent lecturers utilize ICT tools on a regular basis for academic work. This finding is at variance with that of Bupo and Ndinechi (2015) that there is no significant difference in the mean rating of business education students and lecturers on utilization of e-learning facilities in tertiary institution.

Moreover, institution ownership significantly influenced the respondents' mean ratings on the extent of ICT resources utilization in business education programme. This finding is in agreement with that of Akuegwe, Ntukidem, Ntukidem and Jaja (2011) that university lecturers' utilization of ICT facilities for quality instructional delivery differed on the basis of institution ownership. Similarly, finding of Okolocha and Nwadiani (2015) reported a significant difference in the opinion of business educators in colleges of education and universities regarding the extent of utilizing ICT resources in teaching business education courses. This result disclosed that lecturers in federal universities utilized ICT resources more than their counterparts in state universities. The reason could be that federal universities are better funded and catered for in terms of provision of facilities than state universities despite the low budgetary allocation to the education sector in Nigeria.

Contributions of ICT resources utilization to Business Education

Findings of the study indicated that ICT resources utilization contribute to business education programme in universities in South-West Nigeria at great extent as perceived by students and lecturers. This finding is in consonance with the finding of Fetherson in Tella

(2011) that integration of ICT into curriculum package for teaching and learning yielded a positive result for both lecturers and students. Similarly, it is in agreement with the findings of Ezeani and Akpotohwo (2014) that the role of ICT facilities in the teaching and learning of accounting education is of great extent. This result confirms the intention of government for integrating ICT into the curriculum of tertiary institution because it enhances teaching and learning in different ways. ICT based teaching and learning makes teaching easy and learning interesting. ICT provides activity based learning whereby students fully involve in teaching/learning process (Tella, 2011). In this technological era, the role of ICT in enhancing teaching and learning cannot be overemphasized which is reflected in the respondents' mean rating on extent ICT contributes to business education.

Furthermore, findings of the study indicated that gender has no significant influence on respondents' mean rating on the contribution of ICT resources to business education programme in universities in South-West Nigeria. This finding was in agreement with the study of Ezeani and Akpotohwo (2014) that ICT facilities contribute greatly to teaching and learning of accounting education courses in universities in Ekiti State irrespective of gender sensitivity. This is supported by the

finding of Hussain, Iqbal and Akhtar (2010) that teaching through technology based learning environment enhanced the achievement level of the students regardless of gender issue.

The findings of the study also, showed that lecturers and students do not differ significantly in their mean ratings on the extent ICT resources utilization contributes to business education programme in the area of the study. This supports the position of Ezenwafor, Mbaezue and Obi (2016) that lecturers and students do not differ significantly from students in their mean ratings on the extent ICTs improve teaching and learning of business education. Also, this finding was in agreement with study of Okeh and Opone (2007) who reported that respondents irrespective of status are of the view that the use of ICT leads to the production of quality graduates from our educational institutions because it helps students to be current and keep them abreast of happenings around the world. This finding is in consonance with that of Oviawe and Oshio (2011) that effective utilization of ICT facilities by teachers and universities lecturers significantly contribute to understanding and implementation of teachers education programme. In this new era, ICT are recognized as tools for the upliftment of the standard of education in curriculum management because the use of ICT to instruct students will

help them to learn better as they do not always forget what they are taught (Hussain, Iqbal and Akhtar, 2010)

Moreover, findings of the study indicated that respondents do not differ significantly in their means ratings on the contributions of ICT resources to business education in South-West Nigeria based on institution ownership. This is supported by Tella, Toyobo, Adika and Adeyinka (2007) that ICT facilities enables teacher to implement and manage teaching and learning in flexible ways and in learners' friendly learning environment while Yusuf and Onasanya (2004) noted that ICT empowers the teachers to prepare the current generation of students for future workplace.

The finding was at variance with the research work of Ezenwafor, Mbaezue and Obi (2016) that institution ownership significantly influenced the respondents' views on the extent ICT improve teaching and learning of business education in South-East Nigeria.

Conclusion

Based on the findings of this study, it is concluded that the extent of utilization of ICT resources by students and lecturers is low because they lack relevant competencies for utilizing ICT resources. The fact that

the minimal utilization was perceived by both lecturers and students to contribute to business education programme of universities in South-West Nigeria. This means that if the lecturers and students adequately possess competencies for utilizing the resources, the quality of both the programme and product will greatly improve.

Implications of the Study

The findings in this research work revealed that ICT resources utilization by students and lecturers was at a small extent, meaning that qualitative teaching and learning in Business Education programme of universities in South-West is not guaranteed. The graduates can hardly be adequately equipped with relevant ICT skills and knowledge for success in employment and competitiveness in the global workplace of the current technological era.

Besides, the state of our educational sector is nothing to be proud of due to low budgetary allocation to the sector which is less than 10 percent. This has lead to inadequate provision of instructional facilities that suppose to promote qualitative delivery of instruction, knowledge and skills to the students. Regrettably, the Nigerian budgetary allocation over the last five decades has been abysmally low and has become a

serious source of concern. Despite the fact that UNESCO has recommended that countries devote at least 26% of their annual budgets to education. This underscore the importance attached to education in developing and transforming a society.

Lastly, the intention of the Federal and State Government was to provide facilities that would promote ICT use and knowledge across all levels of education. Although this is laudable, there is no evidence yet of workable, legally approved ICT framework for the sector. In these circumstances, implementation processes would definitely be lopsided, and governed by nepotism, tribalism, and political undertones.

Recommendations

Based on the findings, conclusions and implications of this study, the following recommendations are made:

1. University management should make the environment conducive by providing ICT resources for business education programme to boost students and lecturers utilization for quality teaching and learning.
2. Universities management should engage, encourage and sponsor their business education lecturers and laboratory technologist for

re-training programmes to update their ICT knowledge, skills and competencies to effectively utilize the resources for quality instructional delivery in their programme.

3. Universities management should enter into partnership with ICT manufacturing organizations to assist in improving the supply of the resources for their academic programmes towards qualitative teaching and learning process.
4. Management of universities should develop sustainable preventive and corrective maintenance culture by servicing and repairing the available ICT resources for optimal utilization by lecturers and students.
5. Government at the federal and state level should prioritize the funding of education sector to meet up with the recommendation of UNESCO and ensure adequate procurement of ICT resources for effective educational activities in universities.
6. Government should make stringent policies to enforce and strengthen utilization of ICT resources to support learning and other programmes of universities to meet global standard of the 21st century.

7. National Universities Commission should visit accredited university a year after the accreditation of its academic programme to see that all facilities used to gain accreditation abound, in order to curb window dressing that has become the order during accreditation exercises.

Limitations of the Study

The researcher would have expanded the study to all programmes of tertiary institution and other parts of the country for a wholistic appraisal of utilization of ICT resources rather than using a zone and restrict the study to one academic programme. However, since the tertiary institutions curricular are the same all over the country, this limitation does not negate the generalization of the findings of the study especially on business education programme of Nigerian universities.

Suggestions for Further Research

The researcher suggests the following areas for further study:

1. Assessment of information and communication technology skills and competencies possessed by postgraduate business

education students for effective academic job performance in South-West Nigeria

2. Effect of using computer interactive board for instructional delivery on students' academic achievement in financial accounting in secondary schools in South-West Nigeria.
3. Assessment of the impact of information and communication technology on quality instructional delivery in business education in colleges of education in South-West Nigeria.
4. Assessment of quality assurance of university business education programmes in Nigeria.
5. Evaluation of correlation between usage of ICTs and administrative support in Nigerian tertiary institutions.
6. Appraisal of proficiency and role of ICT as a change agent for higher education in Nigeria.
7. Replication of this study in other zones in Nigeria.

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APPENDIX A

Letter of Transmittal

Department of Vocational Education
Faculty of Education
Nnamdi Azikwe University,Awka.
Date: 02/12/2015

Dear Sir/Madam

Request to complete a questionnaire

I am a Postgraduate student of the above institution conducting a research study on extent of utilization of ICT resources and its perceived contributions to business education in South-West Nigeria. As a lecturer/student of business education in my area of study, your input is very vital to a successful conduct of this study.

I, therefore, request you to assist me and complete the attached questionnaire designed for data collection for the study. Be assured that your responses will be treated confidentially and used solely for the stated research purpose.

Thank you immensely for your cooperation.

Sincerely,

Soneye, Gbolade Michael

APPENDIX B

Utilization of ICT resources in Business Education Questionnaire

SECTION A: Respondent's personal data

Instruction: Please tick (✔) in the options for items 1 to 3 below as they apply to you

1. Gender: Male [ ] Female [ ]
2. Status: Lecturer [ ] Student [ ]
3. Ownership of Institution: Federal [ ] State [ ]

SECTION B: Utilization of ICT resources in business education

Instruction: please tick (✔) in the options for all the items in sections B1-B2 below to indicate your opinion using the following keys for the options:

Options	keys
VGE	Very Great Extent
GE	Great Extent
ME	Moderate Extent
SE	Small Extent
VSE	Very Small Extent

SECTION B1: Students' utilization of ICT resources in business education

S/N	Utilization of ICT Resources	VGE	GE	ME	SE	VSE
	Please indicate the extent to which business education students utilize					
1	Word processor for typing assignment					
2	Spreadsheet for accounting calculations					
3	PowerPoint for presentation					
4	E-mail for submitting assignment and communication with lecturers					
5	Mavis Beacon software for learning keyboarding					
6	Overhead projector for presentation and micro teaching					
7	Multimedia projector for presentation and micro teaching					
8	Social media for tutorial and communication					
9	Internet to search for course materials					
10	Interactive whiteboard for presentation					

SECTION B1: Lecturers' utilization of ICT resources in business education

S/N	Utilization of ICT resources Please indicate the extent to which business education lecturers utilize	VGE	GE	ME	SE	VSE
1	Power point to plan for teaching					
2	Over head projector for delivering lectures					
3	Internet to search for course materials for teaching					
4	E-mail to assess students work/assignment					
5	Internet for tutorials					
6	Playlist aggregated objects and collection					
7	Annotation on audio visual with my story player, etc					
8	Animations applications					
9	Facsimile for lecturer-student classroom interaction					
10	Multimedia facilities in classroom management and control					
11	Film strip application as business education teaching aid					
12	Multimedia projectors					
13	Electronic organizer in processing information					
14	Tele-video conferencing in business education					

SECTION B2: Perceived Contributions of ICT resources utilization to business education by students.

S/N	ICT Contribution To Business Education	VGE	GE	ME	SE	VSE
	Please indicate the extent to which you perceive utilization of ICT resources contribute to business education					
11	Enhances productivity in business education					
12	Improves teaching effectiveness					
13	Increases productivity and professional growth of lecturers					
14	Promotes effective evaluation in business education					
15	Facilitates decision making and problem solving					
16	Facilitates collaborative efforts for quality assurance					
17	Promotes creativity among lecturers and students					
18	Improves employability potentials of students					
19	Enhances the administration of the programme					
20	Enhances the quality of research among lecturers and students					
21	Enhances global competitiveness of the graduates					
22	Enhances students practical skills acquisition					

SECTION B2: Perceived Contributions of ICT resources utilization to business education by lecturers.

S/N	ICT Contribution To Business Education	VGE	GE	ME	SE	VSE
	Please indicate the extent to which you perceive utilization of ICT resources contribute to quality in business education					
15	Enhances productivity in business education					
16	Improves teaching effectiveness					
17	Increases productivity and professional growth of lecturers					
18	Promotes effective evaluation in business education					
19	Facilitates decision making and problem solving					
20	Facilitates collaborative efforts for quality assurance					
21	Promotes creativity among lecturers and students					
22	Improves employability potentials of students					
23	Enhances the administration of the programme					
24	Enhances the quality of research among lecturers and students					
25	Enhances global competitiveness of the graduates					
26	Enhances students practical skills acquisition					

APPENDIX C

Table 1: Population distribution by University and status

S/N	INSTITUTION	LECTURERS			STUDENTS		
		MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1	Tai Solarin University of Education	7	5	**12**	59	66	**125**
2	Ekiti State University	7	3	**08**	26	57	**83**
3	Lagos State University	4	5	**09**	46	54	**100**
4	University of Lagos	6	4	**10**	39	53	**92**
5	Olabisi Onabanjo University	7	4	**11**	60	41	**101**
TOTAL		31	21	**52**	230	271	**501**

Source: academic planning unit of the universities

APPENDIX D

Table 2: Sample Distribution by Institution status and gender

S/N	INSTITUTION	LECTURERS			STUDENTS		
		MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1	Tai Solarin University of Education	7	5	**12**	25	25	**50**
2	Ekiti State University	7	3	**08**	25	25	**50**
3	Lagos State University	4	5	**09**	25	25	**50**
4	University of Lagos	6	4	**10**	25	25	**50**
5	Olabisi Onabanjo University	7	4	**11**	25	25	**50**
TOTAL		31	21	**52**	125	125	**250**

Source: academic planning unit of the universities.

APPENDIX E

Calculation of Reliability Coefficient (r) using Cronbach Alpha coefficient

Scale: ALL VARIABLES

Case Processing Summary

	N	%
Cases valid	10	95.2
Excluded[a]	0	4.8
Total	10	100.0

Reliability statistics

Croncbach's alpha	N of items
.853	10

Reliability

Scale: ALL VARIABLE

Case Processing Summary

	N	%
Cases valid	10	95.2
Excluded[a]	0	4.8
Total	10	100.0

a. Listwise deletion based on all Variables in the procedure.

Reliability statistics

Croncbach's alpha	N of items
.827	10

Reliability

Scale: ALL VARIABLE

Case Processing Summary

	N	%
Cases Valid	11	95.2
Excluded [a]	0	4.8
Total	11	100.0

a. Listwise deletion based on all Variables in the procedure

Reliability statistics

Croncbach's alpha	N of items
.758	11

Reliability

Scale: ALL VARIABLE

Case Processing Summary

	N	%
Cases valid	57	95.2
Excluded [a]	0	4.8
Total	57	100.0

Reliability statistics

Croncbach's alpha	N of items
.869	57

APPENDIX F

Q1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM1	250	2.00	5.00	3.8480	.72318
ITEM2	250	1.00	3.00	1.0560	.62645
ITEM3	250	1.00	3.00	1.2440	.60025
ITEM4	250	1.00	4.00	2.8360	.86956
ITEM5	250	2.00	5.00	3.5360	.70505
ITEM6	250	1.00	3.00	1.2560	.66982
ITEM7	250	1.00	3.00	1.2760	.65570
ITEM8	250	1.00	3.00	3.5560	.57146
ITEM9	250	1.00	3.00	3.7480	.76867
ITEM10	250	1.00	3.00	1.0440	.65035
Valid N (listwise)	250				

Q2 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM11	52	2.00	5.00	2.0392	.67127
ITEM12	52	1.00	3.00	2.0044	.73174
ITEM13	52	2.00	5.00	3.4608	.80417
ITEM14	52	3.00	5.00	2.6477	.62743

ITEM15	52	1.00	3.00	2.0562	.53814
ITEM16	52	1.00	2.00	2.3848	.49545
ITEM17	52	1.00	3.00	2.3115	.60913
ITEM18	52	3.00	4.00	2.3962	.49545
ITEM19	52	1.00	2.00	2.3808	.50450
ITEM20	52	1.00	3.00	2.4192	.61006
ITEM21	52	1.00	2.00	2.3638	.48038
ITEM22	52	1.00	5.00	2.3232	.11127
ITEM23	52	2.00	4.00	3.0938	.77357
ITEM24	52	2.00	5.00	2.4800	.93934
Valid N (listwise)	52				

Q3 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM25	250	2.00	5.00	2.5480	.72318
ITEM26	250	1.00	4.00	1.2560	.91595
ITEM27	250	1.00	3.00	2.2840	.60025
ITEM28	250	1.00	3.00	2.5360	.56717
ITEM29	250	2.00	5.00	2.5560	.70505
ITEM30	250	1.00	3.00	1.2760	.66982
ITEM31	250	1.00	3.00	2.2760	.65570
ITEM32	250	1.00	3.00	2.5860	.57146
ITEM33	250	1.00	3.00	2.8504	.76867

ITEM34	250	1.00	3.00	2.0640	.65035
Valid N (listwise)	250				

Q4 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM35	52	1.00	5.00	3.0508	1.12224
ITEM36	52	1.00	5.00	2.0049	1.10872
ITEM37	52	1.00	5.00	2.6534	1.01032
ITEM38	52	1.00	5.00	2.7539	1.23226
ITEM39	52	1.00	5.00	1.3415	1.24399
ITEM40	52	1.00	5.00	2.4386	1.06925
ITEM41	52	1.00	5.00	2.3815	0.95920
ITEM42	52	1.00	5.00	1.3823	1.12744
ITEM43	52	1.00	5.00	1.4777	1.16170
ITEM44	52	1.00	5.00	2.3246	1.06695
ITEM45	52	1.00	4.00	2.0426	0.86907
Valid N (listwise)	52				

Q5 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM46	250	1.00	4.00	3.5880	.85626
ITEM47	250	3.00	5.00	4.0640	.67952

ITEM48	250	3.00	5.00	4.0080	.57381
ITEM49	250	3.00	5.00	3.9960	.34125
ITEM50	250	2.00	5.00	3.9200	.62221
ITEM51	250	2.00	5.00	4.1280	.68812
ITEM52	250	2.00	5.00	3.9240	.78530
ITEM53	250	2.00	5.00	4.1440	.77308
ITEM54	250	2.00	5.00	3.9560	.83718
ITEM55	250	2.00	5.00	3.8600	.81181
ITEM56	250	2.00	5.00	4.1440	.75201
ITEM57	250	2.00	5.00	4.0120	.67355
Valid N (listwise)	250				

Q6 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM46	52	1.00	4.00	4.2562	.86907
ITEM47	52	3.00	5.00	4.0569	.68158
ITEM48	52	3.00	5.00	4.2392	.57702
ITEM49	52	3.00	5.00	4.2400	.34300
ITEM50	52	2.00	5.00	3.9231	.62139
ITEM51	52	2.00	5.00	4.1546	.68682
ITEM52	52	2.00	5.00	3.9631	.78830
ITEM53	52	2.00	5.00	4.1538	.77674
ITEM54	52	2.00	5.00	3.9615	.83927
ITEM55	52	2.00	5.00	3.8644	.81719
ITEM56	52	2.00	5.00	4.1538	.75107
ITEM57	52	2.00	5.00	4.0192	.67127

Q6 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM46	52	1.00	4.00	4.2562	.86907
ITEM47	52	3.00	5.00	4.0569	.68158
ITEM48	52	3.00	5.00	4.2392	.57702
ITEM49	52	3.00	5.00	4.2400	.34300
ITEM50	52	2.00	5.00	3.9231	.62139
ITEM51	52	2.00	5.00	4.1546	.68682
ITEM52	52	2.00	5.00	3.9631	.78830
ITEM53	52	2.00	5.00	4.1538	.77674
ITEM54	52	2.00	5.00	3.9615	.83927
ITEM55	52	2.00	5.00	3.8644	.81719
ITEM56	52	2.00	5.00	4.1538	.75107
ITEM57	52	2.00	5.00	4.0192	.67127
Valid N (listwise)	52				

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
H1	MALE	156	37.2372	10.55927	.84542
	FEMALE	146	38.3767	11.09280	.91805

Group Statistics

	STATUS	N	Mean	Std. Deviation	Std. Error Mean
H2	LECTURERS	52	37.5000	10.96071	1.51998
	STUDENTS	250	37.8480	10.80871	.68360

Group Statistics

OINST	N	Mean	Std. Deviation	Std. Error Mean

H3	FEDERAL	60	37.6500	10.79206	1.39325
	STATE	242	35.8223	10.84584	.69720

Group Statistics

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
H4	MALE	156	26.6410	2.52203	.20192
	FEMALE	146	26.7603	2.48111	.20534

	STATUS	N	Mean	Std. Deviation	Std. Error Mean
H5	LECTURERS	52	26.3462	2.48039	.34397
	STUDENTS	250	26.7720	2.50141	.15820

Group Statistics

	OINST	N	Mean	Std. Deviation	Std. Error Mean
H6	FEDERAL	60	26.6333	2.54430	.32847
	STATE	242	26.7149	2.49258	.16023

Group Statistics

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
H7	MALE	156	48.0577	5.59290	.44779
	FEMALE	146	48.3562	4.83056	.39978

Group Statistics

	STATUS	N	Mean	Std. Deviation	Std. Error Mean
H8	LECTURERS	52	47.7885	6.30075	.87376
	STUDENTS	250	48.2880	4.99126	.31568

Group Statistics

	OINST	N	Mean	Std. Deviation	Std. Error Mean
H9	FEDERAL	60	48.2000	5.28445	.68222
	STATE	242	48.2025	5.22962	.33617

Note: The mean rating and Standard deviation of each group as shown in all the above were apply in calculating the Z-test value using the formula below:

$$Z = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{SD_1^2}{N_1} + \frac{SD_2^2}{N_2}}}$$