KWARA STATE UNIVERSITY, MALETE, NIGERIA

SCHOOL OF POSTGRADUATE STUDIES (SPGS)

UTILIZATION OF NEW TECHNOLOGY SKILLS BY BUSINESS EDUCATION TEACHERS FOR TEACHING IN COLLEGES OF EDUCATION

Manyahaya ADAM

18/27/MBE001

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A MASTERS THESIS SUBMITTED

By

Manyahaya ADAM

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NIGERIA

JULY, 2022

DECLARATION PAGE

I hereby declare that this Thesis titled "Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education" is a record of my research. It has neither been presented nor accepted in any previous institution for higher degree.

Manyahaya ADAM
Researcher

_____
Signature / Date

APPROVAL PAGE

This is to certify that this thesis by Manyahaya ADAM has been read and approved as meeting the requirements of the Department of Business and Entrepreneurship Education, for the award of the degree of Master of Science Education in Business Education.

Prof. Ganiyu T. Oladunjoye Supervisor	_____ Signature / Date
Dr. Joshua S. Mamman Co-Supervisor	_____ Signature / Date
Ass. Prof. Ngozi B. Nwabufo Head, Department of Business and Entrepreneurship Education	_____ Signature / Date
Ass. Prof. Stephen O. Afolabi Internal Examiner	_____ Signature / Date
Prof. (Mrs) Ezeani N. Salome External Examiner	_____ Signature / Date
Prof. Hamzat I. AbdulRaheem Dean, School of Post Graduate Studies (SPGS)	_____ Signature / Date

DEDICATION

This Thesis report is dedicated to my parents Late Alhaji Adam Isa and Hajia Salimat Kashi Adam

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Abstract

This study examined the utilization of new technology skills by business education teachers for teaching in colleges of education in Kwara State. To facilitate the conduct of the study, four specific purposes and four research questions were developed and answered while four research hypotheses were formulated and tested. Survey research design was used to carry out this study. The population of the study consisted of 71 business education teachers from eight colleges of education in Kwara State. The researcher used the entire population for the study, hence, there was no sample. A 40 items questionnaire tagged Utilization of New Technology Skills by Business Education Teachers for Teaching Questionnaire (UNTSBETTQ) with 4-point rating scales was the instrument used for data collection. The instrument went through face and content validation by three experts. The reliability of the instrument was ensured using the Cronbach Coefficient Alpha and the result yielded a reliability coefficient of 0.71. The data collected were analyzed using mean and standard deviation. The mean was used to answer the research questions while the standard deviation was used to determine the closeness or otherwise of the responses from the mean. The null hypotheses were tested using independent sample t-test and One-way Analysis of Variance at 0.05 level of significance. Hypotheses one and three were tested using t-test while hypotheses two and four were tested using ANOVA. Presentation and analysis of data were made by the use of tables. The result revealed that business education teachers utilized internet technology skills (mean = 3.28, SD = 0.60), mobile technology skills (mean = 3.28, SD = 0.62), interactive technology skills (mean = 3.20, SD = 0. 70) and broadcast technology skills (mean = 3.19, SD = 0.68) for teaching in colleges of education. The study further revealed that there was no significant difference in the mean responses of business education teachers on the utilization of new technology skills for teaching in colleges of education based on gender and their years of experience (t_{69} = 0.619, P>0.05) and *($F_{3.67}$ = 1.049; P>0.377) respectively*. *It was concluded that the responsibility of the teacher in any circumstance is the education of the students; and if the students are to receive the best type of skills, when the teachers possess and utilize the best type of skills. Based on the findings and conclusion of the study, it was recommended among others that colleges of education authorities should take the issue of teachers development and re-training with all the seriousness it deserves by organizing workshops, seminars, conferences and in-service training for teachers of business education to acquire more new technology skills. The authorities should also supervise the teacher development or re-training programme to ensure that the identified new technology skills are integrated into the programme for effective utilization in the teaching and learning process.*

CHAPTER ONE

INTRODUCTION

Background to the Study

Educational programmes are often designed to equip the students with needed skills, knowledge, attitudes and capabilities to be useful in life and society at large. Several educational reforms and efforts have also been made in achieving objectives of education in Nigeria. For these goals and objectives to be achieved, the competencies/skills of the business education teachers in the teaching and learning process are therefore paramount. Education is one of the most important needs for the well-being of individual and that of the society. Thus, education is a powerful instrument of social, political, and economic progress without which neither an individual nor a society can attain professional growth. Information and Communication Technology (ICT) could make the schools more efficient and productive, by organizing a variety of tools to enhance and facilitate teachers' professional activities. Tertiary institutions with their core missions of creating, adopting and disseminating knowledge are expected to provide more and better educated individuals with better professional skills, more enterprising skills and willingness to make things happen. Business education programme has strong formative influence on the attitudes and behavior of the recipients. Business education has evidently come a long way from its infancy as an off shoot of the apprenticeship system to its current evolution as a technology driven formal system designed to give learners information for and about business.

The acquisition, possession and utilization of relevant new technology skills by the business education teachers are imperative as observed by Onojetah (2014). Hence, business education professionals agreed that utilization of relevant new technology skills by teachers have

the prospects for improving teaching and learning of business education as well as enhancing the recipients' productivity. It is also evident as agreed by Amiaya (2016) that the traditional educational environments are not suitable for preparing learners to function or be productive in the workplace in today's society. Therefore, educational institutions that fail to incorporate acquisition of new technology skills into their programme cannot seriously claim to prepare their students for life in this 21st century technology driven economy.

Effective business education in institutions of higher learning require teachers' efficient acquisition of relevant new technology skills to enable them impart in students, the necessary business skills needed to operate in the modern business society. Omotayo and Umoru (2015) identified new technology skills for effective business education as follows: word processing skills, internet skills, computer software, spreadsheets, database, electronic presentation, e-mail management, digital cameras, file management, window explorer, video conferencing, installing computer software, scanner knowledge and other related storage device. Information and Communication Technologies have the potential to innovate, accelerate, enrich, and deepen skills to motivate and engage students to help relate school experience to work practices, create economic viability for tomorrow's workers as well as strengthening teaching and helping institutions change. Pedagogy through the application of Information and Communication Technologies have the advantage of high motivation, help in recalling previous learning, providing new institutional stimuli, activating the learner's response, providing systematic and steady feedback, facilitating appropriate practice and sequencing learning appropriately and providing a viable source of information to enhance learning.

New technology skills in business education programme according to Achugbue (2011) have posed many challenges to business educators in Nigeria. The researcher further opined that

business education in colleges of education would achieve the goals of teaching if such modern technological teaching aids like computers, electric typewriters, television sets, projectors, internet facilities, among others are adequately provided and utilized for teaching. Many colleges of education do not give adequate priority and attention to the acquisition and utilization of new instructional technology skills needed for teaching and learning. The dearth of these facilities makes it difficult to teach and prepare business education students for the use of new technologies now and in future careers. New technology skills in teaching and learning in business education programmes, according to Ezenwafor (2012) include: the use of broadcast materials or CD-Rom for information collection and storage, micro-computers with soft-ware applications to write or produce documents, skillful key-boarding, E-mail and messaging, internet browsing using search engines, windows messenger, yahoo chat room, using opaque projectors, slide projectors and multimedia projectors, utilizing e-banking, e-commerce, e-economies, and utilizing different computer software, and applications such as word processors, spreadsheets, power-point, desktop publishing, and graphics among others. Other technological devices available for teaching and learning according to Osuala (2009) include media typewriter or processor, video tape recorder, sound on pepper system, e-commerce, advanced calculators, dial access system, digital library, individual audio application and audio-visual retrieval system.

Although these technology skills are not new in many advanced countries, as in Nigeria. With automation and organizational restructuring in today's workplace that require adequate competency in handling office equipment for better writing, editing of letters, documents, memos and reports. Olaitan, Alaribe and Eze (2010) observed that as a graduate of business education you do not just need the theoretical knowledge of word processing for the work but

should be able to carry out duties practically, efficiently and effectively towards achieving the objectives of the organization and that of the nation. These new technology skills are internet technology skills, broadcast technology skills, mobile technology skills, and interactive technology skills. The utilization of these skills by business educators for effective teaching and learning process become imperative.

The internet is a computer-based global information system. It is composed of many interconnected computer networks. Each network may link tens, hundreds, or even thousands of computers, enabling them to share information. The utilization of internet technology skills have made it possible for people all over the world to communicate with one another effectively, inexpensively and to have free access to useful data for further processing. Internet technologies are constantly improving and are able to speed up the information highway. With the technologies powering the internet, speeds are faster; more information is available and processed. Internet technology skills have changed, and will continue to change the way the world does business and how people interact in daily life (Anucha, 2017). Bedesem and Amer (2018) viewed mobile technology skills as ability to use portable electronic devices that accept, process, and store data at high speeds (e.g, smart phone, tablets computing application software that facilitates access to, and sharing of information on portable hand-held internet-capable wireless computing devices (hardware).

Hobbs (2010) opined that teacher-students' interaction can be facilitated by interactive digital media. Interactive technology skills refers to ability to use the products and services of digital-computer based systems which respond to the user's actions by presenting content such as text, moving image, animation, video, audio and games. Borup and Graham (2013) viewed interactive technology skills as the integration of digital media including combination of

electronic text, graphics, moving images, and sound into a structured digital computerized environment can include the internet, telecoms and interactive digital television. The presence of innovations in new technologies has created a glaring need for business education teachers to acquire more new technology skills and utilized them in order to bring up the caliber of graduates that will fit squarely into the modern challenging work trends.

The broadcast technology skills for teaching include the use of audio and video tapes, audio and video disks, radio, television, digital audio (web and CD based), digital video (web and CD based), films and videos,, live streaming audios and videos (webcast), interactive radio instruction, satellite radio and television, online digital and video files (podcast or net cast). Mobile technologies include but not limited to general packet radio service (GPRS), multimedia messaging service (MMS), Bluetooth, 3G, wireless fidelity (Wi-Fi), global position system (GPS), CLI, wireless application protocol (WAP), and short messaging services (SMS) that when used will improve the teaching and learning of business education.

Business education is defined by different scholars in different ways. Nwagwu and Azih (2016) described it "as a vocational programme that equips the recipients with skills, attitudes, knowledge and understanding needed for effective participation and contribution as producers and/or consumer's education prepares individuals who will adequately participate in business activities and also equip individuals with business knowledge and skills". It is a form of vocational education that is directed towards developing the learner to become productive in teaching, paid employment and self – employment (Amoor, 2010).

However, Onokpaunu, (2016) described business education as that aspect of general education that prepares students for employment and advancement in a broad range of office occupations, accounting professions, marketing occupation, teaching profession and

entrepreneurship ventures. Thus, business education helps individual to acquire saleable skills that will enable him/her fit into various business organizations or be self-employed in the absence of paid employment. Business education prepares its recipients to acquire viable skills that will enable them fit into various business organizations or be self-employed in the absence of paid job (Oladunjoye, 2016). On the other hand, Nwachukwu, (2012) saw business education as an umbrella name concerning those educational processes involving the study of techniques, related science and acquisition of practical skills, attitudes and knowledge relating to occupation in vocational sectors of the economic and social life of people.

The current business education curriculum in Nigeria as observed by Okoli, Ohaegbulem and Oduma (2011) is highly theoretical and rhetorical in nature. Thus, the graduates of business education programs lack the skills and competencies needed for actual performance in the office or work place. Sometimes ago, blended teaching was developed as a result of its flexibility with technology resulting in interactions between the business education teacher and students. However, e-learning which affords learners opportunity to interact with expert always is to be blended with face to face by the teacher for proper understanding. E- Learning has been introduced in business education to facilitate learning. This is a new technology tool for improving teaching and learning of business education (Utoware & Kren- Ikidi, 2014).

A look at the curriculum of business education in many Nigerian colleges of education reveals that Microsoft excels, database management, basic computer networking, desktop publishing, web page design and others seems not to be included in their business education curriculum (Azih, 2011). One then wonders how the graduates from such programme can face the current office challenges. In fact, Anioke (2013) observed that there is a wide gap between what is studied in Nigerian tertiary institutions and the requirement of the industries in today's

cooperate organizations. Business education is offered in the faculties of education of universities, colleges of education and few polytechnics. In spite of the great impact and general usage of the new innovation in teaching and learning worldwide. Many colleges of education in Nigeria are still using the old methods of teaching; the government has not made any significant effort to integrate the new technologies into school curriculum (Onyesom & Utoware, 2012). Lecturers in business education at colleges of education still depend on traditional or conventional teaching method, emphases have been on lectures and presentations with tutorials and learning activities designed to consolidate and rehearse the content (Onyesom, 2014). Teaching and learning of business education have gone beyond teacher-centered passing instructions to the learners without much participation of learners. For teacher to avoid this he/she needs to understand teaching competencies, skills, principles, techniques, methodologies and so on for effective and efficient teaching-learning process of business education.

Experienced business education teachers as used in this study covered business educators employed and that have taught for over 16 years in colleges of education with vast skills to use new technologies for teaching and learning of business education, while less experienced business education teachers are business educators employed and that have taught for less than 15 years in college of education with vast skills to use new technologies for teaching and learning of business education.

The male business education teachers are business educators that are men whether experienced or less experienced while female business education teachers are women whether experienced or less experienced in utilization of new technology skills for teaching and learning of business education in colleges of education.

Statement of the Problem

Attention is presently shifting to the new trends in teaching and learning process. This new trend has also affected business education teachers in colleges of education with the advent of new technologies. This has added additional responsibilities to teachers and students of business education, particularly in the acquisition and utilization of relevant new technology skills for teaching and learning in order to make business education graduates acquire necessary skills needed for the world of work. However, Okoli and Wagbara (2016) observed that many of the teachers possessed new technology skills but do not utilized it for effective and efficient teaching and learning process of business education. New technology skills, which include internet technology skills, broadcast technology skills, mobile technology skills, and interactive technology skills, are not utilized by business education teachers for teaching in colleges of education in Nigeria.

Chukwumerije (2012) observed that the incorporation of ICT in teaching business education courses has not made much impact in the skill acquisition of the learners. This may be due to lack of utilization of relevant new technology skills for teaching purpose by the teachers. Some lecturers are not skilled in using new technologies in teaching the students. This is why such lecturers prefer to stick to the traditional methods of teaching. This can be supported by the view of Daramola (2014) who stated that "for business education lecturers to grow professionally and remain relevant, they must possess relevant skills to use new technologies for teaching".

The problem of this study is that many business education teachers possessed new technology skills but seems not utilized it for teaching and learning process of business education

programme in colleges of education since many business education teachers/lecturers possessed relevant new technology skills and knowledge that are appropriate in imparting the right skills that are needed to operate in present day highly automated business world.

Purpose of the Study

The main purpose of this study was to examine the utilization of new technology skills by business education teachers for teaching in colleges of education. Specifically, the study examined the following:

1. The extent of utilization of internet technology skills by business education teachers for teaching effectiveness in colleges of education.
2. The extent of utilization of mobile technology skills by business education teachers for teaching effectiveness in colleges of education.
3. The extent of utilization of interactive technology skills by business education teachers for teaching effectiveness in colleges of education.
4. The extent of utilization of broadcast technology skills by business education teachers for teaching effectiveness in colleges of education.

Research Questions

Based on the specific purposes of the study, the following research questions were answered by the study.

1. To what extent do business education teachers utilized internet technology skills for teaching effectiveness in colleges of education?
2. To what extent do business education teachers utilized mobile technology skills for teaching effectiveness in colleges of education?

3. To what extent do business education teachers utilized interactive technology skills for teaching effectiveness in colleges of education?
4. To what extent do business education teachers utilized broadcast technology skills for teaching effectiveness in colleges of education?

Research Hypotheses

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

H_{01}. There is no significant difference between the mean responses of male and female business education teachers on the utilization of internet technology skills for teaching in colleges of education.

H_{02}. There is no significant difference in the mean responses of business education teachers on the utilization of mobile technology skills for teaching in colleges of education based on their years of experience

H_{03}. There is no significant difference between the mean responses of male and female business education teachers on the utilization of interactive technology skills for teaching in colleges of education.

H_{04}. There is no significant difference in the mean responses of business education teachers on the utilization of broadcast technology skills for teaching in colleges of education based on their years of experience.

Significance of the Study

If the findings of this study are published in local and international journals, it is the hope of the researcher that the findings of this study would be of significant benefits to the teachers of business education, Students of business education, curriculum planners, policy makers, future scholars and researchers, educational institutions, government and others.

The outcome of the study would be of relevant importance and values to the teachers of business education because their collective utilization of new technology skills would enable teachers to produce competent and successful business education graduates. This would serve and stimulate business educators to make use of new technologies for teaching as this will quicken students understanding and make teaching an interesting profession.

Business education students would also benefit from this study because it would foster collaborative learning and cement connections between formal and informal learning. With this development students will be able to appreciate the potentials of the new technology skills for teaching computer appreciation, data processing, word processing and office technology management in the business education curriculum and understanding the different situations to use these skills in solving business or office problems. It would equally re-direct student's orientation towards hard work, self-employment, encourage independence and self-actualization.

Business education curriculum planners would benefit from the findings of the study because it will useful in specifying appropriate content with regards to new technologies that will improve the competency needs of the business educators and aspirations of the Nigerian business environment. It would help them to appreciate the need to consult and involves different agent of education in curriculum planning.

It is further assumed that policy makers in Nigeria educational system would equally benefit from the results of the study because they would appreciate the potentials in the use of new technologies for teaching. They would also appreciate the need to formulate and ensure proper implementation of policies that will encourage and enhance ICT skills.

The researcher hopes that business teacher training institutions would also benefit from the outcome of this study because it would expose them to new technology skills needed by Business Educators in using mobile technology, interactive technology, internet technology and broadcast technology skills for teaching. This will enable the training institutions to focus their training on desired skills that are required for teaching.

Hopefully, future scholars and researchers would benefit from the findings of the study because it would serve as a guide for the conduct of further studies on the new technology skills needed for teaching and learning of business education. It would equally be an important addition to knowledge in the subject area.

Scope of the Study

This study was restricted to the utilization of new technology skills by business education teachers for teaching in colleges of education in the following aspects of technology skills, namely; internet technology, mobile technology, interactive technology and broadcast technology skills. The choice of these four aspects of new technology skills for teaching business education was predicted on the provisions of curriculum based on the minimum standard for Colleges of Education (NCCE, 2020).The study was conducted with 71 business education teachers in eight public and private Colleges of Education in Kwara State offering business education . The researcher chooses these colleges of education because of human resources and facilities available.

Operational Definition of Terms

The following terms were operationally defined as used in the study:

Business Education Teachers: These are the professionally trained business educators.

Broadcast Technologies: Tools or devices that allow distribution of teaching content to dispersed audiences via any audiovisual medium.

ICT: This is Information and Communication Technology which refers to all the technology used to handle telecommunication, broadcast media, intelligent building, management systems, audiovisual processing and transmission system and network-based control.

Skill: It is the proficiency displayed by teacher in the performance of a given task.

Interactive Technologies: Tools and devices that allow for a two-way communication for teaching content creation or manipulation for appropriate purposes such as the interactive white board, web 2.0 technologies, individual response pads, interactive multimedia and interactive forms.

Internet Technologies: The complex of hardware and software means of providing internet operation for teaching.

Mobile Technologies: Tools, and devices that can be easily used to send teaching contents such as mobile phones, tablet computers, e-readers and portable audio player.

New Technologies: Tools, devices or equipment that offer a significant improvement on teaching or instructional delivery.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter discussed related literatures on new technologies for teaching and learning. The chapter was presented under the following sub headings:

- Theoretical Framework
- Diffusion of Innovations Theory by Rogers (2003)
- Skill Acquisition Theory by Robert Dekeyser (2007)
- New Technology Skills
- Concept of Business Education
- Internet Technology Skills
- Mobile Technology Skills
- Interactive Technology Skills
- Broadcast Technology Skills
- Review of Related Empirical Studies
- Appraisal of Reviewed Literature

Theoretical Framework

Theoretically, this study was based on Rogers's diffusion of innovations theory (2003). Rogers' theory is a widely used theoretical framework in the area of technology diffusion and adoption. Mustafa and Al-Mothana (2013) opined that diffusion of innovations theory is the most appropriate for investigating the adoption and utilization of technology in education. Rogers (2003) usually used the word "technology" and "innovation" as synonyms. He stressed that, adoption is a decision of full use of an innovation as the best course of action available and rejection is decision not to adopt an innovation.

The adoption as decision process requires that the potential researcher collects information regarding the technology, examines the technology, and considers 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 and competencies (Rogers, 2003). Therefore, people tend to explore the new technology and experience how effectively it would work in their activities before accepting or rejecting those technologies (Rogers, 2003). This theory tries to explain how an innovation, which may be about an idea, behavior, or object, is adopted for teaching. 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 (Robinson, 2009).

Adoption of a new technology can be achieved through considering five qualities related to the technology (Rogers, 2003). These five qualities are:

1. Relative Advantage: The greater the realized relative merit of technology, the quicker its rate of adoption is likely to be;
2. Compatibility: It refers to the degree to which a technology is perceived as being consistent with the values, past experiences and the needs of possible adopters;
3. Simplicity and Ease of Use: New ideas that are simpler to understand for the potential adopter are adopted more rapidly than technologies that require the adopter to develop new skills and understandings.
4. Trial Ability: It refers to the degree to which a technology can be experimented with on a limited basis;
5. Observable Results: The easier it is for individuals to see the results of a technology, the more likely they are to adopt it.

Rogers' diffusion of innovation theory gives an insight into human attitude towards the adoption of technology. It points out the key elements in technology adoption as the technology itself, communication channel, time, and social system. The theory goes further to highlight uncertainty as an important obstacle to the adoption of an innovation, and suggests that for uncertainty to be reduced, individuals should be well informed about its advantages and disadvantages to make them aware of all its consequences. The theory notes that of all the communication channels available, interpersonal channels are more powerful to create or change a strong attitude held by an individual. More so, it highlights the major enablers to the adoption of an innovation as technical assistance and opportunity for trial of innovation. It puts forward five characteristics of innovation as relative advantage, compatibility, complexity, trial ability, and observe-ability and adds that individual's perception of these characteristics predicts the rate of adoption of innovations. In essence, the Roger's diffusion of innovation theory helps to understand the desires and main behavior of teachers in the adoption and utilization of new technologies. It equally indentifies how new technologies influence the teaching and learning processes by promoting pedagogical innovation that will initiate creativity and problem based learning skills in students' academic pursuit.

The theory is equally relevant to the study because it helps in the integration and utilization of new technologies in the teaching and learning of business education thereby transforming pedagogy. Shifts in pedagogy include a move to problem based or investigative learning, which not only requires learners to assume increasing responsibility learning process, but also requires teachers to surrender the type of control over the learning process that they have in conventional pedagogy. Not only have the theoretical knowledge of his work but should be

able to carry out the duties practically, efficiently and effectively towards achieving the objectives of the teaching profession, the school and the nation.

Skill Acquisition Theory

Another theory which is important to this study is skill acquisition theory. The theory was developed by Robert Dekeyser in 2007. The theory postulated that development in knowledge has three stages: declarative, procedural and automatic. Declarative knowledge refers to explicit knowledge about a topic; procedural knowledge is implicit knowledge that refers to behavior. And automaticity occurs towards the end point of extensive practice; towards the point at which one has become a full-fledged expert in performing a task. From the perspective of skill acquisition theory, the sequence of these stages is crucial as it is an appropriate combination of abstract rules and concrete examples at the declarative stage. The theory relates to this study in the sense that skill acquisition is task oriented and there is need to diagnose a task and break it down into its components in order to provide effective feedback. When it is not possible to conceptualize a task, then feedback becomes considerably effective. The theory if adopted for teaching skill subjects will be helpful to learners as it follows the stages of learning a skill. The cognitive phase requires the identification and development of component parts of the skill which involves formation of a mental picture of the skill. Then through practicing the various components of the skill will be linked together and constant practice will make the skill become automatic.

Skill is an ability to translate knowledge into action that results in the desired performance. Okoli (2013) defined skills as the economic tools with which entrepreneurs acquire and solve societal problems. Essential skills have been classified into three categories namely, technical, human and conceptual skills. Technical skills are the ability to use a special

proficiency or expertise relating to a method, process or procedure. Example; accountants, computer operators, typists, possess technical skills acquired through formal education.

Human skill is the ability to work well in cooperation with other persons. It emerges as a spirit of trust, and enthusiasm and genuine involvement in interpersonal relationship. A person with good human skills will have a high degree of self-awareness and capacity to understand and empathize with the feelings of others. Seeing the noble work of a teacher, human skills are critical for all business education teachers. Conceptual skills are drawn heavily on one's analytical and diagnostics capacities to identify problems and opportunities, gather and interpret relevant information, and make good problem solving. For a skill to be acquired, the learner should be exposed to the relevant activities embodying the skill. In the areas of business education teachers' ICT skill acquisition, emphasis should be placed on the teachers exposure to the relevant skills needed to enable them develop procedures, instructions that are matched with performance activities (Ibelegbu, 2013).

New Technology Skills

'Technology' is one of the most misunderstood words in our language, particularly when applied by educators to education. The misunderstanding is caused by a failure to view technology as a process at a sufficiently high level of abstraction. Business educators tend to define technology by its obvious manifestation; machines. It is an easy step from this to the simplistic view that if we have machines, we are using technology; and if we haven't machines we are not engaged in a technological process.

Technology according to Hycinth (2013) is the study, development, and (scientific) application of devices, machines and technologies for productive purposes. Similarly, Atakpa (2013) opined that technology involves the use of machines in getting things done. It is a general term used for the processes by which humans beings fashion tools and machines to increase their

control and understanding of the material environment. Ibezim (2013) viewed technology as the making usage and knowledge of tools, machines, technologies, crafts, systems or methods of organization in order to solve a problem or perform a specific function. It can refer to the collection of such tools, machinery and procedures involved in meeting the need. In the context of this study, technology refers to all the methods, tools, machinery and procedures that will enhance teaching of business education. As some of these technologies are becoming old, others are emerging with more complexities of operation and application.

However, technology as used in business and in education is the application of scientific knowledge and tools to solve practical problems. It takes the form of information technology whereby facts or details about something (information) are transmitted by various methods to solve varieties of problems (Olayanju, 2016). Morrison, Ekwue and Crossdale-Ovwido (2014) viewed technology as innovation in human creative exploration and exploit aimed at advance human society for a meaningful life in his environment. Towing the same part, David and Gushi (2010) explained that technology is the application of data, principles and theories of science and the manipulation of the world around us for the purpose of obtaining practical solutions to human problems. Technology therefore can be seen as the human creative exploration and application of concepts, principles, processes and procedures for improvement of human life in the world around him. For the achievement of the above, there must be improved knowledge, wisdom, skills and understanding of the indices that imply technology.

Sokyes, Bauda and Zakka (2013) stressed that the proper definition of technology which educators must keep in mind when applying the term ‘educational practice’ is that “technology means the systematic application of scientific or other organized knowledge to practical task. Its most important consequence, at least for the purpose of economics, is in forcing the division and

subdivision of any such task into its component parts. Thus, can organized knowledge be brought to bear on performance". Using this definition, it is clear that educational technology may be applied at all levels of educational in practice as an approval to solving practical problems from the application of technology in planning the educational system as an emerging nation to preparing a module of programmed instruction in order to achieve a behavioral objective.

From the perspective of business education, technology can be seen as the application of scientific method to solving problems regarding impartation of skills to learners to meet the changing needs and demands of the society (Nedum-Ogbede, 2016). Technology is a multi-faceted phenomenon in material created and advanced by man to free himself from endearment by nature, but which, when undisciplined, enslaves its own creator. This implies that 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.

Meanwhile, the term 'New Technology' originated from earlier terms such as information technology and information and communication technology, which deals with accessing, gathering manipulating and making available or communicating information. Such technologies can be found in a host of devices, software application, computers and connectivity, as in access to internet, local networking, teleconferencing, among others (Ojohwoh, 2014). Technologies as used in this study refer to the plural form even through technology as a word can equally be used in generic term. Olayanju (2016) reported that new technology skills are any set of productive techniques which offer a significant improvement (whether measured in terms of increased output or saving costs) over the established 'technology' for a given process in a specific historical context. Defined thus, what is seen as 'new' is obviously subject to continual redefinition, as successive changes in technology are undertaken.

Amiaya (2014) defined new technology skills as "usage of modern equipment useful in solving problems". The author said that business teachers would achieve goals of teaching if such modern technological teaching aids (computers, projectors, internet access, television sets, radio and recorder to mention a few) are adequately available and utilized in the teaching and learning process. Adakole and Lasisi (2017) argued that every teacher is expected to use new technology skills to enhance teaching and learning of all subjects because they engaged the learners during the lesson and make them active participants in the instruction process.

The new technology skills therefore, imply new exploration and application of concepts, principles and processes for the improvement of human life. For the teacher, the new technologies represent a multitude of changes. In the old system, the teacher's role was fairly well standardized and accepted. In the new system, the teacher's role must be redefined in order to utilize the changing technology.

The use of new technology skills for pedagogical delivery has undoubtedly affected teaching, learning and research. The integration of these technologies into the school system can help revitalize teachers and students alike (Olise, 2014). New technology skills have been found to possess the capacity to improve teaching and learning in the school. They have the great potential to support education across curriculum (business education curriculum inclusive) and this provides opportunities for an effective, communication between teachers and students in ways that have not been possible before (Utoware, Ken-Ikidi & Apreala, 2016). The application of the new technology in educational setting by itself acts as a catalyst for change in this domain and by their nature are tools that encourage and support independent learning, thereby giving way to new scenarios which favor both individual and collaborative learning. Many researchers have asserted that the use of new technologies help students to become more knowledgeable;

thereby reducing the amount of direct instruction given to students and also give the teachers the opportunity to provide personalized help to students with special needs. (Onojetah, 2014; Olayanju, 2016; Okoro, 2016).

However, Onyesom (2014) asserted that three conditions are necessary for teachers to introduce the new technology skills into their classrooms: teachers should believe in the effectiveness of new technologies, teachers should believe that the use of new technologies will not course any disturbances and finally teachers should believe that they have control over technology.

New technology skills in business education have also posed many challenges to business educators globally. Series of studies conducted by various researchers revealed that schools do not adequately embrace the acquisition and utilization of new instructional technologies in business education (Ido & Asuquo, 2014; Ojo & Akhademe, 2016). The schools are faced with the problems of inadequate computer laboratory, inadequate computer systems, inadequate facilities and other modern teaching aids. Therefore the inadequacies of these technological tools make it difficult to teach and prepare students for use of these technologies. Added to the problem of inadequate facilities is the lack of skills or capacity on the part of the teachers. Ajie-Uche and Jumbo, (2016) observed that most Nigerian teachers lack basic skills and competencies required for effective use of new technology skills for teaching. The case of business education teachers is not an exception.

Ezeani and Ogundola (2016) added that teachers do not adequately measure if their students are actually learning new relevant skills and behaviors and place enough emphasis on building critical skills and abilities (such as self-awareness, integrity, cross-cultural competency, team execution, comfort with ambiguity and uncertainty). The overemphasis laid by teachers on

theory instead of concentrating more on stimulating real life experience is also a major challenge. This implies that teachers should be cable of inculcating in the students, what is actually needed by the employers in the labour markets rather than teaching the students' theory and object ideas.

Concept of Business Education

Business education is an academic discipline and a programme basically for skill acquisition, vocational and competency. It is a multi-various discipline which includes commerce, typewriting, shorthand, accounting, marketing, office practice, management etc, all these aforementioned courses are carried out consciously or unconsciously on a daily basis. In fact, it is the measurement of it that determines the direction of a nation economy progress and advancement. Mamman and Nwabufo (2014) defined business education as a programme of instruction which offers specialized instruction for office occupation and general business orientation which is capable of transforming the nation. Ajani (2016), viewed business education as a broad based business programme having a composite of course in general education, basic business which represents a broad and diverse discipline that includes in all types of educational delivery system. On the other hand Iwuoha and Peter (2019) also viewed business education as a component of vocational education which involves the acquisition of skills, knowledge and competence which make its recipients or beneficiaries proficient. Business education comprises activities that are aimed at planning, teaching, and developing through a variety of experiences that provide and improve the individual with the ability of influencing the environment and enhancing living through vocations that boost self-reliance.

Typically, business education programme is run in colleges of education and faculties of education in some Nigerian Universities. The following three options; Accounting Education,

Marketing/Distributive Education and Office Technology and Management (OTM)/ Secretarial Education are offered under the umbrella of business education. The National Commission for Colleges Education (2012) stated that the objectives of business education are to equip graduates with the right skills that will enable them to engage in a life work in the office as well as for self-employment. In most tertiary institutions, where business education is offered, the programme is organized in such a way that all students offer all the courses in their first two years regardless of their area of specializations. This is to enable business education undergraduates possess broad knowledge and required skills needed in the teaching and work in business environments.

Internet Technology Skills

The internet is a vast collection of computers around the world connected through telephone or other types of communication lines. It is a global network of computers that provide a variety of resources and to the people that use it. Oguejiofor and Nwogu (2014) defined the internet as a world-wide system of computer networks in which users at one computer can, if they have permission, get information from any other computer. It is essentially a large data base where all different types of information can be passed and transmitted. It can be passively passed along in the form of non-interactive websites and blogs; it can also be actively passed along in the form of file sharing and document loading. Through the World Wide Web (WWW), people easily have access to enormous amount of information. The "search engine" such as Google, Yahoo, and Alta Vista provide access to data and information easily and quickly. WWW facilitate things like storing multimedia data as hypertext documents, on-line graphics, sound, moving pictures and the text. Furthermore, one material can pave the way to the other related materials (Adekomi & Oyewusi, 2011).

The internet is the most dynamic and largest world system of global communications. It does not have any specific organizational structure, and in fact is a conglomerate of independent computer networks. The application of the internet in education is understood as the usage of internet technology skills to solve various educational tasks, namely, teaching, learning, and management of educational process (Fwangmut, 2016). The internet is one of the computer and multi-media skills that have brought revolution to entire educational system in recent times. It is another important skill area that is required by business education teachers. Internet is the abbreviated form of international communication (computer) network. It means a network of computers linked to big central processing unit in the same way telephone lines in homes are linked to one central communication equipment in NITEL (Ebelegbu, 2013). This enables the user to interact with another via the computer if he or she is connected. The internet is a global collection of many different types of computers, computer operators and computer networks that are linked together through telephone lines, satellites, microphones, and all other possible devices. It channels each computer by taking a common language or protocol called transmission control protocol/internet protocol (TCP/IP).

Okwuanaso and Obayi (2013) described internet as the interconnection of large and small network around the globe. The internet is an international network through which users all over the world can communicate or exchange information. In the opinion of Onojaife (2016), the internet is an inter connectivity of computers via-email to share data and computing resources by researchers; corporate bodies, academics and individuals. The author further says that the internet has no central computing system or telecommunication centre. Instead each message sent has a unique code. So any internet makes service in the network can forward it to its destination in a different city or country. Internet makes the location of information possible to

the internet; you can communicate with any other computer that is linked to the network anywhere in the world. Researcher stated that we live in the information age, where knowledge is power. The internet therefore, helps user in three basic ways: to get information; to provide information; and to compile information.

Internet technology skills refer to any form of online technology or practices through which users create communities to convey information, ideas, independent learning, entertainment, collaboration and personal messages and thus facilitates communication and interaction between individuals and groups (Lyashenko, 2016). Internet-related technologies as social media are used in education at a macro level (formal) and a micro level (interpersonal and informal). On a formal (macro) level internet technology, especially a social media network, demonstrates how a large group of people are connected to one another (campuses, departments, faculties, groups etc). An informal level (micro) level consists of all the people, friends, family and others – with whom one shares a social relationship (Liu, 2010).

Dalton (2014) noted that internet technology skills at a micro level are used mainly for entertainment purpose and its educational potential is sometimes ignored by the educators despite its wide spread use and popularity among students. Some of these technologies for teacher-student (T-S) collaboration can be classified into the following categories:

1. Blogs and micro blogs (for example, Twitter)
2. Content communities (for example, YouTube and quizlet.com, podcasts etc.)
3. social networking sites (for example, Face book)
4. collaborative projects (for example, Wiki sites)

Internet technology skills are constantly improving and are able to speed up the information highway. With the technologies powering the internet, speeds are faster, more

information is available and different processes are done that were not possible in the past. Internet technologies have changed, and will continue to change the way that the world does business and how people interact in daily life (Anucha, 2017).

The internet holds particular promise among educational technologies since it easily accommodates multiple learning styles and distributed learning models. On the internet, users cannot only view all types of content from text to pictures to music; they can also interact with it, alter it, create new content, and disseminate it back to a wider community. In addition, the medium is well matched to the new requirements of education and training in the knowledge-based economy.

Business education is a programme of instruction which offers specialized instruction for office occupations and general business orientation which is capable of transforming the nation. Internet technologskills have the potential to forever alter the way business education instruction is constructed and disseminated, due to their ease of use, their open nature and their support for collaboration and communication. Sahin, Balta and Ercan (2010) observed that internet technology skills will foster collaborative learning, increase motivation and participation, help students to acquire skills for self-regulated learning and weave connections between formal and informal learning. Researchers further explained that internet based applications or services for use in instruction include, but are not limited to:

1. World Wide Web (WWW): This is a hypertext interface to internet information resources. The WWW works with the aid of search engines; these are programs that allow you to search for particular set of work\s specified by you on the internet for example google, yahoo, MSN and AltaVista.

2. Electronic Mail (E-mail): This is a fast, easy and inexpensive way to communicate with other internet users around the world. E-mail facilitates the exchange of messages between two computers by telecommunication links.
3. File Transfer Service: This service enables a user to transfer virtually every kind of file from one computer to another using the internet. It means uploading a file to a server or downloading a file from a server. File transfer services use the file transfer protocol (FTP) to upload or download files from each other servers on the internet. A protocol is a set of rules used for communication between computers.
4. Chat Application: These services allow users to exchange messages in real-time. Social networking and collaborative services such as face book, twitter, linked-in, you tube, flicker, second life, delicious, blogs, wikis and many more enable people to communicate and share interests in many more ways.
5. News and News Group: News group and chat rooms can be an excellent source of information and assistance on technical issues. They can also be a source of political debates and provide opportunities to meet people with similar interest.
6. Entertainment: The internet gives you access to latest movies, music or theater information, so that you can plan your social life.
7. Conferencing: This combines several communication methods, including voice, chat, white board (a shared electronic drawing board) and application sharing to facilitate online meetings.
8. Use Net News: A distributed bulletin board that offers a combination of news and discussion services on thousand topics. Other internet applications and services for teaching and learning include: cloud computing, file sharing, web 20 technologies,

electronic mailing list, collaborative services, blog, wikis, online survey tools, webcasting, podcasting, online portfolio, live streaming audio and video broadcast etc.

Despite the advantages and opportunities internet technologies provide, we cannot ignore some criticism on internet technology skills. Ashley (2014) observed that the problems that can arise when implementing internet technology skills or other web-related technologies can be categorized into the following groups:

1. Technological (for example, inefficient capabilities of the platform (size, interface dependence on good internet connection etc);
2. Psychological (hindering real life socializing, distortions in interpersonal relations, personal clashes etc);
3. Educational connected with the content control and power sharing (reluctance to share the personalized content because of cheating, plagiarism, bullying, reliability of information uploaded into a collaborative project; language style etc);
4. Pedagogical (difficult of assessment of individual contribution and establishing criteria for evaluation, time creativity and originality etc);
5. Socio-economic and cultural (the problem of "digital divide" in terms of social structure and existence between haves and have-nots users or cultural clashes).

Mobile Technology Skills

Mobile technologies are constantly evolving. The diversity of devices on the market today is immense and includes mobile phones, tablet computers, e-readers, portable audio players and hand-held gaming consoles. To avoid the quicksand of semantic precision, UNESCO (2013) chose to embrace a broad definition of mobile devices recognizing simply that they are digital, easily portable, usually owned and controlled by an individual rather than an institution,

can access the internet, have multimedia capabilities, and can facilitate a large number of task, particularly those related to communication. In the same direction, Umoru and Okeke (2012) listed M-learning devices among others to include mobile phone, iPods, mp3, Personal Digital Assistants (PDA), USB drive, e-book reader, ultra-mobile pc (UMPC), smart phones, and tablets, These technologies seems to be playing important roles in university students academic lives. Devices such as smart phones, tablets and e-book reader connect users to the world instantly, thereby heightening access to information and enabling interactive with others. Applications that run on these devices let users not only consume but also discover and produce content.

Mobile technology skills refer to the use of mobile telephony, mobile computing, and miscellaneous portable electronic devices, system, and networks (Singh, Thomas, Gaffar & Renville, 2016). Mobile technology skills refer to the part of technology that involves mobility. Mobile technologies include but not limited to general packet radio service (GPRS), multimedia messaging service (MMS), Bluetooth, 3G, wireless fidelity (Wi-Fi), global position system (GPS), CLI, wireless application protocol (WAP), and short messaging services (SMS). Bedesem and Amer (2018) viewed mobile technologies as portable electronic devices that accept, process, and store data at high speeds (smart phone, tablets computing application software that facilitates access to, and sharing of information on portable hand-held internet-capable wireless computing devices (hardware).

Mobile technology therefore is exactly what the name indicates-technology that is portable; it refers to any device that you can carry with you to perform a wide variety of tasks''. It is technology that allows those tasks to be performed via cellular phones, PDA, vehicles, laptops. A Standard mobile device has gone from being no more than a simple two-way pager to being a cellular phone, a GPS navigation system, a web browser, and instant messenger system,

a video gaming system, and much more, it includes the use of a variety of transmission media such as: radio wave, microwave, infra-red, GPS and Bluetooth to allow for the transfer of data via voice, text, video, 2-demensional barcodes and more.

Mobile technology skills are an attractive and easy means to maintain literacy skills and gain constant access to information. They are affordable, can be easily distributed and thus hold great potential for reaching marginalized groups and providing them with access to further learning and development. Mobile technology skills facilitate distance learning in situations where access to education is difficult or interrupted because of geographical location or due to post-conflict or post-disaster situations. Across the world teaching and learning have acquired a new meaning and have pushed traditional learning behind the scene. Thus, the purpose of learning will be activity-based where students discover and produce content rather than consume what the teacher has produced (Umoru, 2015).

Mobile technology skills are becoming more embedded, ubiquitous and networked, with enhanced capabilities for rich social interactions, context awareness and internet connectivity. Such technologies can have a great impact on learning (McQuiggan, Kosturko, McQuiggan & Sabourin, 2015). Learning will move more and more outside the classroom and into the learner's environments, both real and virtual, thus becoming more situated, personal, collaborative and lifelong. The challenge will be to discover how to use mobile technology skills to transform learning into a seamless part of daily life to the point where it is not recognized as learning at all (Shin, Norris & Soloway, 2011).

According to Yousef, and Hamideh, (2013) mobile devices and personal technologies that can support mobile learning include:

E-book, Out start, Inc. Hand held audio and multimedia guides, in museums and galleries, Handheld game console, modern gaming consoles such as Sony PSP or Nintendo DS, Personal audio player for listening to audio recordings of lectures (podcasting), Personal Digital Assistant, in the classroom and outdoors, Tablet computer, UMPC, mobile phone, camera phone and smart phone.

Researchers added that the technical and delivery support for mobile learning include: 3GP for compression and delivery method of audiovisual content associated with mobile learning, GPRS mobile data service provides high speed connection and data transfer rate, Wi-Fi gives access to instructors and resources via internet, Cloud computing for storing and sharing files. Meanwhile, Owu, Mammud, and Dako (2014) reported that the possibilities and realities of use of mobile technology skills for teaching could be seen in the following areas:

1. Short Message System or Short Text Messages: This can be used for instructions like quizzes, games, tests and test preparation, option polling, classroom discussion, tutoring and extensive data for analysis and response.
2. Voice Mail: This can be used for language lessons using mobile flash cards, dictionary and phrase books, suggested cell phone delivered lectures with feedback facilities etc.
3. Internet Browsing: For basic online reference tools, search engines and so on.
4. Global Positioning System: For field trips, determination of position, time and direction or navigation.
5. Graphical Displays: For instructional text and animation.
6. Downloadable Programmes: Tool for collaboration, teaching programmes, programming language, access to other devices and so on.

7. Video Clips: For TV journalism, creative movie-making, behavior modeling clips and so on.
8. Photography: For data collection and documentation, visual journalism, creative writing and so on.

Onwuachu (2016) observed that the use of mobile technology skills for teaching allows learners to expand their learning beyond the class room walls at any time of the day. Many students use mobile devices daily to communicate with family and friends: In addition, may use various mobile applications to complete and collaborate on class assignment. It is in view of the above that Foti (2014) outlined five unique benefits provided by mobile technology skills in the classroom:

1. Mobile technology skills encourage students to learn "anywhere, anytime" because they can process information inside or outside the classroom.
2. Mobile technology skills are relatively inexpensive and can reach underserved students with limited incomes.
3. Mobile devices teach students social skills that are necessary for success in the 21st century.
4. Mobile devices are small and are a natural fit for use within the learning environment.
5. Mobile technology skills provide students with a personalized educational experience because the devices can be customized and used in many different ways.

Foti (2014) added that there are also five predominant challenges facing mobile learning today.

1. Negative implications: Some mobile devices may contribute to unethical behavior by students or distraction in the classroom. Mobile devices may also compromise the physical health and privacy of students.
2. Cultural Norms: Most teachers and parents currently consider cell phones to be a distraction in school.
3. Theory of Learning: As at the time of this study, there is no accepted theory of learning for mobile technologies.
4. Differentiation: Mobile technologies are diverse, which presents a significant challenge for teachers.
5. Limitations: Some mobile technologies feature poor designs with usage limitations that, may adversely affect learning.

In spite of these challenges, there are several market trends that improve the usefulness of mobile technologies in education. For example, most cell phones include features that were once expensive luxuries. Many cell phones also include GPS technology, and it is now possible to use a large number of software application on devices from different manufacturers. Finally, many mobile devices now include a touch screen, which improves the way students interact with them.

Given all of this information, there are five main goals to which educators using mobile technology skills in the classroom should aspire.

1. Educators must seek to understand that mobile learning is unique for educational reform. This segment of education requires much research and support from both the public and private sectors to succeed.
2. Educators must develop interventions for mobile learning to promote public understanding of the technology's ability to improve education for children of all ages

and students of all levels. One way to accomplish this is by creating examples of mobile technology in education and presenting them to the public.

3. Educators must actively promote the use of mobile technologies in the classroom to the public and to educational policy maker.
4. Educators must prepare for the use of mobile technologies in the classroom by training colleagues to use and incorporate mobile devices into learning.
5. Educators must seek support from the country's leadership for the educational use of mobile technology skills (UNESCO, 2013).

Mobile technology skills are unlikely to depart from children's lives any time soon. The potential of these devices for educational use cannot be ignored. While the debate has always been whether or not these devices have a place in the classroom, educators should now focus on how they can be used.

Interactive Technology Skills

Interactivity refers to the function of technology which enables rapid and dynamic feedback and response. Interactivity has long been identified to contribute to successful teaching and learning (Kennewell, 2015). The degree of interactivity is judged by how much teachers control classroom interactions. Characterized by long teacher talk, brief student response and quick feedback, the traditional, triadic recitation script of initiation-response-feedback (IRF) is deemed to have little deep participation from students. Without sufficient student participation and engagement, classroom activities cannot create proper pedagogical opportunities for students to interact with content knowledge. As identified by Mayer (2017), interactive lessons need to have four important characteristics including reciprocal opportunities for talk, appropriate

guidance and modeling, environments for participation and an increase in the level of student autonomy.

Interactivity is the most perceived advantage of new technology skills in terms of their support for teaching. Beauchamp and Kennewell (2010) defined interactivity as the ability to respond contingently to learner's actions. The term 'interactivity', therefore, can be used to describe technical interactivity as technology serves as an interface between the user and the material, and pedagogical interactivity, which is itself a teaching strategy. In order to enhance the interactivity of classroom activities, technology needs to provide interactive affordances, which can be implemented to support interactive teaching strategies and to create pedagogical opportunities.

Interactive technology therefore is any technology that digitally facilitates interaction between people and allows for user content creation and manipulation (Vaterlaus, 2018). It is any form of technology that allows the users to interact with it and/ or other users by opening up a whole new realm of possibilities in communications, Manipulation of images and exploration. Dick and Burrill (2016) defined interactive technology as any technology that allows for a two-way flow of information through an interface between the user and the technology; the user usually communicates a request for data or action to the technology with the technology returning the requested data or result of the action back to the user.

Hobbs (2010) opined that teacher-students' interaction can be facilitated by interactive digital media. Interactive media refers to products and services on digital-computer based systems which respond to the user's actions by presenting content such as text, moving image, animation, video, audio and games. Borup and Graham (2013) viewed interactive media as the integration of digital media including combination of electronic text, graphics, moving images,

and sound into a structured digital computerized environment can include the internet, telecoms and interactive digital television. Kennewell (2015) maintained that the use of digital media to generate interactivity can be classified as follows:

1. The object of interaction (for instance, resources to interact about: a purely passive role for a digital media resource).
2. A participant in interaction (i.e. a partner to interact with: digital media can itself orchestrate resources to support the learner through its contingent responses such as prompts and feedback).
3. A tool for interaction (i.e. a medium to interact through: digital media can be used by the teacher or learner to assist with the orchestration of resources).

Interactive technology skills has become almost common in all areas of our lives from choosing the way we watch television at home, how we collaborate with colleagues at work, to how we learn and participate in lessons in the classroom. While the debate about technology in the classroom continues, there is no denying that the use of devices and systems that promote engagement and collaboration bring tremendous value to the learning environment.

Adeola (2017) observed that the last two decades have witnessed a proliferation of interactive technology tools in the education landscape, especially in developed countries. The use of tools such as the interactive white board, web 2.0 technologies, individual response pads, interactive multimedia, interactive forms, on-line survey tools, collaborative editing software, instant messaging/chat room multimedia projectors etc, are becoming popular. As a matter of fact, the rapid change that interactive digital technology is bringing to teaching and learning process is almost unbelievable because the learning scenario is imperceptible like never before. Beyond the 21st century, the tendency to stop the avalanche of change seems invisible.

The traditional methods of teaching (lecture, explanation, exercise, etc.) are certainly important for professional development. However, Bada, and Adekomi (2014) observed that their limitations are felt even more acutely at present when a complex phenomenon such as competence/skill is formed. This therefore informs the need for modern methods which should focus on the student's independent activity. Interactive technology encourages interest in the profession; promote the efficient acquisition of training materials; form patterns of conduct; provide high motivation, strength, knowledge, team spirit and freedom of expression; and most importantly, contribute to the complex competences/skills of future specialists.

Certain factors play major role on how interactive technology skills are used in educational settings. Nwolocha and Onwuchekwa (2014) opined that the most common factors that impact on the use of interactive technology skills for teaching includes: school culture, teacher training, time to practice and preparing materials, teacher confidence and technical support. Others include classroom setup and quality of equipment.

The overall objective of having interactive technology skills in the classroom is to make teaching/learning process more encompassing. Umoru (2012) maintained that the use of new technology skills in teaching-learning process allows the student as well as the teacher to overcome the time and space constraints which are present in traditional teaching. Interactive technology skills unities students in the classroom and caters for different learning styles; more collaborative, and more engaging (Mayer, 2017) Students are not just engaging with the teacher, but also with each other. The teaching process has changes dramatically over the years and students are no longer linear learners, taking in a one-way flow of information from the teacher. Instead, there is a strong focus on team work and participation. While technology is not solely responsible for this shift, it is playing a definition role in supporting and enabling thus approach.

Broadcast Technology Skills

Broadcasting is the distribution of audio and video content to dispersed audiences via any audiovisual medium. Broadcasting is the mode of spreading information widely by sound and or vision to a group of people either in their homes or at the listening or viewing centers and in schools through electronic devices of several kinds. Broadcasting, according to Babalola (2012) when primarily concerned with educating a set of people or audience be it in the formal or non-formal setting, is known as educational broadcasting. The intention of educational broadcasting is to encourage greater understanding or a change of attitude among sections of the general audience as well as the listeners through informative, enlightenment and entertainment programmes.

Broadcast technology skills are ability to use media through which information is disseminated usually to the mass of people/audience that are scatters over a wide distance (Orman & Whitaker, 2010). Broadcast technology skills encompasses the use of advanced video and digital television (DTV), digital radio broadcasting (DRB) and data casting services to be carried over terrestrial off-air channels, satellite, cable, multipoint distribution system and local multipoint communications system (LMCS). The services using off-air and serve satellite channels are intended for portable and fixed reception (Oduntan, 2013).

Attention has been drawn to the pedagogical value of broadcast technology skills. Programmes can be specifically designed and disseminated through the radio, television or live steaming videos to organized audiences either in schools, or community learning centre's based on prescribed curriculum content. Greenberg and Zanetis (2012) outline three general approaches to the use of broadcasting technology skills in education:

Direct class teaching; where broadcast programming substitutes for teachers on a temporary basis, School broadcasting; where broadcast programming provides complementary teaching and learning resources not otherwise available; and General education programming; where non-formal education opportunities are provided for all types of learners over the community, national or international stations. DeCesare (2014) believed that broadcast technology skills for teaching include audio and video tapes, audio and video disks, radio, television, digital audio (web and CD based), digital video (web and CD based), films and videos,, live streaming audios and videos (webcast), interactive radio instruction, satellite radio and television, online digital and video files (podcast or netcast). These broadcast technology skills according to Noor, Abdul, Razak and Adamu, (2012) play vital role in the teaching and learning process by:

i. Encouraging a greater understanding of the subject matter because its presentation is done in clear, straight forward and simple language.

ii. Promoting individualized learning because the listener or viewer can learn on his or her own by listening to and or viewing the lesson personally without having to come in contact with the real teacher.

iii. Disseminating large volumes of education materials to the audience.

iv. Checking schools' population exploitation because it takes care of learners both young and old that could not be readily accommodated by the regular school programme.

v. Promoting equal access to educational opportunity for all learners because the mode of presentation is the same and in uniform, no matter the number of times the presentation is done.

vi. Makes it easier for beneficiaries to be reached at their various locations without being assembled at a point for the teaching and learning exercise.

Michael, (2017) observed that creating a dynamic environment for creativity and innovation should be the goal of all educational institutions. The support for teacher creativity can be an additional component that supports the overall growth of the institution. Given the new means for distribution, including social media and content distribution networks easily accessible for educational content, educational institution should carefully consider using materials aimed particularly at the content they teach. The traditional classroom appears to be constantly changing and within this environment teachers should consider adopting a shift in thinking from viewership to producer (Muhammad, Shawana & Muhammad, 2013).The teacher becomes the producer of the learning content delivery as with movie producers controlling production of a major film. Also with readily accessible recording and broadcast equipment and distribution networks, teacher can complete a portfolio of teaching products in order to build or contribute to a library of content.

Finally, the documentation of teaching and learning materials can be shown on a larger stage. It is up to the institution to determine to support the provision of broadcast facilities for the purpose of teaching and learning. As streaming technology expands and live and recorded video productions are available and are increasingly used via the internet, consideration should be given to the use of broadcast technologies for teaching within educational institutions.

Review of Related Empirical Studies

The researcher was able to go through some previous researches on new technologies and skills for teaching and learning. Researchers and scholars that have contributed to the new technologies include among others the following:

Akarahu and Ile (2014) conducted a study on Competency improvement needs of teachers of business education on the use of new technologies for the production of employable graduates. The specific objectives of the study were to identify the skills in instruction planning. The survey research design was adopted for the study. The population of the study consisted of 90 teachers from federal and state colleges of education in the South – East Nigeria. The entire population of teachers was used because of the small size of the population. 38 item structured questionnaires were used for data collection. The questionnaire was designed with two columns of need and competence. The needed column was assigned a four response option of highly needed (4) averagely needed (3), slight needed (2) and not needed (1). Similarly, the competence column was also assigned a four response option of highly competent (4), averagely competent (3), slightly competent (2) and not competent (1). Cronbach alpha method was used to test the internal consistency of the item and coefficients of 0.81 and 0.79 were obtained for the two sets of questionnaires. Weighted mean and improvement needs index were used in analyzing the data decision on items where teachers needed improvement. In taking the decision, the following steps were followed:

- Weighted mean for each item under the competence category was calculated and denoted Xn
- Weighted mean for each item under the competence category was calculated and denoted Xc
- The difference between the two means for each item (Xn-Xc) was determined for decision making. Thus where the difference is zero (0) there was no need for improvement. Where the difference was positive (+) there was need for improvement where the difference is negative (-) there was no need for improvement.

The findings of the study revealed that business education teachers in colleges of education in South-East Nigeria need improvement in the skills for planning, implementation and evaluation of instructions using internet. The study concluded that the teachers were deficient in imparting knowledge and skills using new technologies like internet.

The study is different but related to the current study because both studies aimed at examining the improvement needs of the business education teachers on the use of new technologies. However, these studies differ in the following areas: The previous researchers based their study on teachers of colleges of education in South-East Nigeria while the current study was conducted in Kwara State colleges of education. In addition, the previous study had four specific purposes aimed at determining the skills in instruction planning, instruction implementation, instruction evaluation and skill in the use of internet where teachers of business education in colleges of education need improvement while the current study has four specific purposes: to determine the extent of utilization of internet technology skills, mobile technology skills, interactive technology skills and broadcast technology skills by business education teachers in Kwara State colleges of education. The previous study did not state or test any hypothesis, but the current study has four hypotheses that were tested at 0.05 level of significance using the t-test statistic.

Ekwue, Ayaegbaunam and Alfa (2016) carried out a study on Assessment of the Usage of New Technologies in the Teaching and Learning of Business Education Programme in Colleges of Education in Delta State. The specific objectives of the study were to identify the factors affecting the usage of new technologies, to determine the extent of adoption by teachers and to determine the effectiveness of new technologies for teaching and learning of business education programme in colleges of education. Three research questions were developed based on the

study and one hypothesis was also formulated and tested at 0.05 level of significance. The study adopted the descriptive survey design. The population of the study comprised 144 business education lectures in all the four colleges of education in Delta state. The entire study population was adopted for the study due to the small size of the population. A four-point scale questionnaire varying from very great extent (4), great extent (3) little extent (2) and no extent (1) were used to elicit information from the respondents. Data collected were analyzed using the mean. The t-test statistical tool was used to test the only null hypothesis at 0.05 level of significance.

The result of the study revealed that most of the requisite new technology facilities in tertiary institutions have not been adequately provided in business education departments. The study concluded that lectures of business education cannot carry out their teaching assignment effectively as a result of inadequate funding to procure most of the new technology facilities.

The study is different but related to the current study because both studies aimed at examining the use of new technologies in teaching and learning. However, the studies differ in the following areas: The previous study was conducted in colleges of education in Delta State while the current study was conducted in Kwara State colleges of education. The previous study had three specific purposes aimed at determining the usage, adoption and effectiveness of new technologies in teaching and learning of business education in colleges of education in Delta State, while the current study has four specific purposes: to determine the extent of utilization of internet technology skills, mobile technology skills, interactive technology skills and broadcast technology skills by business education teachers in Kwara State colleges of education. In addition, the previous study had only one hypothesis tested using the t-test statistical tool at 0.05

level of significance while the current study has four hypotheses that were tested at 0.05 level of significance using the t-test statistical tool.

Okoli and Wagbara (2016) conducted a study on Use of New Technologies in the Instructional Delivery of Business Education: The Perception of Business Educators in Tertiary Institutions in Rivers State. The study had three specific purposes of the study aimed at determining the extent of awareness of new technologies. The extent of availability of new technology resources, and the extent of utilization of new technologies in instructional delivery of business education by business educators. Three research questions and three null hypotheses were formulated based on the purposes of the study. The study adopted survey research design. The population of the study consisted of the 99 business educators in the three tertiary institutions where business education is offered in Rivers state. A four point response questionnaire with three clusters was used for collection of data. A total of 70 questionnaires were administered but 51 were retrieved and used for the study. The mean and standard deviation were used to answer the research questions while the t-test was used to test the null hypotheses at 0.05 level of significance.

The result of the study revealed that respondents were aware of the new technologies for instructional delivery and that most of the new technology devices identified were available in the departments except that business educators only utilize some of the new technologies in instructional delivery of business education in Rivers State. It was concluded that new technologies are critical for instructional delivery.

The study is different but related to the current study because both studies focused on skills and utilization of new technologies for teaching and learning. However, the previous study had three specific purposes while the current study has four. The previous study was carried out

in tertiary institutions offering business education in River State whereas the current study was conducted in both public and private colleges of education in Kwara State that are offering business education. In addition, the previous study used the simple random sampling technique in selecting the sample while the current study adopted the entire population for the study.

Ogundele and Lawal (2016) carried out a study on Influence of New Technologies on the Teaching of Business Education in Tertiary Institutions in kwara State. the study had two specific purposes which were to identify the new technologies lecturers have access to in tertiary institutions in Kwara State and to examine the influence of new technologies on the teaching of business education courses in tertiary institutions in Kwara State. Two research questions were formulated based on the purposes of the study. One null hypothesis was also formulated to determine whether there is any significant difference in the mean response of male and female lecturers regarding the influence of new technologies on the teaching of business education courses in tertiary institutions. A descriptive survey research design was used for the study. The population consisted of 38 lecturers from all the public tertiary institutions in Kwara State. No sample was taken as the entire population was used for the study. A 25 item questionnaire was used to elicit data from the respondents. The internal consistency of the questionnaire was ascertained using the Cronbach Alpha reliability, which yielded a reliability coefficient of 0.70. The research questions were answered using the mean while the null hypothesis was tested using t-test at an alpha level of 0.05.

The result of the study revealed that lecturers have access to most of the new technologies identified for teaching of business education. The study further revealed that there was no significant difference in the mean response of male and female lecturers regarding the influence of new technologies on the teaching of business education courses in tertiary

institutions. The study concluded that new technologies are available for use in the school. The onus therefore is on lecturers to ensure effective utilization of these technologies.

The study is different but related to the current study because both studies focus on new technologies for teaching. However, the previous study was conducted in public tertiary institutions in Kwara State, while the current study was carried out in both public and private colleges of education offering business education in Kwara State. The previous study has two specific purposes of the study while the current study has four specific purposes. Similarly, the previous study had one null hypothesis tested using t-test at alpha level 0.05 while the current study has four null hypotheses that were tested using t-test at 0.05 level of significance.

Amiaya (2016) conducted a study on Availability and Utilization of new Technologies for Teaching Office Technology and Management in Delta State Polytechnics. The study had two specific purposes which were to find out the available new technologies for teaching OTM in Delta State Polytechnics and to find out the extent to which OTM lecturers utilize the available new technologies for teaching OTM in Delta State polytechnics. Two research questions and two null hypotheses were formulated based on the purposes of the study. The descriptive survey research design was adopted for the study. The population of the study comprised all 34 OTM lecturers in the three polytechnics in Delta State. A 20 item structured questionnaire was used for data collection. The questionnaire was designed with a 4-point likert type rating scale as follows: very much available (4) available (3) somewhat available (2) and unavailable (1). The research questions were analyzed using mean rating while the hypotheses were tested at 0.05 level of significance using the Analysis of Variance (ANOVA). The decision rule for research questions was that any item with a mean score of 2.50 and above was regarded as available, while any item with mean score of less than 2.50 was considered as somewhat

available respectively. Reject the null hypothesis if the F-calculated was greater than the F-critical value or otherwise accept.

The result of the study revealed that the new technologies identified were somewhat available and were somewhat utilized by the lecturers. The study further revealed that there is no significance difference in the mean response of male and female lecturers regarding the polytechnics. The study is different but related to the current study because both studies focus on new technologies in business education. However, the previous study was conducted in Delta State polytechnics while the current study was carried out in both public and private colleges of education in Kwara State. The previous study had two specific purposes while the current study has four specific purposes. On the other hand, in the previous study the null hypotheses were tested at 0.05 level of significance using the Analysis of Variance (ANOVA) while in the present study the null hypotheses was tested using the t-test statistic.

Appraisal of Reviewed Literature

The emergence of new trends, including new technology skills for teaching is rapidly becoming one of the most important and widely discussed issues in contemporary education. This is because new technology skills have the prospects for improving teaching and learning process as well as showing workforce opportunities. The ineffective use of new technology skills by students and teachers of business education is the result of inadequate technological skills in using new technologies for teaching. Daramola (2014) observed that although business teachers have been sensitized especially to acquire skills in new technologies, the ICT skills acquired by most of them fall short of what is required to be able to utilize new technology skills in teaching. It is against this backdrop that this chapter reviewed the works of theorist, researchers and

scholars on new technology skills utilized by business education teachers for teaching in colleges of education.

The review covered some theories found to be related to the study, these include: Diffusion of innovations theory and skill acquisition theory. The theories have contributed in no small measure to the teaching and learning of new technologies in areas of business education. Various implications on the learning of new skills were drawn from these theories. The review also covered about five empirical findings related to this study. It is imperative to state that most of empirical work reviewed had not been specifically conducted on assessing the utilization of new technology skills by business education teachers for teaching. Although, several studies have been conducted on utilization of ICT Skills by business education teachers. Since many studies have shown that business education teachers acquired and possessed new technology skills but seems not utilized it for teaching in colleges of education, this constitutes the gaps which the current study intends to bridge. The present study seek to look at the extent of utilization of new technology skills by business education teachers for teaching in colleges of education, which include: internet technology skills, mobile technology skills, interactive technology skills and broadcast technology skills.

Therefore, the success of any programme in education such as business education programme in meeting the stated objectives required empirical research to identify areas of inadequacy for prompt intervention of curriculum planners.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter presented procedural steps that were taken by the researcher in this study. They were discussed under the following sub-headings:

- Research Design
- Population of the Study
- Sample Size and Sampling Techniques
- Instrument for Data Collection
- Validity of the Instrument
- Pilot Study
- Reliability of the Instrument
- Procedure for Data Collection
- Method for Data Analysis

Research Design

The researcher adopted descriptive survey research design which aims at exploring opinion of a given population on existing practices and conditions. Bess (2010) opined that descriptive survey research determines and reports the way things are. It involved assessing attitudes or opinions towards individuals, organizations, events or procedures. The design was appropriate for the study because it involves the use of structured questionnaires to elicit the required information from the respondents on the utilization of new technology skills by business education teachers for teaching in colleges of education in Kwara State.

Population of the Study

The population of this study consisted of all the Business Education lecturers in Colleges of Education in Kwara State. There are 71 Business Education lecturers from these eight Colleges of Education in Kwara State. The breakdown is as follow:

Table 1: Population of the Study

Name of Colleges of Education	Business Education Lecturers
Kwara State College of Education, (T) Lafiagi	11
Kwara State College of Education, Ilorin	14
Kwara State College of Education, Oro	12
Muhydeen College of Education, Ilorin	7
Kinsey College of Education, Ilorin	8
College of Education, Ilemona	7
Nana Aishat Memorial College of Education, Ilorin	6
Pan African College of Education, Offa	6
Total	**71**

Source: Record office of respective Colleges of Education. (2020)

Sample Size and Sampling Techniques

The entire population was used for the study since the population was manageable and therefore, there was no sampling. This is in line with the view of Ademiluyi and Okwuanaso (2013) that it is ideal to study the entire population wherever possible.

Instrument for Data Collection

A structured questionnaire titled Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education (UNTSBETQ) was used to collect the data for this study. The instrument consists of two parts A and B. Part one of the instrument

seeks personal information of the respondents, while part two contains 40 items which aimed at examining about different issues based on the purposes of the study and the research questions. Part 'B' of the questionnaire was divided into four sections (A-D) based on the purposes of the study and the research questions. Section 'A' contained 10 items requiring information on the utilization of internet technology skills by business education teachers for teaching in colleges of education in Kwara State. Section 'B' contained 10 items requiring information on the utilization of mobile technology skills by business education teachers for teaching in colleges of education in Kwara State. Section 'C' contained 10 items requiring information on the utilization of interactive technology skills by business education teachers for teaching in colleges of education in Kwara State. While section 'D' also contained 10 items requiring information on the utilization of broadcast technology skills by business education teachers for teaching in colleges of education in Kwara State.

Each of the section (A-D) has four response options of Very High Extent (VHE-4 points), High Extent (HE-3 points), Low Extent (LE-2 points) and Very Low Extent (VLE-1 point).

Validation of the Instrument

The researcher submitted the drafted questionnaire items to three experts: Two senior lecturers from Department of Business and Entrepreneurship Education and one senior lecturer from department of Educational Management, Kwara State University, Malete. The questionnaire items were subjected to thorough scrutiny and proof-reading by these experts to ensure that its contents are in line with the research questions. This is in line with the view of Ebelegbu (2013) who stated that for any research instrument to ascertain its validity should be given to a panel of experts to determine if its (contents) can elicit the desired data they are

intended to elicit and this in essence is to ensure its content validity and necessary adjustment made.

Pilot Study

In order to ascertain the reliability of the questionnaire, a pilot study was conducted. The main purpose of a pilot study according to Ibelegbu (2013) is to confirm the suitability of the questionnaire for its adequacy and effectiveness of the instrument. 15 copies of the questionnaires were distributed to all lecturers of Business Education Department, Niger State College of Education, Minna, which was outside the study area, but shared similar characteristics with the subjects of the study. Following the pilot study test, all the areas of difficulties, spellings and ambiguous items in the questionnaire were detected and corrected through the pilot study.

Reliability of the Instrument

Cronbach Alpha method was used to determine the internal consistency of the instrument. The questionnaire administered on the academic staff of Business Education, Niger State College of Education, Minna, were retrieved and analysed to determine the reliability coefficient. The result yielded a reliability coefficient of 0.71. Thus, the instrument was considered reliable. This is in line with Olayiwola (2010) who stated that "a reliability estimate of 0.60 and above is high and the instrument for which it is calculated is reliable and stable". See Appendix 'B'.

Procedure for Data Collection

The researcher obtained a letter of introduction from the Head of Department, Business and Entrepreneurship Education Kwara State University, Malete to various colleges of education under study. Subsequently, the researcher distributed copies of the questionnaire to the study

subjects with the aid of one research assistant in each study college. 71 copies of questionnaires were distributed and 71 retrieved from the respondents after completion. The researcher used four weeks for collection of data from respective colleges. After which the researcher collated the data for data analysis.

Method of Data Analysis

The data collected for Part 'A' were analyzed using percentage while data collected for part 'B' of the questionnaire which was analytical part and contained research questions were analyzed using mean while standard deviation was used to determine the closeness or other wise of the responses from the mean. The four null hypotheses of the study were tested using independent samples t-test and One-way Analysis of Variance at 0.05 level of significance. Hypotheses one and three were tested using t-test while hypotheses two and four were tested using ANOVA

Decision Rule: The real limit of numbers were used for interpreting the analyzed data for the research questions as follows: Very High Extent (VHE): 3.50 – 4.0; High Extent (HE) 2.50 – 3.49; Low Extent (LE) 1.50 – 2.49; and Very Low Extent (VLE) 1.00 – 1.49. For the research questions, weighted mean score of 2.50 and above were considered as utilized, while, weighted mean score of 2.49 and below were considered as not utilized. For the test of null hypotheses one to four, if the observed probability value is equal to or less than the fixed value 0.05, the null hypotheses was rejected and if the observed probability value is greater than the fixed value 0.05, the null hypotheses was retained.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This research work was conducted to determine the utilization of new technology skills by business education teachers for teaching in colleges of education.This chapter deals with the presentation and analysis of the research data and discussion of findings. The analysis was carried out under the following sub-headings:

- Analysis of demographic variable of the respondents
- Analysis of data to answer the Research Questions
- Test of Hypotheses
- Summary of findings
- Discussion of findings

Analysis of Demographic Variable of the Respondents

Table 2 Percentage Distribution of Respondents According to Gender

Gender	**F**	**Percentage (%)**
Male	53	75.0
Female	18	25.0
Total	**71**	**100.0**

Source: Field Survey, 2021

Analysis of data in Table 2 revealed that there are 53 male respondents representing 75.0% and 18 female respondents representing 25.0%. This implied that there are more male business education lecturers than female in colleges of education in Kwara State. It also indicated that the majority (75%) of the respondents in this study are male lecturers.

Table 3 Percentage Distribution of Respondents According to Years of Experience

Years of Experience	F	Percentage (%)
1 – 5	24	34.0
6 – 10	10	14.0
11 – 15	24	34.0
16 and above	13	18.0
Total	**71**	**100.0**

Source: Field Survey, 2021

Analysis of data in Table 3 revealed that there are 24 lecturers representing 34.0% which have 1-5 years of experience, 10 lecturers representing 14.0% which have 6 - 10 years of experience, 24 lecturers representing 34.0% which have 11-15 years of experience and 13 lecturers representing 18.0% which have 16 years of experience and above. This implied that there are more lecturers with 1-5 years of experience and 11-15 years of experience in business education programme in colleges of education in Kwara State.

Analysis of Data to Answer the Research Questions

Analysis of data to answer the research questions were conducted in Table 4 to 7 as follows:

Research Question One: To what extent do business education teachers utilize internet technology skills for teaching effectiveness in colleges of education?

Table 4: Mean and Standard Deviation of Responses on the Extent to Which Business Education Teachers Utilize Internet Technology Skills for Teaching Effectiveness in Colleges of Education

S/N	ITEMS	$\bar{X}$	SD	Remark
1	Searching for teaching contents using the search engine on the web	3.31	0. 70	High Extent
2	Usage of hypertext markup language (HTML) editors to create educational web pages	3.11	0.73	High Extent
3	Usage of file transfer protocol to upload and download files for teaching	3.18	0.76	High Extent
4	Mailing teaching contents with attachment through the e-mail or list servers	2.90	0.66	High Extent
5	Usage of hypermedia web pages for teaching	3.50	0.56	Very High Extent
6	Usage of browsers to support access and navigation on the world wide web during teaching	3.36	0.61	High Extent
7	Organizing virtual conferences or discussion forums online for teaching	3.26	0.63	High Extent
8	Usage of blogs and micro blogs for publishing written materials	2.83	0.72	High Extent
9	Usage of collaborative sites and software such as wikis for content creation and editing	3.30	0.71	High Extent
10	Usage of social media platform such as face book, You Tube, Twitter, Instagram etc. to post teaching contents.	3.52	0.56	Very High Extent
Weighted Mean		**3.28**	**0.60**	**High Extent**

Source: Field Survey, 2021

Table 4 revealed that the respondents search for teaching contents using the search engine on the web (mean = 3.31), Use hypertext markup language (HTML) editors to create educational web pages (mean = 3.11), use file transfer protocol to upload and download files for teaching (mean = 3.18), mail teaching contents with attachment through the e-mail or list servers (mean = 2. 90), use hypermedia web pages for teaching (mean = 3. 50), use browsers to support access and navigation on the world wide web during teaching (mean = 3.36). Table three also showed that the respondents organize virtual conferences or discussion forums online for teaching (mean = 3.26), use blogs and micro blogs for publishing written materials (mean = 2.83), use collaborative sites and software such as wikis for content creation and editing (mean = 3.30) and use social media platform such as face book, You Tube, Twitter, Instagram etc. to post teaching contents (mean = 3. 52). All the 10 items have their standard deviation ranged from 0. 56 to 0. 72 which are below the fixed value of 1.96. This means that the responses of the respondents were not too wide spread, the responses are slightly clustered to the mean. On the overall, the data analyzed in Table 4 revealed that business education teachers utilized internet technology skills for teaching effectiveness in colleges of education to a high extent(mean = 3.28, SD = 0.60).

Research Question Two: To what extent do business education teachers utilized mobile technology skills for teaching effectiveness in colleges of education?

Table 5: Mean and Standard Deviation of Responses on the Extent to Which Business Education Teachers Utilize Mobile Technology Skills for Teaching Effectiveness in Colleges of Education

S/N	ITEMS	$\bar{X}$	SD	Remark
1	Usage of e-portfolio or digital portfolio and mobile phone for sending teaching contents	3.27	0.68	High Extent
2	Usage of cloud computing for storing and sharing Files	3.04	0.69	High Extent
3	Usage 3GP to compress and deliver audiovisual teaching contents	3.28	0.66	High Extent
4	Usage of Wi-Fi to gain access to teaching resources via internet	3.06	0. 70	High Extent
5	Usage of GPRS mobile data service for delivery of teaching contents	3.31	0.71	High Extent
6	using short message service for delivering of teaching contents	3.42	0.67	High Extent
7	Using the multimedia message service for delivering of graphical contents	3.13	0.72	High Extent
8	Using the voice mail for language and sound Lesson	3.19	0.73	High Extent
9	Using GPS for determination of position, time and direction or navigation	3.30	0.70	High Extent
10	Using the high speed downlink or uplink packet access for download and upload of teaching contents	3.27	0.63	High Extent
Weighted Mean		**3.28**	**0.62**	**High Extent**

Source: Field survey, 2021

Table 5 revealed that the respondents use portfolio or digital portfolio and mobile phone for sending teaching contents (mean = 3. 27), use cloud computing for storing and sharing files (mean = 3.04), use 3GP to compress and deliver audiovisual teaching contents (mean = 3.28), use Wi-Fi to gain access to teaching resources via internet (mean = 3. 06), use GPRS mobile data service for delivery of teaching contents (mean = 3.31), use short message service for delivering of teaching contents (mean = 3.42). Table four also showed that the respondents use multimedia message service for delivering of graphical contents (mean = 3.13), use voice mail for language and sound Lesson (mean = 3.19), use GPS for determination of position, time and direction or navigation (mean = 3.30) and use high speed downlink or uplink packet access for download and upload of teaching contents (mean = 3.27). All the 10 items have their standard deviation ranged from 0.63 to 0.73 which are below the fixed value of 1.96. This means that the responses of the respondents were not too wide spread, the responses are slightly clustered to the mean. On the overall, the data analyzed in Table 5 revealed that business education teachers utilized mobile technology skills for teaching effectiveness in colleges of education to a high extent(mean = 3.28, SD = 0.62).

Research Question Three: To what extent do business education teachers utilized interactive technology skills for teaching effectiveness in colleges of education?

Table 6: Mean and Standard Deviation of Responses on the Extent to Which Business Education Teachers Utilized Interactive Technology Skills for Teaching Effectiveness in Colleges of Education

S/N	ITEMS	$\bar{X}$	SD	Remark
1	Interactive white boards or electronic board for teaching	3.14	0.76	High Extent
2	Interactive forms on the web to create feedback or ask Questions	3.25	0.73	High Extent
3	Videoconferencing or internet phone chat (Skype, Team Speak, etc.)	3.08	0.68	High Extent
4	Interactive on-line survey tools (Survey Monkey, Zoomerang, etc.)	3.07	0.78	High Extent
5	Using student response systems (clickers, wireless learning calculator systems, etc.)	3.22	0.70	High Extent
6	Instant messaging/chat room for teaching content delivery	3.21	0.65	High Extent
7	Interactive multimedia and presentation application for Teaching	3.20	0.71	High Extent
8	Using simulations, or virtual worlds (Ayiti, EleMental, Second Life, Civilization, etc.)	3.44	0.65	High Extent
9	Using interactive collaborative editing software (Wikis, Google Docs, etc.)	3.15	0.70	High Extent
10	Using online student video projects (using YouTube, Google Video, etc.)	3.15	0.62	High Extent
Weighted Mean		**3.20**	**0.70**	**High Extent**

Source: Field survey, 2021

Table 6 revealed that the respondents use interactive white boards or electronic board for teaching (mean = 3.14), use interactive forms on the web to create feedback or ask questions (mean = 3.25), use Videoconferencing or internet phone chat (Skype, Team Speak, etc.) (mean = 3.08). Table five also showed that the respondents use Interactive on-line survey tools (Survey Monkey, Zoomerang, etc.) (mean = 3.07), use student response systems (clickers, wireless learning calculator systems, etc.) (mean = 3.22), use instant messaging/chat room for teaching content delivery (mean = 3.21) and use interactive multimedia and presentation application for Teaching (mean = 3.20), use simulations, or virtual worlds (Ayiti, EleMental, Second Life, Civilization, etc.) (mean = 3.44), use interactive collaborative editing software (Wikis, Google Docs, etc.) (mean = 3.15), use online student video projects (using YouTube, Google Video, etc.) (mean = 3.15). All the 10 items have their standard deviation ranged from 0.62 to 0. 78 which are below the fixed value of 1.96. This means that the responses of the respondents were not too wide spread, the responses are slightly clustered to the mean. On the overall, the data analyzed in Table 6 revealed that business education teachers utilized interactive technology skills for teaching effectiveness in colleges of education to a high extent (mean = 3.20, SD = 0. 70).

Research Question Four: To what extent do business education teachers utilized broadcast technology skills for teaching effectiveness in colleges of education?

Table 7: Mean and Standard Deviation of Responses on the Extent to Which Business Education Teachers Utilized Broadcast Technology Skills for Teaching Effectiveness in Colleges of Education

S/N	ITEMS	$\bar{X}$	SD	Remark
1	Creating live streaming audio and video files (webcasting) for teaching content	3.17	0.68	High Extent
2	Online digital audio and video files (podcasting or net casting)	3.39	0.75	High Extent
3	Using digital audio and video recorder for teaching	2.78	0.66	High Extent
4	Creating online student audio and video projects	3.06	0.73	High Extent
5	Creating online interactive audio and video instructions	3.07	0.72	High Extent
6	produce and edit digital audio (web and CD based) for teaching contents	3.45	0.60	High Extent
7	produce and edit digital video (web and CD based) for teaching contents	2.97	0.69	High Extent
8	Develop a school based digital radio broadcasting	3.48	0.50	High Extent
9	Using digital broadcasting to substitute for the teacher on a temporary basis	3.13	0.72	High Extent
10	Using digital broadcasting program for virtual conference and discussion forums	3.40	0.73	High Extent
Weighted Mean		**3.19**	**0.68**	**High Extent**

Source: Field survey, 2021

Table 7 revealed that the respondents creates live streaming audio and video files (webcasting) for teaching content (mean = 3.17), use online digital audio and video files

(podcasting or net casting) (mean = 3.39), use digital audio and video recorder for teaching (mean = 2.78), creates online student audio and video projects (mean = 3.07), produce and edit digital audio (web and CD based) for teaching contents (mean = 3.45), produce and edit digital video (web and CD based) for teaching contents (mean = 2.97), develop a school based digital radio broadcasting (mean = 3.48), use digital broadcasting to substitute for the teacher on a temporary basis (mean = 3.13), and use digital broadcasting program for virtual conference and discussion forums (mean = 3.40). All the 10 items have their standard deviation ranged from 0.60 to 0. 75 which are below the fixed value of 1.96. This means that the responses of the respondents were not too wide spread, the responses are slightly clustered to the mean. On the overall, the data analyzed in Table 6 revealed that business education teachers utilized broadcast technology skills for teaching effectiveness in colleges of education to a high extent (mean = 3.19, SD = 0.68).

Test of Hypotheses

The four null hypotheses of the study were tested using independent samples t-test and One-way Analysis of Variance at 0.05 level of significance. Hypotheses one and three were tested using t-test while hypotheses two and four were tested using ANOVA. The summary of the test of hypotheses are presented in Tables 8 to 11 as follows:

H_{01}. There is no significant difference between the mean responses of male and female business education teachers on the utilization of internet technology skills for teaching in colleges of education.

Table 8: Summary of T-Test of the Difference between the Mean Responses of Male and Female Business Education Teachers on the Utilization of Internet Technology Skills for Teaching in Colleges of Education

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Male	53	3.21	0.26				
				0.619	69	0.49	NS
Female	18	3.22	0.28				

Source: Field survey, 2021 P>0.05

The data in Table 8 revealed that there are 53 male teachers and 18 female teachers. The response of male and female teachers indicated that internet technologies skills are utilized by business education teachers ($\overline{X}$ = 3.21; SD = 0.26) and ($\overline{X}$ = 3.22; SD = 0.28). Their responses are close to the mean as the standard deviations are very low. The table revealed that there was no significant difference between the mean ratings of business education teachers on the utilization of internet technology skills for teaching in colleges of education (t_{69} = 0.619, P>0.05). Therefore, the null hypothesis that states that there is no significant difference between the mean responses of male and female business education teachers on the utilization of internet technology skills for teaching in colleges of education was not rejected. This implied that male and female business education teachers did not differ in their responses regarding the utilization of internet technology skills for teaching in colleges of education.

$H_{02.}$ There is no significant difference in the mean responses of business education teachers on the utilization of mobile technology skills for teaching in colleges of education based on their years of experience

Table 9: Summary of One-Way Analysis of Variance of the Difference in the Mean Responses of Business Education Teachers on the Utilization of Mobile Technology Skills for Teaching in Colleges of Education Based on Their Years of Experience

Group	N	Mean	SD	f-cal	Df	p-value	Decision
1 – 5 years	24	3.19	0.19				
6 – 10 years	10	3.17	0.18				
				1.049	3,67	0.377	NS
11 – 15 years	24	3.25	0.22				
16 and above	13	3.29	0.20				

Source: Field survey, 2021 P>0.05

The data presented in Table 9 revealed that there are 24 respondents with 1 – 5 years of experience, 10 with 6 – 10 years, 24 with 11 – 15 years, 13 respondents with 16 years and above experience. The calculated value of F is 1.049 (F_{cal} = 1.049). Since the observed p-value is 0.377 which is greater than the fixed p-value of 0.05 (P>0.05), the null hypothesis which stated that there is no significant difference in the mean responses of business education teachers on the utilization of mobile technology skills for teaching in colleges of education based on their years of experience was therefore not rejected ($F_{3.67}$ = 1.049; P>0.377). This implied that there was no significant difference in the mean responses of business education teachers on the utilization of mobile technology skills for teaching in colleges of education based on their years of experience.

H_{03}. There is no significant difference between the mean responses of male and female business education teachers on the utilization of interactive technology skills for teaching in colleges of education.

Table 10: Summary of T-Test of the Difference between the Mean Responses of Male and Female Business Education Teachers on the Utilization of Interactive Technology Skills for Teaching in Colleges of Education

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Male	53	3.17	0.34	1.059	69	0.293	NS
Female	18	3.27	0.34				

Source: Field survey, 2021 P>0.05

The data in Table 10 revealed that there are 53 male teachers and 18 female teachers. The responses of male and female teachers indicated that interactive technologies are utilized by business education teachers ($\overline{X}$ = 3.17; SD = 0.34) and ($\overline{X}$ = 3.27; SD = 0.34). Their responses are close to the mean as the standard deviations are very low. The table revealed that there was no significant difference between the mean ratings of business education teachers on the utilization of interactive technology skills for teaching in colleges of education (t_{69} = 1.059, P>0.05). Therefore, the null hypothesis that states that there is no significant difference between the mean responses of male and female business education teachers on the utilization of interactive technology skills for teaching in colleges of education was not rejected. This implied that male and female teachers did not differ in their responses regarding the utilization of interactive technology skills for teaching in colleges of education.

$H_{04.}$ There is no significance difference in the mean responses of business education teachers on the utilization of broadcast technology skills for teaching in colleges of education based on their years of experience.

Table 11: Summary of One-Way Analysis of Variance of the Difference in the Mean Responses of Business Education Teachers on the Utilization of Broadcast Technology Skills for Teaching in Colleges of Education Based on Their Years of Experience.

Group	N	Mean	SD	f-cal	Df	p-value	Decision
1 – 5 years	24	3.19	0.33				
6 – 10 years	10	3.13	0.33				
				0.166	3.67	0.919	NS
11 – 15 years	24	3.20	0.29				
16 and above	13	3.15	0.30				

Source: Field survey, 2021 P>0.05

The data presented in Table 11 revealed that there are 24 respondents with 1 – 5 years of experience, 10 with 6 – 10 years, 24 with 11 – 15 years, 13 respondents with 16 and above years of experience. The calculated value of F is 0.166 (F_{cal} = 0.166). Since the observed p-value is 0.919 which is greater than the fixed p-value of 0.05 (P>0.05), the null hypothesis which stated that there is no significance difference in the mean responses of business education teachers on the utilization of broadcast technology skills for teaching in colleges of education based on their years of experience was therefore not rejected ($F_{3.67}$ = 0.166; P>0.05). This implied that there was no significant difference in the mean responses of business education teachers on the utilization of broadcast technology skills for teaching in colleges of education based on their years of experience.

Summary of Findings

The following are the summary of major findings of the study:

1. Business education teachers utilize internet technology skills for teaching effectiveness in colleges of education to a high extent (mean = 3.28; SD = 0.60).
2. Business education teachers utilize mobile technology skills for teaching effectiveness in colleges of education to a high extent (mean = 3.28; SD = 0.62).

3. Business education teachers utilized interactive technology skills for teaching effectiveness in colleges of education to a high extent (mean = 3.20; SD = 0.70).
4. Business education teachers utilized broadcast technology skills for teaching effectiveness in colleges of education to a high extent (mean = 3.19; SD = 0.68).
5. There was no significant difference between the mean responses of male and female business education teachers on the utilization of internet technology skills for teaching in colleges of education (t_{69} = 0.619; P>0.05).
6. There was no significant difference in the mean responses of business education teachers on the utilization of mobile technology skills for teaching in colleges of education based on their years of experience ($F_{3.67}$ = 1.049; P>0.05).
7. There was no significant difference between the mean responses of male and female business education teachers on the utilization of interactive technology skills for teaching in colleges of education (t_{69} = 1.059; P>0.05).
8. There was no significant difference in the mean responses of business education teachers on the utilization of broadcast technology skills for teaching in colleges of education based on their years of experience ($F_{3.67}$ = 0.166; P>0.05).

Discussion of Findings

The research work was carried out to examine the utilization of new technology skills for teaching in colleges of education in Kwara State, Nigeria. In order to achieve this purpose, four research questions and four research hypotheses were raised. Based on the result of the data analysis and test of hypotheses, the following findings were made:

Research question one sought to determine the extent of utilization of internet technology skills by business education teachers for teaching effectiveness in colleges of education. The null

hypothesis one (Ho_1) stated that there is no significant difference between the mean responses of male and female business education teachers on the utilization of internet technology skills for teaching in colleges of education. The findings revealed that business education teachers utilized internet technology skills such as search for teaching contents using the search engine on the web, hypertext markup language (HTML) editors to create educational web pages, file transfer protocol to upload and download files for teaching, mail teaching contents with attachment through the e-mail or list servers, use hypermedia web pages for teaching, use browsers to support access and navigation on the world wide web during teaching, organize virtual conferences or discussion forums online for teaching, use blogs and micro blogs for publishing written materials, use collaborative sites and software such as wikis for content creation and editing and use social media platform such as face book, You Tube, Twitter, Instagram etc. to post teaching content were revealed to be utilized to a high extent by business education teachers for teaching in colleges of education. The findings further revealed that there was no significant difference between the mean responses of male and female business education teachers on the utilization of internet technology skills for teaching in colleges of education ($t_{69} = 0.619$, $P=0.49 >0.05$).

This finding agreed with Ekwue, Anyeabunam and Alfa (2016) who maintained that the increased use of internet technologies in business education makes teaching and learning increasingly flexible, multi-tasking and performance based, hence the need for business education teachers to acquired and utilized relevant necessary new technology skills for teaching and learning. This view was also supported by Jimoh (2014) who observed that teachers' skills should be of utmost concern when new subjects or media are introduced into the school system; this is because teachers' experience and skills will affect their ability to implement these new

innovations. Effective teaching of business education in any learning environment requires the demonstration of various new technology skills which invariably enable students to learn by improving their knowledge, skills attitudes and values.

Research question two sought to determine the extent of utilization of mobile technology skills by business education teachers for teaching effectiveness in colleges of education. The null hypothesis two (Ho_2) stated that there is no significant difference between the mean responses of experienced and less experienced business education teachers on the utilization of mobile technology skills for teaching in colleges of education. The findings revealed that business education teachers utilized mobile technology skills to a high extent such as the use of portfolio or digital portfolio and mobile phone for sending teaching contents, the use of cloud computing for storing and sharing files, the use of 3GP to compress and deliver audiovisual teaching contents, use Wi-Fi to gain access to teaching resources via internet, use GPRS mobile data service for delivery of teaching contents, and use short message service for delivering of teaching contents. The findings also showed that the use of multimedia message service for delivering of graphical contents, use of voice mail for language and sound lesson, use of GPS for determination of position, time and direction or navigation and use of high speed downlink or uplink packet access for download and upload of teaching contents were utilized to a high extent by business education teachers for teaching in colleges of education. The findings further revealed that there was no significant difference in the mean responses of business education teachers on the utilization of mobile technology skills for teaching in colleges of education based on their years of experience ($F_{3.67} = 1.049$; $p=0.377 >0.05$).

This finding is supported by Umoru (2015) who reported that the Business education teachers are vital in the impartation of required skills to the students through the acquisition,

possession and utilization of mobile technology skills. This is because mobile technologies are becoming more embedded, ubiquitous and networked, with enhanced capabilities for high social interactions, context awareness and internet connectivity. Such technologies have a great influence on learning (McQuiggan, Kosturko, McQuiggan & Sabourin, 2015).

The purpose of research question three was to determine the extent to which business education teachers utilized interactive technology skills for teaching effectiveness in colleges of education. The null hypothesis three (Ho_3) stated that there is no significant difference between the mean responses of male and female business education teachers on the utilization of interactive technology skills for teaching in colleges of education. The study showed that business education teachers utilized interactive technology skills for teaching effectiveness in colleges of education to a high extent on the use of interactive white boards or electronic board, interactive forms on the web to create feedback or ask questions and videoconferencing or internet phone chat (Skype, Team Speak, etc.).The findings also showed that business education teachers utilized Interactive on-line survey tools, student response systems, instant messaging, interactive multimedia and presentation applications, simulations, or virtual worlds, interactive collaborative editing software, and online student video project to a high extent. The study further revealed that there was no significant difference between the mean responses of male and female business education teachers on the utilization of interactive technology skills for teaching in colleges of education ($t_{69} = 1.059$; $P=0.293>0.05$).

This finding is in line with Adeola (2017) who revealed that the last two decades witnessed a proliferation of interactive technology tools in the education landscape. The use of tools such as the interactive white board, web 2.0 technologies, individual response pads, interactive multimedia, interactive forms, on-line survey tools, collaborative editing software,

instant messaging/chat room and multimedia projectors are becoming popular (Borup & Graham, 2013). As a matter of fact, the rapid change that interactive digital technology is bringing to teaching and learning is almost un-believable because the learning scenario is imperceptible like never before and the acquisition and utilization of interactive technology skills by business education teachers is inevitable.

Research question four sought to determine the extent to which business education teachers utilized broadcast technology skills for teaching effectiveness in colleges of education. The null hypothesis four (Ho_4) stated that There is no significance difference in the mean responses of experienced and less experienced business education teachers on the utilization of broadcast technology skills for teaching in colleges of education. The study revealed that business education teachers utilized live streaming audio and video files (webcasting) for teaching content, use online digital audio and video files (podcasting or net casting), use digital audio and video recorder for teaching, creates online student audio and video projects, produce and edit digital audio (web and CD based) for teaching contents, produce and edit digital video (web and CD based) for teaching contents, develop a school based digital radio broadcasting, use digital broadcasting to substitute for the teacher on a temporary basis, and use digital broadcasting program for virtual conference and discussion forums were revealed to be utilized to a high extent by business education teachers for teaching in colleges of education. The findings further revealed that there was no significant difference in the mean responses of business education teachers on the utilization of broadcast technology skills for teaching in colleges of education based on their years of experience ($F_{3.67} = 0.166$; $P=0.919>0.05$).

This finding is in agreement with that of Orman and Witaker (2010) who explained that the pedagogical value of broadcast technologies cannot be over emphasized. The acquisition and

utilization of broadcast technology skills have the prospects for improving teaching and learning especially where teaching content is disseminated to a mass of learners or audience. Supporting this view, Adakole Lasisi (2017) argued that every teacher is expected to use new technology skills to enhance teaching and learning of all subjects because they keep learners engaged during the lesson and make them active participants in the instructional process.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMEDATIONS

Summary

The study examined the utilization of new technology skills by business education teachers for teaching in colleges of education. To facilitate the conduct of the study, four specific purposes, four research questions and four null hypotheses were formulated. The researcher adopted the descriptive survey design. The population of the study consisted of all business education teachers from both public and private colleges of education in Kwara State, Nigeria. The number of respondents was 71. The researcher adopted the entire population for the study, hence there was no sample. A 40 item questionnaire with 4-point rating scale was the instrument used for data collection. The instrument was face validated by three experts in business education. Cronbach Alpha reliability was used to determine the closeness or otherwise of the responses from the mean. The null hypotheses were tested using independent samples t-test and One-way Analysis of Variance at 0.05 level of significance. Findings were drawn from the analysis and based on the findings, conclusion and recommendations were made.

The study revealed the following findings among others:

1. The internet technology skills utilized by business education teachers for teaching in colleges of education include the use of search engine on the web, hypertext markup language (HTML) editors to create educational web pages, file transfer protocol to upload and download files, the e-mail or list servers, use hypermedia web pages, the use of collaborative sites and software, the use of social media platforms and the ability to organize virtual conferences among others.

2. The mobile technology skills utilized by business education teachers for teaching in colleges of education include skills in the use of portfolio or digital portfolio and mobile phone for sending teaching contents, the use of cloud computing for storing and sharing files, the use of 3GP to compress and deliver audiovisual teaching contents, the use of short messaging services and multimedia messaging service for access to and delivery of teaching contents and use Wi-Fi to gain access to teaching resources via internet among others.
3. The interactive technology skills utilized by business education teachers for teaching in colleges of education include skills to use interactive white boards or electronic board, interactive forms on the web to create feedback or ask questions and videoconferencing or internet phone chat (Skype, Team Speak,) use of interactive multimedia and presentation application, interactive collaborative editing software and interactive survey tools among others.
4. The broadcast technology skills utilized by business education teachers for teaching in colleges of education include the skills to create live streaming audio and video files (webcasting), produce and edit digital audio and video files and use digital broadcast for virtual discussion forums among others.

Conclusion

Based on the findings of the study, it was concluded that the responsibility of the teachers in any circumstance is the education of the students; and if the students are to receive the best type of skills, then the teachers ought to possessed and utilize the best type of skills. This therefore implies that the need for the utilization of new technology skills by teachers of business education for effective teaching is imperative and perhaps necessary for the realization of the

objectives of business education programme. If in any case the teachers lacked the relevant skills to utilize new technologies then the ingenuity, agility, competence and skills of business education teachers and students that are crucial to their success and competitiveness would be compromised. This clearly indicates that business education programme would be producing graduates who would not be able to function effectively in the 21st century world of work and who cannot contribute anything meaningful to the development of an economy driven by technological innovation.

Recommendations

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

1. Colleges of education authorities should take the issue of teachers development and re-training with all the seriousness it deserves by organizing workshops, seminars, conferences and in-service training for teachers of business education to acquire more new technology skills. The authorities should also supervise the teacher development or re-training programme to ensure that the identified internet technology skills are integrated into the programme for effective utilization in the teaching and learning process.
2. Business education teachers should endeavor to be up to date on the mobile technology skills needed and utilized same for teaching. Teachers who are still deficient in the identified mobile technology skills should also make personal efforts to update themselves in order to be more effective and efficient in teaching using mobile technologies.

3. National Commission for Colleges of Education (NCCE) should ensure that the business education curriculum is regularly reviewed, revised and adjusted with inputs from the academia and industry to reflect the identified new technology skills. This is in view of the fact that the skills keep changing
4. Teacher training institutions should endeavor to integrate the identified broadcast technology skills in to the curriculum for teacher training at all levels. This will help develop in the teachers the necessary skills required for effective teaching and learning of business education programmes.
5. Government should make provision for these new technology tools to colleges of education in term of subvention, grants and intervention.

Suggestions for Further Study

This research work was carried out only in Kwara State. In order to widen the geographical area of the findings, a replication of this is encouraged on a zonal basis in the colleges of education where new technologies are much more available to create awareness on the need to acquired and utilized new technology skills.

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APPENDIX 'A'

15/06/2021

Dear Sir/Madam,

Letter of Introduction

This is to introduce **Manyahaya ADAM** (with matriculation number 18/27/MBE001) as a student of the Department of Business and Entrepreneurship Education, Kwara State University, Malete.

He is working on MSc Research with the topic: **"Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education"** and need some information to facilitate his research work.

Please attend to him.

Thank you.

Yours faithfully,

N.B Nwabufo, PhD
Head of Department
ngozi.nwabufo@kwasu.edu.ng

APPENDIX 'B'

Department of Business and Entrepreneurship Education,

Faculty of Education,

Kwara State University,

Malete, Kwara State.

18th January, 2021.

Dear Sir,

Request for Validation of Questionnaire

I am a postgraduate student, undergoing master's degree (M.Sc. Ed) in business education at the above mentioned institution. Currently, I am conducting a research titled **Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education.**

I respectively request you to critically examine the instruments in terms of appropriateness and adequacy of the items in measuring what it is supposed to measure.

Attached is a draft of the instruments. Your comments and suggestions will help to improve the quality of the instruments.

Thank you.

Yours Sincerely,

Manyahaya ADAM

(Researcher)

APPENDIX 'C'

Department of Business and Entrepreneurship Education,

Faculty of Education,

Kwara State University,

Malete, Kwara State.

18th June, 2021.

Dear Respondents

Request to Complete Questionnaire

I am a postgraduate student in the above institution. I am conducting a research on the topic "**Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education"**. I am soliciting for your cooperation by filling the attached questionnaire. Please do not write your name on the questionnaire. Endeavour to answer the questions as truthfully as possible. Your answers will be treated confidentially as they will be used only for academic purposes.

Columns are provided beside the statements for you to indicate your responses. Read each statement carefully and tick the column that best expresses your opinion.

Thank you for your cooperation.

Yours Sincerely,

Manyahaya ADAM

(Researcher)

APPENDIX 'D'

Questionnaire for Business Education Teachers

Part 'A' Descriptive Part

Instruction: Please tick where appropriate

1. Name of Institution.....

2. Teaching Experience in the College of Education:

   1 – 5 ( )

   6 – 10 ( )

   11-15 ( )

   16 and above ( )

3. Gender Male ( ) Female ( )

Part 'B' Analytical Part

Instruction: Please tick the response options that best expresses your opinion

The response options are:

Very High Extent (VHE)

High Extent (HE)

Low Extent (LE)

Very Low Extent (VLE)

Section A: Business education teachers' utilization of internet technology skills for teaching effectiveness

S/N	Indicate the extent to which the following internet technology skills are utilized	VHE	HE	LE	VLE
1	Searching for teaching contents using the search engine on the web				
2	Usage of hypertext markup language (HTML) editors to create educational web pages				
3	Usage of file transfer protocol to upload and download files for teaching				
4	Mailing teaching contents with attachment through the e-mail or list servers				
5	Usage of hypermedia web pages for teaching				
6	Usage of browsers to support access and navigation on the world wide web during teaching				
7	Organizing virtual conferences or discussion forums online for teaching				
8	Usage of blogs and micro blogs for publishing written materials				
9	Usage of collaborative sites and software such as wikis for content creation and editing				
10	Usage of social media platform such as face book, You Tube, Twitter, Instagram etc. to post teaching contents.				

Section B: Business education teachers' utilization of mobile technology skills for teaching effectiveness

S/N	Indicate the extent to which the following mobile technology skills are utilized	VHE	HE	LE	VLE
1	Usage of e-portfolio or digital portfolio and mobile phone for sending teaching contents				
2	Usage of cloud computing for storing and sharing Files				
3	Usage 3GP to compress and deliver audiovisual teaching contents				
4	Usage of Wi-Fi to gain access to teaching resources via internet				
5	Usage of GPRS mobile data service for delivery of teaching contents				
6	using short message service for delivering of teaching contents				
7	Using the multimedia message service for delivering of graphical contents				
8	Using the voice mail for language and sound Lesson				
9	Using GPS for determination of position, time and direction or navigation				
10	Using the high speed downlink or uplink packet access for download and upload of teaching contents				

Section C: Business education teachers' utilization of interactive technology skills for teaching effectiveness

S/N	Indicate the extent to which the following interactive technology skills are utilized	VHE	HE	LE	VLE
1	Interactive white boards or electronic board for teaching				
2	Interactive forms on the web to create feedback or ask Questions				
3	Videoconferencing or internet phone chat				
4	Interactive on-line survey tools				
5	Using student response systems (clickers, wireless learning calculator systems, etc.)				
6	Instant messaging/chat room for teaching content delivery				
7	Interactive multimedia and presentation application for Teaching				
8	Using simulations, or virtual worlds				
9	Using interactive collaborative editing software				
10	Using online student video projects				

Section D: Business education teachers' utilization of broadcast technology skills for teaching effectiveness

S/N	Indicate the extent to which the following broadcast technology skills are utilized	VHE	HE	LE	VLE
1	Creating live streaming audio and video files (webcasting) for teaching content				
2	Online digital audio and video files (podcasting or net casting)				
3	Using digital audio and video recorder for teaching				
4	Creating online student audio and video projects				
5	Creating online interactive audio and video instructions				
6	produce and edit digital audio (web and CD based) for teaching contents				
7	produce and edit digital video (web and CD based) for teaching contents				
8	Develop a school based digital radio broadcasting				
9	Using digital broadcasting to substitute for the teacher on a temporary basis				
10	Using digital broadcasting program for virtual conference and discussion forums				

APPENDIX 'E'
Reliability Statistics

Scale: TEST OF ALL QUESTIONS

```
RELIABILTY
/VARIABLES =   Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15
                        Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26 Q27 Q28
                              Q29 Q30 Q31 Q32 Q33 Q34 Q35 Q36 Q37 Q38 Q37 Q39 Q40

/SCALE (TEST OF ALL QUESTIONS')     ALL
/MODEL   =    ALPHA
```

Case Processing Summary

		N	%
Cases	Valid	15	100.0
	Excluded[a]	0	.0
	Total	15	100.0

a. List wise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.711	40

APPENDIX 'F'

Validation Letter

VALIDATION CONFIRMATION

Department of Business and Entrepreneurship Education,

Faculty of Education,

Kwara State University,

Malete.

28th January, 2021.

Department of Business and Entrepreneurship Education,

Faculty of Education,

Kwara State University,

Malete

CONFIRMATION OF FACE AND CONTENT VALIDATION OF RESEARCH INSTRUMENT

Your letter on the above – mentioned subject matter refers.

I ---------- of

Department of ----------, Kwara State University, Malete hereby certify a face and content validity attached research instrument on the "**Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education.**

Thank you

Yours Sincerely,

DR. J. F. OYEDELE
RESEARCH INSTRUMENT VALIDATOR

VALIDATION CONFIRMATION

Department of Educational Management,

Faculty of Education,

Kwara State University,

Malete.

28th January, 2021.

Department of Business and Entrepreneurship Education,

Faculty of Education,

Kwara State University,

Malete.

CONFIRMATION OF FACE AND CONTENT VALIDATION OF RESEARCH INSTRUMENT

Your letter on the above – mentioned subject matter refers.

I ---------- of

Department of ----------, Kwara State University, Malete hereby certify a face and content validity attached research instrument on the "**Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education.**

Thank you

Yours Sincerely,

DR. S. O. AFOLABI
RESEARCH INSTRUMENT VALIDATOR

VALIDATION CONFIRMATION

Department of Business and Entrepreneurship Education,

Faculty of Education,

Kwara State University,

Malete.

28th January, 2021.

Department of Business and Entrepreneurship Education,

Faculty of Education,

Kwara State University,

Malete.

CONFIRMATION OF FACE AND CONTENT VALIDATION OF RESEARCH INSTRUMENT

Your letter on the above – mentioned subject matter refers.

I ---------- of

Department of ----------, Kwara State University, Malete hereby certify a face and content validity attached research instrument on the "**Utilization of New Technology Skills by Business Education Teachers for Teaching in Colleges of Education.**

Thank you

Yours Sincerely,

DR. I. F. JIMOH
RESEARCH INSTRUMENT VALIDATOR

APPENDIX 'G'

Attestation Letter

This is to confirm that this thesis which was written by **Mr. Manyahaya ADAM 18/27/MBE001** has been read and edited by me. All errors and mistakes have been corrected and effected as well.

Thanks for your usual cooperation.

Kolawole, Saliu Ph.D

Department of General Studies Education,

Kwara State College of Education (T), Lafiagi.

16/02/2022.