

Availability and Utilization of E-Learning Technologies for Teaching Business Subjects in Secondary Schools in Anambra State, Nigeria

Umelue, Ogochukwu Gloria (Ph.D.)

Department of Business Education,
Nwafor Orizu College of Education, Nsugbe Anambra State, Nigeria

Abstract

The need to instill and engender efficiency and effectiveness in the implementation of curriculum for Business subjects calls for the utilization of e-learning technologies in instructional delivery. This study aimed to determine the extent of availability and utilization of e-Learning technologies for teaching of business subjects in the senior secondary schools in Anambra State. It specifically examined the extent of availability of e-Learning technologies; and assessed the extent utilization of various e-Learning technologies (hardware, software, and internet) by teachers of business subjects in the senior secondary schools in Anambra State. Four research question posed in line with the specific objectives guided the study; and has four corresponding hypotheses for mean differences. The study adopted a descriptive survey design to study a population of the 1260 out of which 164 samples were taken from the business subject teachers in Anambra State. The instrument for data collection is the Extent of E-learning Technologies Availability and Utilization Questionnaire (ETAUQ) structured in a Likert type format. The instrument was validated and have reliability of 0.9266 established using Cronbach Alpha. Data was analyzed using mean and standard deviation for the research questions and t-test for the hypotheses. The results showed that e-learning technologies availability at the secondary schools in Anambra State are considered to be at a moderate extent; e-learning hardware and software technologies were utilised at moderate extent; while the internet technologies was considered to be utilised at a low extent for teaching business subjects in the secondary schools in Anambra State. The hypotheses testing revealed that location (rural or urban) and gender (male and female) has no significant difference in the mean ratings of business subjects teachers on the extent of availability of e-Learning technologies for utilization; and the extent of utilization of e-Learning hardware technologies. However, teaching experience (above 10 years' experience and below 10 years' experience) in secondary schools in Anambra State differ significantly in their mean ratings on the extent of utilization of e-Learning software technologies in teaching. More is, business teachers with high qualification makes more effective utilization of the internet technologies than the low qualified business subject teachers in Anambra State. Among the recommendations were that curriculum planners should develop the curriculum that should include the use of e-learning technologies by secondary school teachers; and that secondary school administrators should sponsor the re-training of business subject teachers on the utilization of e-learning technologies in education so as to enhance their teaching skills.

Keywords: E-learning technologies, business subject, Anambra State, availability of e-Learning technologies, Utilization of e-Learning technologies.

INTRODUCTION

Education is a prerequisite for today's knowledge-based economy. The production and use of new knowledge required a more educated population. Information and Communication Technology (ICT) is playing a major role in the acquisition and diffusion of knowledge which are fundamental aspects of the education process. The impact of ICT on education is enormous. Information and communication technology are potentially powerful enabling tools for educational change and reform. When used appropriately, different ICT gadgets help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping to make teaching and learning an engaging active process that is connected to real life.

The introduction of ICT to the educational system has led to the development of e-learning. E-learning is an inclusive term that describes educational technology that electronically or technologically supports teaching and learning. That is to say that "E" should be interpreted to mean "exciting, energetic, enthusiastic, emotional, extended, excellent, and educational" in addition to "electronic" (Amesi & Yellowe, 2018). Electronic learning is basically the use of information and communication technologies (ICTs) to enhance and support teaching and learning (Eteng & Ntui, 2009).

E-learning technologies are all the electronic technologies such as: the internet, software applications, hardware component and digital technologies that are used to support the teaching and learning processes (Eze, Chinedu-Eze & Bello, 2018; Nwaosa & Okolocha, 2014). E-learning utilizes hardware (e.g., PCs, tablets, printer, digital camera, digital videos, scanner, overhead projector; OHP, and OHP screen), software (operating systems, cloud technologies, applications (apps), writing, editing, MS Office) and (CD textbooks that fall in the category of courseware, OERS, e-content) and others (e.g., USB drives, CD-ROM), whether from a distance or face-to-face classroom setting (PC helped learning), to empower teacher to student interactions (Eze, *et al*, 2018). These technologies are all the digital educational resource that comes in various forms that suit the individual user. E-learning has an advantage of enabling students to learn from anywhere and at any time. E-learning also provides a one-stop service for teachers and learners in order to create and deliver educational content quickly, effectively, and economically (Ong, Lai, & Wang, 2004). The e-learning covers all stages of learning from formal to non-formal, provided it involve the uses of information network - the internet and intranet (Local Area Network) or extranet (Wide Area Network) - whether wholly or in part, for course delivery, interaction and or facilitation (Olaniran, Duma & Nzima, 2017).

Accordingly, e-Learning can be synchronous or asynchronous. Synchronous e-learning is 'live' and requires simultaneous participation of all learners and instructors at different locations. Every learner is expected to be at the computer at the same time receiving instructions. It can be regarded as scheduled delivery of learning (Alu, 2011). A more complex type involves learners. Learners from different locations have opportunity to log into the training at a particular time. An instructor facilitates the discussion through showing of slides or writing on a 'white board' that is seen on the computer screens of learners. This offers learners the opportunity to ask questions as the learning progresses. The question asked could be verbal or written. The synchronous e-Learning makes learners to feel that they are part of the learning society as interaction among students and instructors is done at the allowed for flexibility (Alu, 2011). On the other hand, asynchronous e-Learning learning is "pre-coded", prepared, kept and can be used when needed at any time. It does not take place at the same time. Learners are free to make their schedule (Alu, 2011). This type of e-learning is delivery on demand learning and this gives the learner more control over the learning process and content.

In Nigeria, the National Policy on Education of the Federal Republic of Nigeria, noted that the prominent role of ICT in advancing knowledge and skill necessary for effective functioning in the modern world, was the reason that the ICT was integrated into education in Nigeria (FRN, 2016). With this statement, the Anambra state government recognizes the need to harness ICT for

educational development, and have partnered with other private sectors such as Technology Distribution (TD), Microsoft, schoolNet Nigeria Education Trust Fund (ETF) and HP and thus initiated secondary *school connectivity and education programme*. In 2010, former state governor Peter Obi provided computer, laptops, printers, telephone and other internet connectivity to all the public secondary school as a way of fostering ICT - driven education in Anambra state. Effective utilization of e-Learning technology by teachers of business subjects depend on the availability of e-Learning technologies.

Availability connotes readiness for use (Adakole, Eiriemiokhale & Nnaji, 2016). Availability is the extent to which a given resources or material is readily accessible or obtainable for use by a group, team or the needy public while utilization is the employment of available resource for definite or desirable use. The concept of availability of e-learning technologies can be captured by the number of the e-learning technologies present in the school for utilization in learning. Studies have used the term “adequacy” to explain the extent to which e-learning technologies are provided for utilization in learning (Everest & Laura, 2011 as cited in Amesi & Yellowe, 2018). The term accessibility has also been used to explain extent of availability of e-learning technologies (Jegede, 2004). The concept of availability in e-learning technologies therefore explains the provision, adequacy and accessibility of the electronic gadgets that facilitates learning. Wokocha Appah and West (2020) also opined that the quality of instructional delivery in educational sector hugely depends on the availability and effective utilization of this facilities.

In this age of information and communication technology (ICT), there is growing concern for the use of e-Learning technologies such as the computer, internet, e-mail, teleconferencing, wireless application protocols (WAP), multimedia and projector, among others in instructional delivery (Nwana, 2012). With e-learning there is a shift from the traditional approach of teacher-centered to modern methods where computer technology plays a significant role in instruction. E-learning technologies ought to be available as they have consideration impact in teaching and learning. Through e-learning, students would be able to communicate, collaborate and cooperate with other learning worldwide and asses worldwide libraries irrespective of their geographical locations and bring to following the goal of business subjects as enshrined in the National Policy on Education.

Business subjects consist of courses that provide skills that helps students in office occupations. Business subjects also provide orientation and basic skills with which to start a life of work for those who may not undergo further training. The Federal Republic of Nigeria (2016) defined business subjects as that aspect of subjects which leads to the acquisition of practical and applied skills as well as basic scientific knowledge to practical tasks in order to create wealth, improve human capacity, reduce labour, prolong life and improve general human welfare. One of the objectives of business subjects is to help students to have intelligent understanding of the increasing complexity of technology. Business subject therefore has to align itself with this emergent information and communication technology. This is necessary because, according to UNESCO (2011), ICT is the major technology that provides teachers and students access to vast stores of knowledge beyond the school, as well as with multi-media tool to add to their store of knowledge.

However, the use of e-learning technologies supersede mere availability. To utilize means "to make use of something, or find a practice use for something". In the context of education, ‘utilization’ refers to the extent to which e-learning technologies being actively engaged to produce stimulating learning experience not only for oneself but also for others (Olaniran, Duma & Nzima, 2017). Hence, e-learning utilization means the use of electronic media and information and communication technologies (ICT) in education. The concept of utilisation connotes the application of e-learning technologies in a manner to enhance learner-teacher interaction, which is any form of learning that utilizes a computer or technological network for delivery, interaction or facilitation. In the past, student and teachers have wasted time and money, and at extremes lives as they travel long distance to access study material for reading knowledge and performance. Course designers must therefore realize that learning styles are different: visual learners, kinesthetic learners and auditory learners.

E-learning course must cater for all, otherwise learners lose interest. In the use of e-Learning, the business subject teachers must therefore bear in mind the following difficulties: Learners can feel isolated; can encounter difficulty with navigation within the site; confuse instruction for task; irrelevant material for learner's needs; and Technological breakdown (Akabuogu & Igbokwe, 2011).

Senior secondary school business subjects are taught as vocational subjects because they are studied in-depth in order to develop valuable knowledge, understanding, experiences and skills that will benefit the school leavers (Ezenwafor & Achugamoney, 2019). Wanza (2012) cited in Azih and Ikelegbe (2019) stated that business studies subjects enables the learner to acquire knowledge and awareness of business vital terminologies when discussing business issues, understand business and its environment, appreciate the role of business in the society ad to acquire necessary entrepreneurial skills and knowledge.

According to the Federal Republic of Nigeria (FRN, 2016), Business subjects is called vocational subjects at senior secondary school level which at the junior secondary school level is called business studies. In Nigeria, vocational subjects are usually offered at the senior secondary schools or technical collages and include general education, practical skills and recounted theories required by the chosen occupation vocational subjects at senior secondary schools includes office practice, accounting, economics, data processing, book-keeping, commerce etc which are taught as separate subjects with emphasis on practical training. Vocational subjects are designed to prepare individuals or skilled personnel for one or a group of occupations, trade or jobs. This enables students to acquire skills either in accounting, secretarial or office administration or marketing respectively. The NERDC (2008), puts the total number of trade subjects that are available in the senior secondary education curriculum at 34, which are:

1. Air Conditioning and Refrigeration
2. Animal Husbandry
3. Auto Body Repairs and Spray Painting
4. Auto Electrical Work
5. Auto Mechanical Work
6. Automobile Parts Merchandising
7. Block Laying, Brick Laying and Concreting Work
8. Book- Keeping
9. Carpentry and Joinery
10. Catering Craft Practice
11. Cosmetology
12. Data Processing
13. Dyeing and Bleaching
14. Electrical Installation and Maintenance Works
15. Fisheries
16. Furniture Making
17. GSM Phone Maintenance and Repair
18. Garment Making
19. Leather Goods Manufacturing and Repairs
20. Machine Woodworking

21. Marketing
22. Mining
23. Painting and Decorating
24. Photography
25. Plumbing and Pipe Fitting
26. Printing Craft Practice
27. Radio, Television and Electronic Works
28. Salesmanship
29. Stenography
30. Store Keeping
31. Tourism
32. Textile trade
33. Upholstery
34. Welding and Fabrication Engineering Craft Practice.

Teachers of business subjects in senior secondary schools are expected to utilize e-learning technologies in classroom instruction processes. They are expected to use e-learning technologies to support instruction and enable secondary school students use technology as an important tool to meet their learning needs. The extent to which e-learning technologies are employed to teaching-learning process can be influenced by gender, location and teacher experience.

Gender can be an influencing factor to the utilization of e-learning by public secondary schools teachers. Gender influence is one of the factors that determine the extent of teacher ICT acceptance (Emeasoba & Nweke, 2016). For instance, studies infer that male teachers experience less anxiety about ICT and make more frequent use of it than female teachers (Agboola, 2006). Moreover, female teachers tend to show lower self-confidence or knowledge ability than males about using computers (Godwin-Maduiké & Nwazor, 2017).

Similarly, location of secondary school could influence the success of e-learning utilization. Yuen and Ma (2004); Sinha (2009) pointed out that the success of the utilization of e-learning technologies in secondary schools might differ as a result of urban and rural areas. Federal Republic of Nigeria (2016) noted that a great gap exist between urban and rural secondary schools with regards to availability of e-learning technologies. It is possible that the management of secondary schools can view the utilization of e-learning from different perspectives.

Experience is one other factor that can influence teacher utilization and perception of e-learning technologies. Experience is the knowledge gained through exposure to certain occurrences in the course of life. In the teaching profession, teachers who have spent more years on a subject has more experience than those with lesser number of years of teaching. Age and years of service in a profession usually defines teacher experience (Ghavifekr & Rosdy, 2015). Studies reveal that training enhances experience, thus a teacher who undergoes ICT course is expected to be more effective in teaching with technology tools than those that have no experience in such training (Winzenried, Dalgarno & Tinkler, 2010).

Another factor that could enhance effective teaching with e-technologies is the teachers' qualification. Teacher qualification refers to the academic and professional qualification that enables a person to become a registered teacher at all levels of education. It also entails the acquisition of relevant knowledge, skills and competence and creativity needed for quality productive engagement in the teaching profession (Etiubon & Benson, 2014). Darling- Hammond

(2007) defined a well-qualified teacher as one who is fully certified and holds the equivalent of a major in the field being taught. Therefore business subject teachers are teachers who are trained and equipped to respond to growing changing societal challenges in the areas of commerce. They should be able to inculcate in the learners knowledge and skills needed for active, productive, lifelong career opportunities in business. At present, teacher education programme in Nigeria is categorized into three levels on the basis of their training and certificates; Nigeria Certificate in Education (NCE) which is run for a minimum of three years and maximum of five years; Bachelor Degree in Education (B.Ed, B.Sc. Ed, & B.A. Ed) programme that is run for a minimum of three years and maximum of five years; Post-Graduate Diploma in Education (PGDE). It provides professional training for pre-service and in-service auxiliary teacher; M.Ed., and Ph.D. Certain basic requirements are needed for teacher training before one can gainfully be certified as a qualified teacher. The major training influence for teacher qualification is in terms of the magnitude, type and quality of professional preparation put into it. This is to say, while the academic qualification of the teacher may influence effective utilisation of teaching aids, of particular concern is the business teachers' effectiveness in utilising e-technologies in teaching business subjects.

However, observation shows that the extent at which teachers of business subjects in senior secondary schools in Anambra State utilize e-learning technologies is not well known. It is from this background that the present study is carried out to determine the extent of availability and utilization of e-learning technologies for teaching of business subjects in senior secondary schools in Anambra State.

Statement of the Problem

The need to instil and engender efficiency and effectiveness in the implementation of curriculum for Business subjects calls for the utilization of e-learning technologies in instructional delivery. Notwithstanding the efforts of the Federal Ministry of Education and the Anambra State Government in providing ICT facilities in secondary schools, it appears that teachers of business subjects in secondary schools do not still utilize e-learning technologies in their teaching which may be as a result of inadequate number of computer facilities. Supporting this view, Adeyemo, Adedoja and Adelore (2013) noted that teachers' and learners' inability to utilize learning technology due to inadequate computer skills of users has hampered the implementation of e-learning technologies in Nigerian secondary schools.

Moreover, there seems to be shortage of research information as to the extent of availability and utilization of e-Learning technologies by teachers of business subjects in senior secondary schools in Nigeria especially in Anambra State.

Teachers of business subjects in Nigeria secondary schools are expected to utilize e-learning technologies in classroom instruction processes. They are expected to use e-Learning technologies to support instruction and enable secondary school students use technology as an important tool to meet their learning needs. Low availability and utilizations of e-Learning technologies by teachers of business subjects in senior secondary schools could result to producing students with only theoretical knowledge and less experience in practical courses requiring the application of ICT where skill acquisition is needed. It is on the strength of these issues that this study is out to find out the extent of availability and utilization of e-learning technologies, as well as their challenges for teaching business subjects in senior secondary schools in Anambra State.

Research Objectives

The main purpose of this study is to determine the extent of availability and utilization of e-Learning technologies for teaching of business subjects in the senior secondary schools in Anambra State.

Specifically, the study sought to determine the:

1. Extent of availability of e-Learning technologies for utilization by teachers of business subjects in senior secondary schools in Anambra State.
2. Extent of utilization of e-Learning hardware technologies by teachers of business subjects in senior secondary schools in Anambra State.
3. Extent of utilization of e-Learning software technologies by teachers of business subjects in senior secondary schools in Anambra State.
4. Extent of utilization of internet technologies by teachers of business subjects in senior secondary schools in Anambra State.

Research Questions

The following research questions guided the study:

1. To what extent are e-Learning technologies available for teachers of business subjects in senior secondary schools in Anambra State?
2. To what extent do teachers of business subjects in senior secondary schools in Anambra State utilize e-Learning hardware technologies in teaching of business subjects?
3. To what extent do teachers of business subjects in senior secondary schools in Anambra State utilize e-Learning software technologies in teaching of business subjects?
4. To what extent do teachers of business subjects in senior secondary schools in Anambra State utilize internet technologies in teaching of business subjects?

Hypotheses

The following null hypotheses formulated to guide this study were tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings of business subjects teachers in urban and rural areas in senior secondary schools in Anambra State on the extent of availability of e-Learning technologies for utilization.
2. Male and female teachers of business subjects in senior secondary schools in Anambra State do not differ significantly in their mean ratings on the extent of utilization of e-Learning hardware technologies in teaching.
3. Business subject teachers with over ten years' experience and those with below ten years of teaching experience in senior secondary schools in Anambra State do not differ significantly in their mean ratings on the extent of utilization of e-Learning software technologies in teaching.
4. There is no significant difference in the mean ratings of business subject teachers in senior secondary schools in Anambra State on the extent of utilization of Internet technologies in teaching of business subjects based on qualification.

THEORETICAL FRAMEWORK

The framework of this study is hinged on the Unified Theory of Acceptance and Use of Technology (UTAUT) propounded by Venkatesh, Morris, Davis and Davis (2003). In about a decade ago, Venkatesh, Morris, Davis, and Davis (2003) came up with a theory that tries that brings together the concepts in TAM and Theory of Reasoned Action (TRA) to form a unified theory of acceptance and use of technology (UTAUT). The UTAUT identifies four key factors (i.e., performance expectancy, effort expectancy, social influence, and facilitating conditions) and four moderators (i.e., age, gender, experience, and voluntariness) related to predicting behavioral intention to use a technology and actual technology use primarily in organizational contexts. According to UTAUT, performance expectancy, effort expectancy, and social influence were theorized and found to influence behavioral intention to use a technology, while behavioral intention and facilitating conditions

determine technology use. Moreover, various combinations of the four moderators were theorized and found to moderate various UTAUT relationships.

According to Venkatesh, *et al.* (2003), the first three factors are direct determinants of usage intention and behaviour, and the fourth is a direct determinant of user behaviour. The usage intention and behaviour explains the essence of provision of e-learning technologies (in secondary schools) has government and school administrators determines the need for new teaching-learning process and decides to provide these e-learning technologies. Thus, the usage intention satisfies the availability of e-learning technologies. However, user behaviour defines the attitude of the teacher to the utilization of e-learning technologies. The four factors identified by the UTAUT captured both the availability and utilization of e-learning technologies. The present study subsumes gender, experience and location as moderating variables of the technology adoption factors.

EMPIRICAL STUDIES

The extant studies that are related to the present study were reviewed in this section. Among the extant literature reviewed were the work of Eze, Chinedu-Eze, and Bello (2018) conducted to examine the “adoption and utilisation of e-learning facilities by lecturers in Nigerian private tertiary institution”. The adoption of e-learning facilities comprised the availability and adequacy of e-learning facilities, while utilisation included Ease in the use of e-learning facilities and Preference of e-learning over ‘face to face’ method. The study employed a 15 semi-structured interviews administered on the academic staff of selected private universities in Nigeria to obtain the data which were analysed using the thematic approach. The findings indicated that the e-learning facilities in are adequate and accessible to users. It also revealed that most of the teachers are contented with the utilisation of various facilities during classes compared to most public tertiary institutions although, the utilisation has not been maximised. However, attitude of users, inadequate internet facility, inadequate training of users affect the successful adoption. The study recommends that e-learning facilities should be constantly upgraded, and that universities should train their staff continuously to meet the constant advancements of the e-Learning facilities in order to maximize usage.

The study by Eze, *et al* (2018) was carried out using the staff of private universities in Nigeria, however, the current study uses the teachers of public schools. Both studies are similar because they examined the availability, utilisation and challenges of e-learning technologies, the current particularised the topic teaching of business subjects; and will further determine how some moderating variables such as gender, experience and location influences availability, utilization and challenges of e-learning in teaching-learning process.

Olaniran, Duma and Nzima (2017) adopted a survey research design to investigate the extent of utilization of e-learning resources by pre-service teacher trainees in ODL institutions in South Africa. The study was anchored on four objectives which are “rate at which pre-service teachers are accessing e-resources”, “most accessed electronic resources”, “types of device through which the electronic resources are being accessed” and “how the e-learning resources accessed are being utilized in the classroom”. With the help of 144 pre-service teachers as sample, the study obtained data using anonymous web based survey designed. The analyses performed using the descriptive statistics and frequent distribution revealed that there is a high level of utilization of e-resources for learn but low utilization of e-resources for teaching ODL institutions in South Africa. Olaniran, *et al* (2017) are at variances on the grounds of location and populations of study. While previous study was carried out in South Africa, the current study took place in Anambra State of Nigeria; and the previous study took on the ODL institutions, the current study centred on the public secondary schools. Both studies are similar in terms of object of the study being the e-learning technology (resource).

Amesi and Yellowe (2018) employed a descriptive survey to examine the “availability and utilization of information and communication technology (ICT) gadgets in faculties of education in

Rivers State Universities”. A sample of 168 lecturers and 232 students was drawn from the population 237 lecturers and 9,945 students. Two research questions and two hypotheses were developed and analyzed using Mean and standard deviation for the research questions and z-test for the hypotheses. The findings revealed that ICT gadgets available in moderate extent and not effectively utilized for teaching and learning. It was further found that there was no significant mean difference in the responses to availability and utilization of ICT gadgets. The study thus concluded that ICT gadgets are not adequate and well utilized in teaching and learning education courses in Faculties of Education in Rivers State Universities.

Amesi and Yellowe (2018) was carried out in Rivers state among students of universities, while the current study was done in Anambra State among the teachers of business subjects in public schools. Thus, both studies differ in terms of location and target population. However, they are similar in that they both studied availability and utilization of ICT resources in teaching and learning. The current went further to examine the factors the affect the utilization of these reousr4ces in the teaching process.

Eneasoba and Nweke (2016) carried out a study to assess the “level of availability and utilization of ICT facilities in teaching and learning of OTM in Polytechnics of South Eastern States, Nigeria”. The study employed a survey design and five research questions and two hypotheses. The total population of the 88 OTM Lecturers were administered with the 65-item questionnaire. The data obtained were analyzed using the arithmetic mean, standard deviation and t-test. The results showed that ICT facilities for teaching OTM courses were available at low extent; while ICT facilities which are grouped into computer facilities, telecommunication facilities, multimedia facilities and internet facilities were utilized at low extent. The study further revealed that gender (male or female) did not cause a significant difference in the mean ratings of polytechnic OTM lecturers on their extent of computer facilities utilization; but location (urban or rural) did brought about a significant difference in the mean rating of polytechnic OTM lecturers on the extent of telecommunication facilities utilization in teaching OTM courses.

Eneasoba and Nweke (2016) was carried out in polytechnics, while the current study was carried out in public secondary schools, making both studies to differ in target population but all undertaken in the same location being Anambra State. However, they are similar in terms of subject: both studies examined the availability and utilization of ICT resources, but the current study went further to determine the factors that affect the utilization of these technologies.

Njelita and Emendu (2015) investigated the level of availability and extent of use of ICT resources for chemistry teaching in secondary schools of Anambra State. The survey design adopted employed structured questionnaire and oral interview for data collection. A sample of one hundred and fifteen (115) chemistry teachers (80 urban and 35 rural) randomly selected without replacement from a population of 260 chemistry teachers in the governments owned secondary schools in the state. The two instrument developed for the two research questions and hypotheses were availability of ICT resources (AICTR) and ICT resources (UICTR). The instruments validated by four experts being educators in computer, chemistry educator and measurement and evaluation in higher institution. The reliability was found at coefficient alpha of 0.85 for AICTR and 0.81 for UICTR. The results obtained from mean, standard deviation and Z-test revealed that core ICT resources for chemistry curriculum delivery are not available, except generators and desktops available in rural and urban schools. Further analyses indicated that ICT resources are not well utilized for chemistry curriculum delivery.

The current study derived from Njelita and Emendu (2015) since both studies are done in Anambra state and on availability and utilization of e-learning technologies in public secondary schools. However, the previous study studied samples of educators in chemistry while the current study sampled business subject teachers. The locations are not entirely similar as the previous study was done in the entire state while the current study was particularly carried out in Ogidi Education Zone of the state. Moreover, the current study, in addition to availability and utilization of e-learning

technologies, went further to examine the challenges that affect utilization of e-learning technologies.

Godwin-Maduiké and Nwazor (2017) carried out a study on the “extent of availability and utilization of e-Learning technologies by teachers of business subjects in secondary schools in Anambra State”. The purpose of the study was to determine the extent of availability and usage of hardware e-learning technologies by the teachers in Business subjects. The study used two research questions and two null hypotheses. The study was a descriptive survey design that used 24-item 5-point scaled questionnaire to collect data on availability and utilization of e-learning technologies from 220 male and female teachers of business subjects in public secondary schools in Anambra State. The data were analyzed using the mean and standard deviation to answer research questions and z-test to test the null hypotheses. The findings revealed a low-extent of both “availability” and “utilization” of e-learning hardware technologies for teaching business subjects in secondary schools in Anambra state. Further analyses revealed that locations of schools affected the extent of availability; and gender affected extent of utilization, of e-learning technologies in teaching among public secondary schools in Anambra State.

The current study so much derived from Godwin-Maduiké and Nwazor (2017). Both studies were done in Anambra state, among teachers in business subjects and on the availability and utilization of e-learning technologies. Both studies also modeled the utilization of e-learning technologies into hardware, software and Internet utilizations. The areas of divergence are that the current study expanded the scope of the objectives by examining the factors that affect e-learning technologies utilization; and more particularly examine only one zone (Ogidi Education Zone) as against the entire Anambra school system undertaken by the previous study.

Gabadeen, Alabi and Akinnubi (2015) employed a descriptive survey to examine the available, accessibility and utilization of e-learning technologies in public secondary schools in Federal Capital Territory, Abuja, Nigeria. Three research questions and two hypotheses was developed for the study. The questionnaire was structured on a 3-point scale to capture the adequacy of availability, accessibility and utilization e-learning technology tools for secondary schools. The data collected were analyzing using percentage frequency, mean and t-test statistics. The findings showed that e-learning technologies were relatively available to the teachers and students, reasonably accessible and adequately accessible to students and teachers, respectively, and fairly utilized by both. Further analyses revealed that both teachers and students have similar levels of accessibility and utilization of the e-learning technologies in secondary schools in Nigeria.

Gabadeen, *et al* (2015) was carried out in Abuja while the current study was done in Anambra State. The previous study used included all the subjects in secondary school meaning that all the teachers formed the population as against the current study where the business subjects was the target. However, the current study still derived the previous study because they both studied availability and utilization of e-learning technologies in public secondary schools. However, the current study further investigated the factors the affect the utilization of e-learning technologies.

The reviews have elicited a poor or dearth availability of e-learning technologies, low utilization and huge challenges occasioned by certain factors that constrain the utilization of e-learning technologies. However, most of these studies were not done in public secondary schools of Anambra State Nigeria. Following that the Anambra State government since 2010 had shown commitment towards digitalization of education in the state, this study becomes pertinent to determine the availability and utilization of e-learning technologies in the state, as well as the constraints to its utilization by the teachers.

RESEARCH METHODOLOGY

The study adopted a descriptive survey design, wherein the analysis is directed towards people, their opinions, attitude and behaviour. The design is chosen since the data from opinions of the secondary school teachers were collected and used to justify the extent of availability, utilization

and factors hindering utilization of e-learning technologies in Anambra State. The population of the study comprised the 1260 business subject teachers in the 263 public secondary schools in Anambra State. The people of Anambra State are Igbos and highly interested in education and matters leading to educational developments. The choice of the Anambra education system as the area of the study was informed by the fact that the it benefited from the efforts of the Anambra State government in facilitating the use of computers and other ICT gadgets in teaching and learning in the secondary schools. Since 2010, the State facilitated the use of ICT in schools by distributing some sets of computers, power generating sets, and encourages the use of online school administration in forms of student registration, results checking.

The data for this study will be generated through the use of questionnaire developed by the researcher. The items that make up the questionnaire were selected from the synthesis of previous authors in a related study. The questionnaire titled "Extent of E-learning Technologies Availability and Utilization Questionnaire (ETAUQ)" has two parts: Section A and B. Section A is the background of the respondents which supplies data on gender and location of school. Section B contains 63 items organized into five sub-sections B1, B2, B3, B4 and B5 in line with the research questions. Sub-section B1 dealt with extent of availability of e-Learning technologies for utilization and it consists of 13 items. Sub-section B2 contains 11 items on the extent of utilization of hardware e-Learning technologies. Sub-section B3 deals with the extent of utilization of software e-Learning technologies and it consists of 9 items, and Sub-section B4 has 12 items on the extent of utilization of e-Learning internet technologies by teachers of business subjects.

The instrument is structured in a Likert-type rating scale with the following options:

Very High Extent	(VHE) or Strongly Agree (SA)	-	5 point
High Extent	(HE) or Agree (A)	-	4 point
Moderately Extent	(ME) or Undecided (U)	-	3 point
Low Extent	(LE) or Disagree (D)	-	2 point
Very Low Extent	(VLE) or Strongly Disagree (SD)	-	1 point

The instrument was subjected to face validity. The initial draft of the questionnaire with the research objectives, questions and hypotheses were given to two experts from the Department of Vocational Education and one expert in Measurement and Evaluation Department all from Faculty of Education, Chukwuemeka Odumegwu Ojukwu University, and Nnamdi Azikiwe University: The lecturers were requested to scrutinize the content, structure, language of the instrument as well as its relevance to the study. They were also requested to write "Retain (R)", "Modify" (M) and "Delete" (D) against any item in the questionnaire they would wish the researcher to retain, modify and delete respectively. The three validators made inputs in the content and language structure in Part 2. The opinions of the validators were reflected in the final draft of the instrument which was ratified by the supervisor.

A pilot test of the instrument was carried out with twenty (20) teachers in a Secondary School in Delta State. The data were obtained and analyzed for reliability of the instrument using the Cronbach Alpha technique. The researcher administered copies of the instrument on 20 business subject teachers from secondary schools in Delta State. The data from the Pilot study will be subjected to analysis using the SPSS software. The Cronbach Alphas results will be used to determine the reliability of the study. According to Nunally's benchmark, coefficient of 0.70 can be adjudged reliable.

The instrument were administered through the three research assistants. These assistants were selected from the business subject teachers in each of the six educational zones from public senior secondary school in Anambra State. The researcher instructed and guided the research assistants on the modalities for administering and collection of the questionnaire. The use of the assistants who are business subject teachers helped the researcher in reaching all the respondents and fast-tracking

the administration and collection of questionnaire. The administered instruments were scored and collated and then sent for data analysis.

Mean was used to answer research questions while standard deviation determined the disparity in the mean response. The t-test served in testing the hypotheses.

The decision on the questionnaire items were based on mean ratings of each item relative to real limits of numbers as shown below:

Code	Responses	Rating Scale Real Limit of Numbers
VHE/SA	Very High Extent/Strongly Agree 5	4.50 - 5.00
HE/A	High Extent/Agree 4	3.50 - 4.49
ME/U	Moderately Extent/Undecided 3	2.50 - 3.49
LE/D	Low Extent/ Disagree 2	1.50 - 2.49
VLE/SD	Very Low Extent/ Strongly Disagree 1	0.50 – 1.49

Decision Rules: Any item with mean response of 4.50 - 5.00 were regarded as very high extent/strongly agree; those that range between 3.50 - 4.49 were regarded as high extent/agree; those that range between 2.50 - 3.49 were regarded as moderate extent/undecided; those that range between 1.50 - 2.49 were regarded as low extent/disagree, while results ranging between 0.50 – 1.49 are very low extent/strongly disagree.

The t-test statistics was used to test the hypotheses at .05 level of significance. T-test is most suitable for hypothesis testing of mean differences involving two variables, such as gender (male and female), location (urban and rural) and experience (below 10 years and above 10 years). The decision rule will be to reject the null hypothesis when the Probability Value (P.value) is less than .05, and to accept the null hypothesis when the p.value is greater than .05 level of significance.

Ethical and Environmental Considerations

There researchers would seek and obtain consent from the principals of affected schools. There researchers would do well to cater for any socio-cultural issues or bias that may arise in the course of the research.

PRESENTATION AND ANALYSIS OF DATA

A total of 172 questionnaires were distribution for data collection from the business subject teachers in Anambra State public secondary schools. Out of the 86 questionnaires distributed, only 164 representing about 95.35% were found to have been returned and properly completed. A response of 95% was deemed acceptable for this study.

The results were grouped into three: Analysis of Demographic Characteristics of the Respondents, Analysis of Research Questions and Hypotheses Testing. The demographic characteristics explained the proportional distribution of the respondents of the business subject teachers by gender, location, experience and qualification. The results of the research questions were the Mean and Standard Deviation presented on Tables 5 to 8. The hypotheses testing were presented on Tables 9 to 12.

Analysis of Demographic Characteristics of the Respondents

Table 1: Distribution of the business subject teachers by gender

		Frequency	Percent
Valid	Male	48	29.3
	Female	117	70.7
	Total	164	100.0

Result on Table 1 showed that 48 male business subject teachers representing 29.3% of the sample, participated in the study. The female participants are 117 persons which is 70.7% of the sample. This indicates that there is more female teachers of business subjects in senior secondary public schools in Anambra State school system.

Table 2: Distribution of the business subject teacher by Location of school

		Frequency	Percent
Valid	Rural Area	98	59.8
	Urban Area	66	40.2
	Total	164	100.0

Table 2 showed that there are 98 (59.8%) business subject teachers in rural area and 66 (40.2%) are urban.

Table 3: Distribution of the business subject teachers by years of experience

		Frequency	Percent
Valid	Less than 5 years	24	14.6
	Between 5 and 10 years	30	18.3
	Between 11 and 20 years	86	52.4
	Above 20 years	24	14.6
	Total	164	100.0

Table 3 showed that teachers of business subjects who had teaching experience with less than five (5) years are 24 persons representing about 14.6% of the sample. Those that had taught for periods between 5 and 10 years are 30 persons that represent 18.3% of the sample, while those between 11 and 20 years 86 (55.4%) persons. However, those that had above 20 years of teaching experience are twenty four (24) teachers that make up 14.6% of the business teachers in the senior secondary public schools in Anambra State.

Table 4: Distribution of the business subject teachers by years of qualification

		Frequency	Percent
Valid	TC and equivalent	3	3.7
	NCE and Equivalent	32	39.0
	BA Degree in Education	41	50.0
	Postgraduate Degree in Education	6	7.3
	Total	82	100.0

The result on Table 4 showed that three (3) persons 3.7% representing business subject teachers in Anambra State public secondary schools have TC II and its equivalents while 32 of the sample which is 39% of the business subject teachers have NCE and its equivalent. However, the business subject teacher with B.Ed qualification are 41 (50%) while those with postgraduate degree in education were 6 (7.3) business subject teachers. The analysis showed that majority of the business subject teachers in Anambra State public secondary schools have B.Ed has their highest teaching qualification.

Analysis of Research Questions

Research Question One

To what extent are e-Learning technologies available for teachers of business subjects in senior secondary schools in of Anambra State?

The answer to research question one was obtained from the results of the mean and standard deviations on Table 5.

Table 5: Mean rating and standard deviation of respondents on the extent of availability of e-learning technologies for teaching of business subjects (N = 82)

SN	E-learning technologies	Mean	Std. Deviation	Remarks
1	Computer	4.0161	1.8860	High Extent
2	Multimedia projector	3.9839	1.2993	High Extent
3	Electronic organizer	1.0645	1.1289	Very Low Extent
4	Audio visual	3.4194	1.3373	Moderate Extent
5	Scanner	2.0968	1.2894	Low Extent
6	Printer	2.1613	1.6515	Low Extent
7	Internet connectivity (LAN/WAN)	2.4194	1.3373	Low Extent
8	Flash drive	2.0968	1.2894	Low Extent
9	Teleconferencing machine	2.1613	1.0741	Low Extent
10	Software application (e.g. Microsoft word, excel, power point)	4.4194	1.3373	High Extent
11	Telephone (GSM)	3.7903	1.6707	High Extent
12	Visual board	0.5613	1.0741	Very Low Extent
	Cumulative Mean Response	2.6825		Moderate Extent

Table 5 indicated that computer, multimedia projector, software applications and telephone with mean scores of 4.0161, 3.9839, 4.4194 and 3.7903 were available to a high extent. The mean scores for audio visual is 3.4194 indicating a moderate extent of availability. However, scanner, printer, internet connectivity (LAN/WAN), flash drive and teleconferencing had mean scores within the range of 2 to 2.44 suggesting that they have low extent of availability to the teachers of business subject in senior secondary schools in Anambra State. Electronic organiser and Visual board with mean scores of 1.0645 and 0.5613 were at very low extent of availability in the schools.

The standard deviations of the various items range from 1 to approximate 2, suggesting that some items have wide variations. This implies relative presence of mean difference in the response of the teachers.

The overall extent of availability as depicted by the cumulative mean response showed a score of 2.6825. This suggests that e-learning technologies availability in the secondary schools in Anambra State are at a moderate extent.

Research Question Two

To what extent do teachers of business subjects in senior secondary schools in Anambra State utilize e-Learning hardware technologies in teaching of business subjects?

The answers to research question two was shown on Table 6 on the extent of utilization of hardware technologies in teaching of business subjects in Anambra State.

Table 6: Mean rating and standard deviation of respondents on the extent of utilization of hardware e-learning technologies for teaching of business subjects (N = 82)

SN	Hardware technologies	Mean	Std. Deviation	Remarks
1	Computer simulation	1.7419	1.05482	Low Extent
2	Instructional television	1.9355	1.19933	Low Extent
3	Passing of instruction via Telephone (cell phone)	2.0645	1.12892	Low Extent
4	Radio player for listening to educational programmes	3.7742	1.70264	High Extent
5	Tape recorders for shorthand classes	3.0323	1.24094	Moderate Extent
6	Flash drive for storing instruction materials	3.0806	1.10585	Moderate Extent

7	Printers for producing hardcopies	4.2097	1.35667	High Extent
8	Video for recording teaching activities	3.1452	1.18525	Moderate Extent
9	Laptop for preparing lesson note	2.1452	1.06889	Low Extent
10	Scanner	3.0484	1.33585	Moderate Extent
11	CD-ROM	4.1935	1.25239	High Extent
	Cumulative Mean Response	2.9428		Moderate Extent

The mean scores of the items in Table 5 indicate a high extent of utilization for radio player for listening to educational programmes (mean = 3.7742), printers for producing hard copies (mean = 4.2097), CD-ROM for storing documents (mean = 4.1935). This tends to suggest that these facilities are in greatly utilised in the teaching of business subjects

The mean scores of 3.0323, 3.0806, 3.1452, and 3.0484 imply that tape recorders, flash drive, video and scanner are in moderate utilisation. However, Computer simulation (mean = 1.7419), Instructional television (mean = 1.9355), cell phone for passing of instruction (mean = 2.0645) and Laptop for preparing lesson note (2.1452) are utilised at low extent in teaching of business subjects in Anambra State. The standard deviations are within the same range which suggests that the mean responses do not vary widely among the question items.

The overall extent of utilisation of hardware technologies as depicted by the cumulative mean response showed a score of 2.9428. This suggests that e-learning hardware technologies utilisation in teaching business subjects in the secondary schools in Anambra State are at a moderate extent.

Research Question Three

To what extent do teachers of business subjects in senior secondary schools in Anambra State utilize e-Learning software technologies in teaching of business subjects?

The answers to research question three is shown on Table 7 on the extent of utilization of software technologies in teaching of business subjects in Anambra State.

Table 7: Mean rating and standard deviation of respondents on the extent of utilization of e-learning software technologies for teaching of business subjects (N = 82)

SN	Software technologies	Mean	Std. Deviation	Remarks
1	Word processing software	3.9677	1.1009	High Extent
2	Use computer database to keep students records and grades	4.6000	1.3182	High Extent
3	PowerPoint software for teaching Presentation	2.0484	1.3110	Low Extent
4	Use internet browsing software to review, assess and improve the effectiveness of curricular programmes	4.0806	1.1205	High Extent
5	Use e-book software for distribution of class materials, tasks and others	1.2258	1.3109	Very Low Extent
6	Use design and graphic software to draw an object	2.0323	1.3546	Low Extent
7	Use of learning management system to track students attendance	2.0161	1.1234	Low Extent
8	Use accounting software to create, give, receive and grade student assignment and test, online	3.8871	2.2944	High Extent
9	Use spread sheet software to record	4.0323	1.3786	High Extent

	students result.		
	Cumulative Mean Response	3.0989	Moderate Extent

The mean response scores revealed that software such as word processing (3.9677), computer database (4.6000), internet browsing software (4.0806), accounting software (3.8871) and spread sheet software (4.0323) utilisation are at high extent in teaching business subjects in Anambra State. However, the mean score of PowerPoint (2.0484), design and graphic software (2.0323), and learning management system (2.0161), are utilised at low extent while e-book software was utilised at very low extent. The cumulative mean response score is 3.0989 which indicate that there is a moderate extent of software technologies utilization in teaching business subjects in senior secondary school system in Anambra State.

Research Question Four

To what extent do teachers of business subjects in senior secondary schools in Anambra State utilize internet technologies in teaching of business subjects?

Table 8: Mean rating and standard deviation of respondents on the extent of utilization of e-learning internet technologies for teaching of business subjects (N = 82)

SN	Internet technologies	Mean	Std. Deviation	Remarks
1	Use of YouTube to prepare lesson and post online for students to read	1.0484	0.9822	Very Low Extent
2	Use of wiki to share information online	1.3871	1.2328	Very Low Extent
3	Use of podcasting to support outside classroom learning	0.1290	2.2865	Very Low Extent
4	Use of blogger to communicate with their students	1.0645	2.0994	Very Low Extent
5	Use of E-mail to send students report	3.2419	1.2104	Moderate Extent
6	Use of Google to search relevant book for students	4.0323	1.0469	High Extent
7	Use of Facebook to give student assignment	2.0806	1.1205	Low Extent
8	Use of yahoo messenger to engage students thought on a topic under study	0.8226	1.2350	Very Low Extent
9	Instruction to students to use the Internet for collaborative work	4.9839	0.2843	Very High Extent
10	Use of Web-CT to create courses online to complement face-to-face instruction	0.9806	1.1058	Very Low Extent
11	Use of WhatsApp to follow up student's process	2.2323	1.3053	Low Extent
12	Use e-dictionaries and thesaurus to defines/find meanings of words and their opposites	1.0645	1.0994	Very Low Extent
	Cumulative Mean Response	1.9223		Low Extent

The results on Table 8 answers research question four of the study. The table showed the extent of internet technologies utilization in teaching business subjects in Anambra State public secondary school system. Result on Table 8 showed that blackboard learning system to create groups of students for collaborative work (4.9839) is utilised a very high extent. The mean score of 4.0323 showed that high extent of utilisation of Google to search relevant book for students, while e-mail

to send students report has a mean score of 3.2419 which suggests that e-mails are used at moderate extent.

Moreover, internet facilities such as Facebook to give student assignment (2.0806), and WhatsApp to follow up student's process (2.2323) are utilised at a low extent. Majority of the internet facilities which include YouTube to prepare lesson and post online for students to read (1.0484), wiki to share information online (1.3871), podcasting to support outside classroom learning (0.1290), blogger to communicate with their students (1.0645), yahoo messenger to engage students thought on a topic under study (0.8226), Web-CT to create courses online to complement face-to-face instruction (0.9806), and e-dictionaries and thesaurus to defines/find meanings of words and their opposites (1.0645).

The overall extent of utilisation of internet technologies as depicted by the cumulative mean response showed a score of 1.9223, which suggests a low extent of utilisation in teaching business subjects in at the secondary schools in Anambra State.

Hypotheses Testing

The three null hypotheses formulated are tested at 0.05 level of significance, using the t-test.

Hypothesis One

There is no significant difference in the mean ratings of business subjects teachers in urban and rural areas in senior secondary schools in Anambra State on the extent of availability of e-Learning technologies for utilization.

Table 9: Result of the t-test for equality of means of rural and urban teachers’ response to the extent of availability of e-Learning technologies for utilization.

	N	Mean	Standard Deviation	T	df	Sig.	Decision
Rural Area	49	2.5263	1.57651	1.964	25.958	.060	Do not reject
Urban Area	33	2.7442	1.09312				

NB: Equal variances not assumed

The result on Table 9 showed a t-value of 1.964 with at a significant value of 0.060. The p.value (significance level) is greater the benchmark of 0.05 level of significance, hence the study cannot reject the null hypothesis. Thus, the concludes that there is no significant difference in the mean ratings of business subjects teachers in urban and rural areas in senior secondary schools in Anambra State on the extent of availability of e-Learning technologies for utilization.

Hypothesis Two

Male and female teachers of business subjects in senior secondary school of Anambra State do not differ significantly in their mean ratings on the extent of utilization of e-Learning hardware technologies in teaching.

Table 10: Result of the t-test for equality of means of male and female teachers’ response to the extent of utilization of e-Learning hardware technologies

	N	Mean	Standard Deviation	T	df	Sig.	Decision
Male	24	3.0293	1.37652	1.774	60	.081	Do not reject
Female	58	1.9070	1.21874				

NB: Equal variances assumed

Table 10 showed a mean value of 3.0293 and 1.9070 for male and female teachers’ response to the extent of utilization e-Learning hardware technologies with standard deviations of 1.3765 and 1.2187, respectively. Since the standard deviations are relatively close, the test of hypothesis assumed that there is equal variance between the response of the male and female teachers.

Table 10 showed a t-value of 1.774 with at a significant value of 0.081. The p.value (significance level) is greater the benchmark of 0.05 level of significance, hence the study cannot reject the null hypothesis. Thus, the concludes that male and female teachers of business subjects in senior secondary school of Anambra State do not differ significantly in their mean ratings on the extent of utilization of e-Learning hardware technologies in teaching.

Hypothesis Three

Business subject teachers with over ten years’ experience and those with below ten years of teaching experience in secondary schools in Anambra State do not differ significantly in their mean ratings on the extent of utilization of e-Learning software technologies in teaching.

Table 11: Result of the t-test for equality of means of teaching experiences below 10 years and teaching experiences above 10 years on the extent of utilization of e-Learning software technologies in teaching.

	N	Mean	Standard Deviation	T	Df	Sig.	Decision
Below 10 years’ experience	27	3.3269	1.17622	2.774	60	.001	Rejected
Above 10 years’ experience	55	2.9078	1.11094				

NB: Equal variances assumed

Table 11 revealed a mean value of 3.3269 and 2.9078 for teachings experience below 10 years and those above 10 years for teachers’ response to the extent of utilization e-Learning software technologies with standard deviations of 1.17622 and 1.11094, respectively. Since the standard deviations are relatively close, the test of hypothesis assumed that there is equal variance between the response of the male and female teachers.

Table 11 also indicated that the t-value is 2.774 with a probability (sign) value of .001, which is less than 0.05 level of significance. Since the p.value is less than 0.05 level, the study rejected the null hypothesis, and concluded that business subject teachers with over ten years’ experience and those with below ten years of teaching experience in secondary schools in Anambra State differ significantly in their mean ratings on the extent of utilization of e-Learning software technologies in teaching.

Hypothesis Four

There is no significant difference in the mean ratings of business subject teachers in the Senior Secondary Schools in Anambra State on the extent of utilization of Internet technologies in teaching of business subjects based on qualification.

Table 12: Result of the t-test for equality of means of high qualified and low qualified business subject teachers on the extent of utilization of internet technologies in teaching.

	N	Mean	Standard Deviation	T	Df	Sig.	Decision
Low Teacher qualification	27	2.5229	1.5165	2.558	80	.028	Rejected
High Teacher Qualification	55	2.9421	1.0111				

NB: Equal variances assumed

The mean value for the low teacher qualification group was 2.5223 and that of the high teacher qualification were 2.9421 for the teachers’ response to the extent of utilization internet technologies.

The standard deviations were 1.5165 and 1.0111, respectively. The t-value was 2.558 with a probability (sign) value of .028. Since the p.value was less than 0.05 level, the study rejected the null hypothesis, and concluded that there is significant difference in the mean ratings of business subject teachers in the Senior Secondary Schools in Anambra State on the extent of utilization of Internet technologies in teaching of business subjects based on qualification. This means that high qualified teacher made more effective utilisation of the internet than the low qualified business subject teachers on in Anambra State.

Discussion of Results

The findings to objective one of the study revealed that e-Learning technologies availability at the secondary schools in Anambra State are considered to be at a moderate extent. This suggests that e-Learning technologies are relatively available for utilisation in teaching business subjects in Anambra State. This supports the works of Amesi and Yellowe (2018) which found moderate extent of availability of ICT gadgets for teaching and learning in Faculties of Education in Rivers State Universities; Gabadeen, Alabi and Akinnubi (2015) which posit a relative availability of *e-learning technologies to the teachers and students in public secondary schools in Federal Capital Territory, Abuja, Nigeria*.

This study found that only electronic organizer and visual board seemed not available in teaching business subjects in Anambra. As the work of Njelita and Emendu (2015) also revealed, desktop computer is largely available in both rural and urban schools. This equally revealed where there was no significant difference in the mean ratings of business subjects teachers in urban and rural areas in senior secondary schools in Anambra State on the extent of availability of e-Learning technologies for utilization. There implies that Anambra State government gives equal attentions to both schools in rural and urban areas of the state. The status of e-learning technologies availability in Anambra State countered the Federal Republic of Nigeria (2016) postulations of a great gap exist between urban and rural secondary schools with regards to availability of e-learning technologies.

The result of objective two revealed that e-learning hardware technologies utilisation in teaching business subjects in the secondary schools in Anambra State are considered to be at a moderate extent. The result showed that hardware technologies such as Radio player, printers, and CD-ROM are highly utilised in business subject classes than most of the e-learning gadgets which were not well utilised. This is in line with many of the related in Nigeria including Njelita and Emendu (2015, Gabadeen, Alabi and Akinnubi (2015), Amesi and Yellowe (2018) and Eze, Chinedu-Eze, and Bello (2018) which agreed that ICT utilization has not been maximised in Nigeria.

The test of hypothesis two indicated that male and female teachers of business subjects in senior secondary schools in Anambra State do not differ significantly in their mean ratings on the extent of utilization of e-Learning hardware technologies in teaching. Therefore the null hypothesis that there is no significant difference in the mean ratings of business subjects teachers in urban and rural areas in senior secondary schools in Anambra State on the extent of availability of e-Learning technologies for utilization, was not rejected. Thus, this study refuted the notion from Emeasoba and Nweke (2016) that gender influence determines the extent of teacher ICT acceptance and thus utilization, or that female teachers tend to show lower self-confidence or knowledge ability than males about using computers (Godwin-Maduiké & Nwazor, 2017).

The findings of objective three showed a moderate extent of software technologies utilization in teaching business subjects in Anambra State. This surmises that provision of software technologies for teaching business subjects are not yet well utilised. This supported that Njelita and Emendu (2015) which posit that ICT resources are not well utilized for chemistry curriculum delivery; as well as Gabadeen, Alabi and Akinnubi (2015) that *e-learning technologies were fairly utilized. The general trend in empirical literature is that software technologies calls for improve utilization of such software as PowerPoint software for teaching Presentation, use of e-book, design and graphic software*.

The test of hypothesis three revealed that business subject teachers with over ten years' experience and those with below ten years of teaching experience in secondary schools Anambra State differ significantly in their mean ratings on the extent of utilization of e-Learning software technologies in teaching. This explains that teaching experience is a vital factor for effective utilization of teaching aids. Experiences can be as a result of age, years of service or training. However, all these builds up to a well gained experience on the teaching business subjects. Gained experienced can be improved by undergoing ICT training course, which according to Winzenried, *et al* (2010), a more experienced teacher is expected to be more effective in teaching with technology tools than those that have no experience in such training.

The result on of objective four of the study showed that internet technologies is considered to be utilised at a low extent for teaching business subjects in the secondary schools in Anambra State. Data obtained on YouTube, wiki, podcasting, blogger, yahoo messenger, Web-CT, and e-dictionaries and thesaurus showed that internet technologies are rather very lowly utilized in teaching business subjects in Anambra State. The response that internet is generally utilized at low extent in teaching agrees with Emeasoba and Nweke (2016), Njelita and Emendu (2015) and Gabadeen, Alabi and Akinnubi (2015) that ICT facilities including the internet are either not well utilized or fairly used in teaching in secondary schools.

The test of hypothesis four revealed that business teachers with high qualification makes more effective utilisation of the internet technologies than the low qualified business subject teachers in Anambra State. Following from the mean values (2.5223 for low qualified teachers and 2.9421 high qualified teachers), the business teachers with higher qualification are better disposed to the use of internet technologies in teacher and learning in the secondary school system. This suggests that human capital development in the form of improved learning is one of the drivers of Internet technologies utilisation among business subject teachers.

Conclusion

The study found that teachers of business subjects in Anambra State utilized e-learning technologies in teaching business subjects at a moderate extent as a result of the availability of e-learning technologies at moderate extent. It therefore conclude that availability is the determinant of extent of utilization of e-learning technologies in secondary schools. It also concludes that availability of e-learning technologies for teaching business subjects is not affected by location, as the utilization of such technologies are not as well affected by gender. It further concludes that teaching experience and teacher level of teaching qualification influence extent of utilization of e-learning technologies by business subject teachers.

For the fact that the study found no significant difference in the mean responses of male and female teachers, as well as those in urban and rural, suggest that e-learning technologies are not gender and location sensitive. Thus, e-learning technologies in teaching business subjects can be employed both male and female teachers, in both rural and urban areas. Moreover, level of human development of the work force influences the ability to employ instructional materials including e-learning technologies. Better developed teachers can be a better agent of educational development than less qualified and under developed teachers.

REFERENCES

1. Adakole, E., Eiriemiokhale, K. A. & Nnaji, F. O. (2016). Factors affecting availability of instructional materials in teaching and learning office technology and management in polytechnics in Niger state, Nigeria. *American Journal of Research Communication* 4(10), 19 – 37.
2. Adeyemo, S. A., Adedoja, G. O. & Adelore, O. (2013). Mobile technology: Implications of its application on learning. *Open Praxis*, 5(3), 249-254.

3. Agboola, A. K. (2006). Assessing the awareness and perceptions of academic staff in using e-learning tools for instructional delivery in a post-secondary institution: A case study. *The Public Sector Innovation Journal*, 11 (3), 1-6.
4. Akabuogu, J. U. and Igbokwe, U. (2011). Influence of e-learning environments on teaching and learning English as a second language in optimizing e-learning opportunities for effective education service delivery. Eds. Onyegegbu O. and Eze, U. University of Nigeria Nsukka, A Publication of the Institute of Education, 2011
5. Alu, N.C. (2011). Utilizing e-learning in Science and Technology Education. Problems and Prospects. In O. Onyegegbu, & U. Eze (Eds.). Optimizing e-learning opportunities for effective education service delivery. A publication of the Institute of Education, University of Nigeria Nsukka, 2011.
6. Amesi, J. & Yellowe, I. T. (2018). Availability and utilization of information and communication technology gadgets in faculties of education in Rivers State universities, Nigeria. *International Journal of Education and Evaluation*, 4(4), 26-36.
7. Azih, N. & Ikelegbe, S. (2019). Extent of implementation of business studies curriculum at the secondary school education for employability skills development. *Nigerian Journal of Business Education*, 6(1), 107-116.
8. Darling-Hammond, L. (2007). Teacher quality and students' Achievement. A review of State Policy Evidence. *Journal of Education Policy Analysis*, 8(1), 263-271.
9. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
10. Emeasoba, N. C. & Nweke, O. M. (2016). Level of availability and utilization of ICT facilities in teaching and learning of OTM in polytechnics of south eastern states in Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies* 7(6), 404-413.
11. Eteng, U. & Ntui, I.A. (2009). Access to e-learning in the Nigeria University System (NUS): A case study of University of Calabar. *The Information Communication Technology*. 6(2) 1-10.
12. Etiubon, R. U. & Benson, R. F. (2014). Teacher Qualification and Experience as Determinants of Quality Chemistry Education in Nigeria. *Journal of Education and Practice*, 5(24), 124 – 131.
13. Eze, S. C., Chinedu-Eze, V. C. & Bello, A. O. (2018). The utilisation of e-learning facilities in the educational delivery system of Nigeria: a study of M-University. *International Journal of Educational Technology in Higher Education*, 15(34), 1 – 20.
14. Ezenwafor, J. I. & Achugamoney, B. N. (2019). Assessment of entre level employability skills of final year secondary schools students of business subjects in Anambra State Nigeria. *Nigerian Journal of Business Education*, 6(1), 17-25.
15. Federal Republic of Nigeria (FRN, 2016). *National Policy on education*. Lagos: NERDC Press
16. Gabadeen, W. O., Alabi, A. T. & Akinnubi, O. P. (2015). Availability, accessibility and utilization of e-learning technologies for sustainable secondary education in federal capital territory, Abuja-Nigeria. *Asia Pacific Journal of Education, Arts and Sciences*, 2(2), 1 – 8.
17. Ghavifekr, S. & Rosdy, W.A.W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science*, 1(2), 175-191.
18. Godwin-Maduiké, C. C. & Nwazor, J. C. (2017). Extent of availability and utilization of e-learning technologies by teachers of business subjects in secondary schools in Anambra State. *International Journal of Innovative Research and Advanced Studies*, 4(8), 66 – 73.

19. Jegede, P.O. & Owolabi, A.I (2008). Computer education in Nigerian secondary schools: Gaps between policy and practice. *Meridian: A Middle School Technology Journal* 6(2) 1-11
20. NERDC Nigeria (2008). Curriculum development services. Retrieved from [www.info@nerdc.gov.ng>content](http://www.info@nerdc.gov.ng/content).
21. Njelita, C. B. & Emendu, N. B. (2015). Availability and usage of ICT resources for Chemistry curriculum delivery in schools. *The International Journal of Engineering and Science*, 4(6), 26 – 30.
22. Nunally, J.C. (1978). *Psychometric theory*. 2nd Edn., New York: McGraw Hill.
23. Nwana, S. (2012). Challenges in the application of e-learning by secondary school teachers in Anambra state, Nigeria. *African Journal of Teacher Education*, 2(1), 67-72.
24. Nwaosa, I. P. &, Okolocha, C. C. (2014). Extent of utilization of available e-Learning technologies by business educators in tertiary institutions in Edo and Delta states of Nigeria. *International Journal of Education and Research*, 2 (5). 335-336.
25. Olaniran, S. O., Duma, M.A.N. & Nzima, D.R. (2017). Assessing the Utilization Level of E-Learning Resources among ODL Based Pre-Service Teacher Trainees. *The Electronic Journal of e-Learning*, 15(5), 385-395.
26. Ong, C.S., Lai, J.Y., & Wang, Y.S (2004). Factors affecting engineers acceptance of synchronous e-learning systems in high-tech companies. *Information & Management*, 1(6), 795-804.
27. Sinha, C. (2009). Effect of education and ICT use on gender relation in Buhutan. *Information Technology and International*, 5(3), 21-34. Retrieved on January 5, from <http://www.ifap-15-observatory.itk.hu/node/190>
28. UNESCO (2011). ICT in schools: A Handbook for teachers on how ICT can create new, open learning environments. UNESCO: Paris.
29. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.
30. Winzenried, A., Dalgarno, B., & Tinkler, J. (2010). The interactive whiteboard: A transitional technology supporting diverse teaching practices. *Australasian Journal of Educational Technology*, 26(4), 534-552.
31. Wokocho, K.D, Appah, C.N & West, J.J. (2020). Utilization of facilities for instructional delivery of undergraduate business education programme in Rivers State University. *Nigerian Journal of Business Education* 7(2), 350-360.
32. Yuen, A.H.K., & Ma, W.W.K. (2004). Gender difference in teacher computer acceptance. *Journal of Technology and Teacher Education*, 10(3), 365 - 385.