



AVAILABILITY AND UTILIZATION OF NEW TECHNOLOGY INFRASTRUCTURES FOR TEACHING BUSINESS EDUCATION COURSES IN ONDO STATE TERTIARY INSTITUTIONS

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Abstract

The purpose of this paper was to investigate the availability and utilization of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions. A descriptive survey research design was adopted. The population and sample of the study comprised 90 business education lecturers from the three government owned tertiary institutions running business education in Ondo State. Two research questions and two null pithiest guided the study. Used a four-point Likert rating scale questionnaire with 38 items in two clusters. The instrument was validated by two measurement and evaluation experts and one business educator and it obtained a reliability coefficient of 0.84 using Cronbach Alpha. Data collected were analyzed using mean and standard deviation for answering the research questions and t-test for testing the null hypothesis at 0.05 level of significance. The findings of the study revealed that new technologies infrastructures needed for the success and effective teaching of business education courses were not adequately provided. Utilization as a function of availability has therefore been hindered in Ondo State Tertiary Institutions. Recommendations were made that new technology infrastructures needed for teaching business education courses should be adequately provided by the government, management and stakeholders so as to ensure effective instructional process.

Keywords: *Availability, Utilization, Infrastructure, Business Education, Tertiary Institutions.*

Introduction

There is no doubt that most people, if not all, have come in contact with the latest trend in communication globally, as a result of the evolutionary changes in information and communication technology (ICT). ICT therefore, is the most pervasion technologies in the world and second only to human intelligence or human brain. No doubt, remarkable



improvements have taken place in every sphere of human activities in all societies since the advent of ICT technologies. These improvements have been very pronounced in the education sector, making teaching and learning more meaningful (Amiaya, 2014).

Information and communication technology also known as modern technologies. Information technology is the new technological inventions by scientists to enhance communication. It involves all the sophisticated machines and equipment invented around the 21st century for easy gathering, processing and transmission of information across the globe and for easy communication between people (Nwajinka, 2003). Chidobi (2015) stated that communication technologies are equipment that enables information to be transferred from the source to the users which try to overcome natural barriers to information transfer like speed and distance. The author views communication technologies as new teaching aids used to impact knowledge, skills and attitude on business education students to enable them develop values and manipulative skills needed for educational achievements and technological transformation. In the same vein, the utilization of modern communication technologies in teaching and learning of business courses such as Accounting, Marketing, Office Technology and Management, Business Administration and Management etc, is based on the availability of modern communication technologies like computers, audio-visual, internet facilities, multi-media computers used in educational delivery to improve the teaching and learning of identified facsimile machine (Fax), telecommunication systems, telephone, e-mail, internet, teleconferencing and electronic bulletin boards as some modern communication technology equipment.

Modern communication is changing the world and causing rapid transformation in all areas of life notably in the education sector. Modern communication technologies enable students to develop manipulative skills, good communication skills and sound basis for scientific and reflective thinking. These can only be achieved if modern communication technologies are available in tertiary institutions and extensively utilized by educators in teaching. In some cases, these communication technologies may be available but not well-utilized by educators to aid teaching and learning in the institutions due to lack of knowledge and skills of ICT and other factors that inhibit availability and utilization. In support of this view, Azih and Nwosu (2012) noted that institutions training students should have functional equipment for effective service delivery. Non utilization of modern communication technologies has led to the production of business education graduates that may not fit into the labour market due to their lack of requisite skills.

New technologies are fundamental for the preparation of students in meeting the innovations in the global arena (Ololube, 2006). According to Nwosu and Ojo (2014), new technologies in business education are enabling instruments for creating total educational environments which not only encourage but also require new behaviours in the business educators and the students. The emergence and application of new technologies such as the internet, computer interactive multimedia systems, digital telecommunications, among



others have altered theoretical and practical assumptions as well as reshaped teaching and learning processes in higher education (Nwosu and Ojo, 2014).

The application of new technologies in tertiary institutions is more critical today than ever before since its growing power and capabilities are triggering a change in the learning environments in education (Pajo & Wallace, 2001). The use of new technologies offers powerful learning environment and can transform the learning and teaching process so that students can deal with knowledge in an active, self-directed and constructive way. At present, ICT is considered as an important means of promoting new methods of instruction (teaching and learning) and should be used to develop students' skill for cooperation communication, problem solving and life-long learning in order to achieve progressive and meaningful national development (Atsumber, Raymond and Enocha, 2012).

Globally, tertiary institution is fundamental to the construction of a knowledge economy and society. It is a place where skilled labour is produced for societal and global consumption. Adepojuand Fadokun (2009) affirmed that education at this level widens the socio-economic growth of individuals and the capital development of any nation. In addition, the Federal Republic of Nigeria (FRN, 2004) stressed that tertiary education shall make optimum contribution to national development by intensifying and diversifying its programmes for the development of high level manpower within the content of the needs of the nation, making professional course contents to reflect the national requirements; making all students part of a general programme of all round improvement in tertiary education to offer general study courses such as history of ideas, philosophy of knowledge and nationalism. The building blocks of a tertiary institution have been identified as training, research, innovation and guidance and counselling. In training, tertiary institutions ought to produce human resources through the transmission of information, knowledge, skills and attributes with the aim of empowering young people to become producers of goods and services both in the domestic and international markets.

Business education as a course of study which cuts across Accounting, Office Technology and Management and Marketing can be defined as a work oriented educational programme which aims at skills acquisition to make graduates employable, self-employed, self-reliant and or employers of labour. Thus, business education can, by appropriate training, prepare individuals for full employment even in the present weak economy, by equipping them with life-long skills for self-employment.

Bilyaminu in Ibrahim (2014) viewed business education as an aspect of total education programme that provides the knowledge, skills, attitudes and understanding needed to perform in the business world as a producer and consumer of goods and services. Therefore, it can be deduced from the above position that business education programme is one of the major learning blocks in a university. To buttress this fact, Okoro (2013) outlined the objectives of business education at the university level as follows:



- a. To produce competent graduates who can be self- employed.
- b. To produce competent graduates who can teach business education courses in secondary schools and higher institutions.
- c. To produce competent graduates who can inculcate business ideas into the economy.
- d. To produce competent graduates who can help in formulating economic policies.
- e. To produce competent graduates who can employ other persons to reduce unemployment.

In order to attain the outlined objectives of business education at the post-secondary level, comprehensive and effective teaching and learning procedures should be adopted and the courses must not be taken for granted. Teaching is a systematic instructional process geared towards transforming and developing the intellectual and character formation of students to enable them function effectively and responsibly in any society. If instilling desirable changes is the essence of teaching, then, teaching can only be said to have occurred in business education when students have acquired relevant knowledge, skills, operations and values of the business world to enable them become efficient employees and successful owners of small and medium scale enterprises.

Business studies teachers have for some time now been struggling to cope with the challenges posed by the advancement in new technologies and its consequences on the world of business. Osuala (2004) suggested that it was necessary for business studies teachers to be knowledgeable about the world around them and to be vast in the use of ICT. This means that business studies teachers should try to adapt to current advancement in ICT in order to be relevant in the scheme of things. According to Agomuo (2008), the fact that ICT has revolutionized the business world and world of work implies that business educators and students must adapt to the trend of the times. Mmeremikwu (2010) noted that business education courses are technical subjects that require qualified and up-to-date teachers in order to effectively achieve its goals and objectives. The main objective of business education has been to produce functional education graduates who shall be able to cope with the world of business. Similarly, Ezabi and Obayi (2008) stated that the delivery system in business education should be restructured so as to make teaching and learning of the subjects more effective and responsive to the advancements in technology. Maiyanga, Ojo and Anikweze (2002), noted that the business education teacher of today, is faced with computer age students, requiring him to adapt to the challenges.

The National Policy on Education (FRN, 2013) remarked that no matter the quality of pre- service training given to a teacher, there are always areas of inadequacy. Olokoba, Abdullahi and Omosidi (2014), noted that after teachers have taken courses in ICT in schools, they still may not know how to use it in the classroom. Business education teachers are no exception to this fact. The reason may be that gaps exist in the training received. Thus, Obong (2002) recommended that business education teachers should be offered



opportunities for in- service training in order to improve their task performance. Kumar (2007) also suggested that business education teachers should be taught a wide range of internet literacy skills.

Due to global trends in recent times, learning resources in education have grown and improved tremendously. It is therefore, imperative that, as technology and learning resources change, so, also it is expected that, the education system of the programmes, especially business education programmes should be dynamic. The educational system cannot be dynamic in the desirable way unless the teachers introduce the technology devices into the teaching and learning process of the business education educational courses.

In business education, learning is a conscious effort to acquire skills and experience. During teaching and learning in business education, learners play active roles through a successful skill oriented individual programme. Through the use of ICTs, the learners are expected to play active role in making decisions and accepting responsibilities. Their use of ICT is expected to enhance their better understanding in learning and apply same in their various endeavours in the world of work. Consequently, there are several reasons for Nigeria tertiary institutions to embrace ICT in a pedagogical meaningful way.

The utilization of network technologies creates, fosters, delivers and facilitates learning and study anytime, anywhere and anyhow. It brings learning to the door-steps in an affordable learning environment, learning made easy, flexible and enjoyable. Besides, it is learner centered as it gives possibility of customizing the learning and teaching materials to the characteristics and needs of the learners. It saves teachers time and energy in teaching and demonstrating difficult concepts, theories and principles thus making presentation exciting using ICT. The ICTs gadgets are not in any way affected by noise but aids information verification instead of being confused and lost in thought in trying to assimilate and comprehend what the teacher says in a noisy crowded classroom as obtained in most Nigeria tertiary institutions where there are inadequate classroom space and number of teachers to adhere with the NUC, NBTE and NCCE stipulated students-staff ratio and classroom space provision, interactive e- learning package aid teachers in getting accurate feedback from learners. It makes the teacher active and work ahead of students because they will be occupied preparing next instructions of software's to be worked on by students. Redundancy which inhibits most conservative teachers is totally eliminated. ICT in business education helps students to become independents learners, develop critical thinking and problem solving strategies or policies, thereby discouraging spoon-feeding. For instance OTM students can acquire soft touch keyboarding skill through Computer Aided Instruction of MarvinBeacon with undivided attention and interest. Besides, through the interactive nature of amclit.net platform, students not only learn how to access the various connectivity available on the internet, for social and entertainment as it were, but now for knowledge, information and skill competence. The integration of these new technologies depends



largely on the availability and utilization of modern communication technologies in Ondo State tertiary institutions.

Statement of the Problem

Researches have shown that new technologies enhance teaching and learning by providing opportunities to practice and to analyze, offering better access to relevant teaching and learning materials. Above all, Rosswall, (1999) while stressing the importance of new technologies in tertiary institutions said that new technologies enhance higher education in a number ways. It enables effective storing and sorting of information, and can offer new fast ways of communication. Despite the obvious and enormous benefits that comes with using new technologies in teaching and learning of business education, Etuk(2005) observed that many polytechnics that offer Office Technology and Management programme do not have necessary teaching facilities and the quality of knowledge received by the graduates of these polytechnics is constrained by limited exposure to global trends in Office Technology. Shahadat, Muhabab and Clement (2012) observed with great concern that several higher educational institutions are finding it difficult to even acquire basic new technologies.

Business education programme is a skill oriented programme that requires adequate provision of new technologies for effective teaching and learning. It is against this background that this study seeks to empirically assess the availability and utilization of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions.

Purpose of the Study

The main objective of this study was to investigate the availability and utilization of new technology infrastructures for teaching business education in Ondo State tertiary institutions. Specifically, the study sought to investigate:

1. The availability of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions.
2. The extent to which business education lecturers utilize available new technology infrastructures for teaching business education courses in Ondo State tertiary Institutions

Research Questions

The following research questions guided the study:

1. To what extent are new technology infrastructures available for teaching business education courses in Ondo State tertiary institutions?
2. To what extent do business education lecturers utilize new technology infrastructures for teaching business education courses in Ondo State tertiary institutions?



Hypotheses

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

- Ho₁: There is no significant difference in the mean responses of male and female business educators regarding the availability of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions.
- Ho₂: There is no significant difference between the mean responses of University and Polytechnic business educators regarding the utilization of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions.

Methodology

A descriptive survey design was adopted for the study. According to Nworgu (2006), a survey research design is one in which a group of people or items are studied by collecting and analyzing data from only few people. The population and sample of the study however, was made up of the 90 business education lecturers in all the three government owned tertiary institutions running business education programme in Ondo State namely: Adekunle Ajasin University, Akungba Akoko; Rufus Giwa Polytechnic, Owo and Adeyemi College of Education, Ondo. A structured questionnaire developed by the researcher titled "Availability and Utilization of new Technologies Questionnaire (AUNTQ) and containing 28 questions items was validated by two Measurement and Evaluation experts from Adekunle Ajasin University, Akungba-Akoko and one business education lecturer from Adeyemi College of Education Ondo. The reliability coefficient was established using cronbach Alpha which gave coefficient value of 0.84. Two research assistants were used to distribute copies of the questionnaire. Of the 90 copies distributed, 67 copies representing a 75% return rate were completed and returned and found usable. Arithmetic mean and standard deviation were used to analyse data collected and answer the research questions while t-test was used to test the hypotheses at 0.05 level of significance. A four point likert scale of Very Much available (VMA), Available (A), Moderately Available (MA) and very Much Unavailable (VMU) for Research Question 1 while Research Question 2 had: Very High Extent (VHE), High Extent (HE), Low Extent

(LE) and Very Low Extent (VLE) were written against each item with a corresponding assigned values of 4, 3, 2 and 1 respectively. Data generated was analyzed using mean and standard deviation. Any item with a mean Score of 2.50 and above was regarded as high while any item below the mean score of 2.50 was regarded as low. A null hypothesis was rejected if the calculated table value is equal to or greater than the critical table value, otherwise the null hypothesis was accepted.



Results

Data was analyzed and results are presented in the table below:

Research Question One

To what extent are new technology infrastructures available for teaching business education courses in Ondo State tertiary institutions?

Table 1: Analysis of Mean Rating Responses of Business Education Lecturers on the Availability of New Technology Infrastructures for Teaching Business Education Course in Ondo State Tertiary Institutions.

S/N	Items	X	SD	Remark
1.	Internet Facilities	2.68	0.98	A
2.	Overhead Projector	2.85	0.89	A
3.	Internet & Local Area Network	2.78	0.92	A
4.	Workable Generator	2.73	0.81	A
5.	Light Pen	1.95	0.98	VMU
6.	Fax Machine	2.15	0.92	MA
7.	Video Candle Recorded	2.43	1.03	MA
8.	Ready-made Courseware	2.20	1.01	MA
9.	Computer Laboratory	2.83	0.81	A
10.	Application Software	3.00	0.59	VMA
11.	Electronic Software	2.10	0.95	MA
12.	Video/Audio conference Equipment	2.10	0.95	MA
13.	Electronic Chalk board	2.40	1.08	MA
14.	Online/Internet Computer	2.48	1.01	MA
15.	Off-line/ordinary computer	3.60	1.89	VMA
16.	Printers	2.78	1.89	A
17.	Milkmaid Television	2.45	1.19	MA
18.	Digital Cameras	2.32	1.01	MA
Grand Mean		2.54	1.05	

Table 1 shows the extent of availability of new technology infrastructures for teaching and learning business education courses. The Table reveals that 8 out of 18 ICT items are available with mean scores of 2.50 and above while 9 items shows that new technology tools are moderately available and 1 item is very much unavailable with the mean of score below 2.50. The table also shows a grand mean and standard deviation of 2.54 and 1.05 respectively.

Research Question Two

To what extent do business education lecturers utilize new technology infrastructures for teaching business education courses in Ondo State tertiary institutions?

Table 2: Analysis of Mean Rating Responses of Business Education Lecturers on the Utilization of New Technology Infrastructures for Teaching Business Education courses in Ondo State Tertiary Institutions.

S/N	Items	X	S.D	Remark
1.	Electronic Typewriter	2.68	0.92	HE
2.	Computers	2.63	0.85	HE
3.	Printers	2.95	1.22	HE
4.	Internet service/Facilities	2.13	0.79	LE
5.	Dictating Machine	1.53	0.83	LE
6.	Interactive white Board	2.98	1.26	HE
7.	Projectors	2.95	0.83	HE
8.	Video conferencing	2.01	1.05	LE
9.	Fax Machine	2.15	0.92	LE
10.	Television Set	1.87	0.81	LE
11.	Audio Tapes	2.61	0.73	HE
12.	Video/Video Tapes	2.44	0.25	LE
13.	Scanners	2.65	0.88	HE
14.	Franking Machine	2.01	0.81	LE
15.	Internet Medium	1.45	0.53	VLE
16.	Photocopiers	2.68	0.64	HE
17.	Electricity	1.09	0.38	VLE
18.	Digital Versatile Disk Recorder	1.42	1.08	VLE
19.	Digital Versatile Disc Player	1.85	0.71	LE
20.	Uninterrupted Power Supply (UPS)	3.57	0.78	VHE
Grand Mean		2.28	0.81	

Table 2 shows the extent of utilization of new technology infrastructures available for teaching and learning of Business Education courses. The table reveals that while 9 out of 20 items are not effectively utilized with the mean score of 2.50 and above. The results indicated that 11 out of 20 new technology tools have low extent indicating with the mean score below 2.50. The table also shows a grand mean and standard deviation of 2.28 and 0.81 respectively.

Test of Hypotheses

Hypotheses One

There is no significant difference in the mean responses of male and female business educators regarding the availability of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions.

Table 3: t-test Summary of Male and female Business Educators on the Extent to which new technology infrastructures are Available for the Teaching of Business Education Courses.



Variable	N	X	SD	DF	P	t-cal	t-crit	Decision
Male	43	2.26	0.82	65	0.05	0.28	2.01	Accepted
Female	24	3.22	0.87					

Table 3 shows that the calculated t-value of 0.28 is less than the critical value of 2.01. Therefore, the null hypothesis is not rejected which indicates that there is no significant difference in the mean responses of male and female business educators regarding the availability of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions.

Hypotheses Two

There is no significant difference between the mean responses of University and Polytechnic business educators regarding the utilization of new technology infrastructures for teaching business education courses in Ondo State tertiary institutions.

Table 4: t-test Summary of University and Polytechnic Business Educators on the Extent to which New Technology Infrastructures are utilized for the Teaching of Business Education courses

Variable	N	X	SD	DF	P	t-cal	t-crit	Decision
Polytechnic	43	1.83	0.51	65	0.05	0.16	2.01	Accepted
University	24	1.46	0.47					

Table 4 shows that the calculated t-value of 0.16 is less than the t-critical value of 2.01. Therefore, the null hypothesis is not rejected which indicates that there is no significant difference in the mean responses of the University and Polytechnic business educators on the extent to which new technology infrastructures are being utilized for teaching business education courses in Ondo State tertiary institutions.

Discussion of Findings

The findings in research question one revealed that majority of new technologies for teaching business education courses were not very much available while only few of them were available. The finding is in line with the study by Madu and Pam (2011) which found out that only few technologies/facilities were available for teaching and learning in Federal University of Technology, Minna, Niger State. Azih (2011), in her study also found out that Polytechnics in Nigeria do not have sufficient facilities for teaching the practical based business education courses which constitute almost 70% of the core business education courses. Also, the study of Adegbanjo (2014) revealed that Polytechnics in the south-west of



Nigeria have not met the requirements of NBTE curriculum specified technology facilities and equipments for stream of National Diploma (ND) and Higher National Diploma (HND). The author submitted further that for effective teaching and learning to take place in business education programme and for the students to be able to acquire relevant skills, there should be provision of all relevant new technologies that will enhance the teaching process.

Research question two findings indicated that business education lecturers did not utilize new technology for teaching business education as expected because of the inadequacy of new technology infrastructures available for instruction. This findings is in line with Onojetah (2014) who argued that there is correlation between availability and utilization of new technologies as the status of the former greatly influences the latter. He further stressed that where new technologies are not available, it is most probable that utilization will be non-existence. The results of the two null hypotheses tested showed that they were not rejected which implies that responses of business education lecturers on the availability and utilization of new technologies infrastructure for teaching business education in Ondo State tertiary institutions was not significantly different statistically. This findings was supported by Onajetah (2014) who asserted that utilization is a function of availability; where there is unavailability; there will be no utilization because they are closely related. The findings also is in line with the study of Zakka and Moris (2009) who observed that the facilities required for teaching business education are either grossly inadequate or not available in most of the institutions in Nigeria. The study conducted by Igbinabo in Baba (2009) argued that to ensure optimum teaching and learning under the best conducive, business education programmes are expected to be adequately and sufficiently provided with requisite instructional facilities and equipments.

Conclusion

New technologies play different roles by complementing the teachers' role in pedagogies, classroom practices and teachers' approaches to teacher education. Business Studies which incorporates Accounting, Business Administration and Management, Banking and Finance, Office Technology and Management and Marketing, is one of disciplines offered in Nigerian tertiary institutions. The success of this programme is affected by inadequacy of new technology available for instructional purpose. Majority of lecturers in the departments are not in tune with the current reality of technologies breakthrough. Students must know them, use them and apply the knowledge and skills as proof of being professionals for effective instructional delivery. Also, government stakeholders, policy makers, curriculum planners of business education in Nigeria and Ondo State in particular should work towards proper implementation of business education programme since teachers play vital role in bringing about the understanding in students.



Recommendations

1. Urgent steps should be taken by the government to set up ICT centres and other modern instructional materials that are useful for the teaching and learning of business education courses nationwide.
2. Model office similar to sophisticated business office should be established in business education department in all tertiary institutions in Ondo State.
3. Business education lecturers should be encouraged to pursue ICT training with all seriousness. This could be achieved by making computers available, establishing necessary modern facilities and ensure effective internet connectivity that will provide opportunity for educational development.
4. Management of institutions should ensure available electricity that has capacity to power available new technologies for utilization during lecture periods.
5. Laws relating to the utilization of new technologies at all levels of educational system in Nigeria should be enacted and policies fully implemented in order to raise the level of awareness of these new technologies in the education system.

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