



**ASSESSING THE USE OF ICT FACILITIES IN TEACHING AND LEARNING
BUSINESS EDUCATION BY LECTURERS AND STUDENTS OF ADAMAWA
STATE COLLEGE OF EDUCATION, HONG, ADAMAWA STATE, NIGERIA.**

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Abstract

The study assessed lecturers and students level of knowledge on the use of ICT facilities and the extent to which they are utilizing these facilities. A descriptive survey design was adopted for the study. The internal consistency of the instrument was determined using Cronbach Alfa and reliability coefficient of 0.89 was obtained. Data was analyzed using mean and standard deviation. The population of the study was two hundred and fifteen (215) respondents. While sample size of one hundred and forty six (146) respondents, which consist of 14 lecturers, 132 students both NCE II and NCE III were selected using simple random sampling technique. The results show that lecturers have the knowledge of using ICT facilities in teaching BED. However, they rarely use them in teaching (Since they use them few times in a month). It was also found that lecturers' years of teaching experiences and academic qualifications were significant factors influencing the extent of utilization of ICT facilities in teaching. Furthermore, it was found that students' level of knowledge acquired on the use of ICT facilities in learning Office Technology and Management was low. It was recommended among others that there should be regular sensitization programmes on the importance of using ICT facilities in teaching as it promotes students' learning and enhance their academic achievement.

Keywords: Lecturers, Students, extent of knowledge and use, ICT, Teaching, Learning, and BED.

INTRODUCTION

Information and Communication Technology (ICT) plays a major role in the individual and professional lives. As a result of this technological revolution there are increasing demands for schools to integrate this technology to enhance the teaching-learning process. The use of ICT has made teaching easier, concrete, real

and more result-oriented (Etiubon&Akpan, 2020). In particular, ICT has transformed the way higher education institutions perform their core functions of teaching and learning. Now, teaching and learning are done differently with the help of this technology, especially at the Colleges, Polytechnics and universities levels. However, integrating ICTs into the educational system is a multifaceted process that involves not only the technology, but also curriculum and pedagogy, institutional readiness and teacher competencies (Hoque&Alam, 2022). The advent of various ICT facilities has brought substantial changes globally within the educational system. Studies have shown that students' learning and teachers' teaching are enhanced with these facilities (Apagu&Wakili, 2018; Stephen, 2019). Considering the benefits of ICT, the Federal Government of Nigeria developed an ICT policy in 2001. This policy led to the establishment of the National Information Technology Development Agency (NITDA). Among the objectives of NITDA are; to ensure that ICT resources are readily available to promote efficient national development; and to integrate ICT into the mainstream of education and training (NITDA, 2017). However, studies relating to lecturers' level of use of ICT facilities in teaching and learning has presented conflicting results. Some have shown low level of use of ICT in teaching (Olelewe&Okwor, 2017; Archibong, Ogbiji & Aniaobi-Idem, 2017; Nwachukwu&Asom, 2019). Others are pointing to the fact that the level of used is high (Enakrire&Ocholla, 2017; Emeasoba&Ezenwafor, 2019). These seems to indicate that studies concerning the level of used of ICT in teaching is inconclusive, and varied from one polytechnic to the other.

Statement of problem

Although the importance of ICT usage in our educational institutions cannot be overemphasized. The use of ICT facilities has proven beyond doubt to enhance teaching, learning and research (Yushau&Nannim, 2018; Olaore, 2017; Sanchez, Salinas & Harris, 2020). Studies have shown that the major concern of teachers in the developed countries is how best to integrate ICT facilities in teaching and learning (Tella, Orim, Ibrahim &Memudu, 2017; Cosgrove et al., 2021). The integration of ICT facilities in teaching and learning process is a multifaceted process which involves more than just the technology but also the curriculum, pedagogy, institutional readiness and teacher competencies (Hoque&Alam, 2022). The integration of ICT in teaching has provided platform for teachers to

help learners reach their goals. Unfortunately, research findings have presented a contradicting situation on the use of ICT in higher institutions of learning ((Jumare et al., 2017; Nwachukwu&Asom, 2019; Quadri et al., 2020). Where these facilities are available, some studies have shown that they are either not put into adequate usage or are adequately utilized (Tella et al., 2017; Amusa&Atinmo, 2019; Agbatogun, 2021). These conflicting results are of very big concern to the researcher. The contradiction in these findings might be due to the peculiar challenge every College of Education faces in respect to the use of ICT facilities. It is worth noting that, without adequate used of ICT facilities, Nigeria polytechnics may not be able to deliver efficient and effective services that will enhance teaching, learning and research (Radloff, 2019). Obi (2019) attested that 60 percent of

Business Education graduates from either polytechnics or universities in Nigeria remained unemployed because of their deficiencies in modern technological demands. The office in the 21st century has turned to an E-office where different ICT facilities like computer, projector, e-board, scanner, video conferencing facilities and internet facilities and so on are used to perform the duties of the office manager, that were performed manually before now (Duniya, 2019). Consequently, this is now calling for a system of education which will involve the teaching and learning of BED courses with all the necessary ICT facilities that are in use in the E-offices so that BED students would be able to fit into what is obtainable in the world of work (Nwaosa, Egbule and Olannye 2020). Therefore, it is with this backdrop that this study assessed the use of ICT facilities in teaching and learning Office Technology and Management by lecturers and students of Adamawa State College of Education, Hong?

Objectives of the Study

Specifically, the objectives of this study was to:

1. Determine lecturer's levels of knowledge (literacy/competency) on use ICT facilities in teaching and learning Business Education
2. Determine the extent to which the ICT facilities are being utilized by lecturers in Adamawa State College of Education, Hong?
3. Determine the influence of years of teaching experience on lecturers' extent of utilization of ICT facilities in teaching and learning Business Education
4. Determine the influence of educational qualification on lecturers' extent utilization of ICT facilities in teaching and learning Business Education

5. Determine students' level of knowledge acquired on the use of ICT facilities in learning of Business Education studies in Adamawa State College of Education, Hong?

Research questions

In order to carry out the research, the following research questions was formulated in line with the objectives of the study.

1. What are the lecturers' levels of knowledge (literacy/competency) on the use ICT facilities in teaching and learning Business Education in Adamawa State College of Education, Hong?
2. To what extent are the ICT facilities utilized by the lecturers in Adamawa State College of Education, Hong?
3. What is the influence of years of teaching experience on lecturers' extent of utilization of ICT facilities in teaching and learning Business Education?
 1. What is the influence of educational qualification on lecturers' extent of use of ICT facilities in teaching and learning of Office Technology and Management?
 2. What are the students levels of knowledge acquired on the use ICT facilities for learning of Office Technology and management in federal polytechnic, Nasarawa State?

Theoretical Framework

This study was based on Unified Theory of Acceptance and Use of Information Technology (UTAUT) propounded by Venkatesh, Morris, Davis & Davis, 2019. This theory provides an explanation towards individual's perception about acceptance and use of technology. UTAUT suggests four main determinants; performance expectancy (PE), Effort expectancy (EE), social influence (SI) and facilitating conditions (FC).

Literature review

ICT in Teaching

Building on the Shulman's concept of Pedagogical Content Knowledge which is defined as "The ways of representing and formulating the subject that make it Comprehensible to others" (Shulman, 2018, p.9), Mishra and Koehler (2019) conceptualized the framework of Technological, Pedagogical, and Content

Knowledge (TPCK). Every element of TPCK represents foundational elements of a teacher's expertise. What this mean is that a teacher must first be an expert in a content area of the learning experience. Next, the teacher must possess knowledge concerning how students might best connect with curriculum content, or pedagogy. Finally, a teacher must possess knowledge related to the use of the ICT tool which includes basic operations and mechanical controls. Joint together, these overlapping spheres of knowledge represent broad zones of expertise for effective teaching and learning with ICT. ICT creates economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change. ICT has also found application in area of teaching methodology because its integration enables teacher to easily create an enabling environment which facilitates the achievement of learning objectives through the use of programs or applications which provides or simulate solution to problems. The teaching task is normally assisted by simulations and animation packages or through others electronic teaching facilities. Emeasoba and Ezenwafor (2019) carried out a study which seek to assess the computer and networking competencies possessed by Office Technology and Management lecturers in tertiary institutions in Anambra and Enugu states using the descriptive survey design. The study used two research questions and two hypotheses which were tested at 0.05 level of significance.

Because of the small size of the population, the entire population of 113 lecturers were used for the study. The instrument used for data collection was a validated questionnaire which has reliability coefficients of 0.76 and 0.86, while mean, standard deviation and z-test were used for analysis. Results of the study revealed that the lecturers possessed high competencies in computer operation while they possess low competencies in networking. This study shows that lecturers have ability to train graduates with computer operation competencies however, to be able to inculcate networking competencies to their students, they require training and retraining on networking.

Years of teaching experience

Years of teaching experience has also been found to be an influential factor in determining the use of ICT facilities by teachers. Study conducted by Egbert, Paulus and Nakamichi (2019) show that teachers with longer years of working experience utilize ICT facilities most. Also, Olafare, Adeyanju and Fakorede (2018) in their study found a significant difference between the less experienced

and the experienced lecturers. However, the less experienced lecturers were found to be doing better in utilization of ICT for academic purposes. Tezci (2020) has found that the less the years of experience, the higher the knowledge and use of ICT by teachers. This has been attributed to the enthusiasm and openness of the youths towards technology (Onansanya et al., 2018; Tezci, 2020). On the other hand, some studies have not found years of experience as a determining factor for the utilization of ICT facilities in teaching (Mahdi & Al-Dera, 2017; Niederhauser & Stoddart, 2020).

Academic qualifications

Another factor that was found to play a role in the utilization of ICT facilities in teaching is the teachers' academic qualifications. In a study conducted by Agbatogun (2017), it was found that academic qualification is an influential factor that is a predictor of use of ICT in teaching. Similarly, Olafare et al. (2018) also found lecturers with first degree had a positive attitude towards the use of ICT than those with higher qualification. On the contrary, Gombe, Jega, Dahiru, Aji and Sani (2021) found no significant difference in the utilization of ICT based on lecturers' qualification, though lecturers with Ph.D qualification had a slightly higher mean rating, followed by those with Masters' degree and then Bachelors' degrees while those with HND had the least mean rating.

Business Education.

Business education is a major component of vocational education. A design field of study for the development of skills, attitudes, appreciation, creativity as well as creation of awareness and competencies in the office work and business world. Osuala (1998) explained that business education is a programme of instruction, which consists of office education, which is a vocational education programme for office career workers through initial refresher and upgrading education. He further explained that general business education is a programme that provides learners with information and competencies which are needed by all in managing personal business affairs and in using the services of business. To complement the above explanation, business education consists of other programmes relevant to general business education and office education such as distribution, secretarial, computation occupation, etc. Adebusiye (2000) highlighted that the area of vocational education that is concerned with the acquisition of practical and applied skills for efficiency in office occupation, -distribution and marketing

occupation, business teaching, business and office education in addition to , basic economic understanding is referred to as business education. However, Atakpa (1999) while quoting Tonna and NaNassy (1970) viewed business education as that aspect of the total educational programme that provides the knowledge, skills and attitude to perform in the business world as a producer and consumer of goods and services that business offers. Also Ulinfin (1986) sees business education as an aspect of vocational education, which prepares an individual for employment in the business world. He believes that it is education for and about business or training for business skills and competencies required for use in business and office education. He further advanced that business education is one of the vocational areas which gives training in an occupational identity.

Teaching and learning of BED through ICT

Duniya (2019) observed that the world is generally ICT- driven and in order to keep abreast of this change, teaching/learning in BED must be geared towards ICT. In realization of BED objectives, BED students should be trained to acquire the required skills, attitude and knowledge needed for modern office management. Information and communication technology should be effectively utilized in training institutions to match graduates with the current demands of modern organizations. Effective utilization of ICT is very important in all the component areas of office management (Ugwoke, 2020). Atakpa (2021) stated that secretarial functions everywhere in the world have undergone a lot of technical changes. As a result, modern office equipment which gives the secretary the opportunity to increase her efficiency abound. Many office functions and secretarial duties which were previously done manually have been mechanized. Thus, the diversities of these office technologies require the office manager to possess new skills and subskills to enable him/her to be relevant in the modern office and these skills and competencies can only be acquired during teaching and learning. Therefore it is pertinent that office technology and management lecturers should up-date themselves on how to apply these ICT facilities when teaching.

Methodology

The methodology adopted for this study is the quantitative method, specifically the descriptive survey design. A Survey research designs are procedures in quantitative research in which investigators administer a survey

to a sample or to the entire population of people to describe the attitudes, opinions, behaviors or characteristics of the population (Creswell, 2012). The population of the study was two hundred and fifteen(215)respondents and a sample size of one hundred and forty six (146) respondents, which consist of 14lecturers, 132 students both NCE II and NCE III were selected using simple random sampling technique.

A simple random sample is a method of sampling techniques in which each sample has an equal probability of being chosen. A simple random sampling techniques was used, this to avoid biased representation of the total population.Krejcie& Morgan, (1970) table of sample size was used as a benchmark to determine the sample size of the respondents.Data was collected through the use of structured questionnaire. The questionnaire items was validated by two experts who are Chief Lecturers in the School of Information Technology Federal Polytechnic Nasarawa State. The internal consistency of the instrument was determine using Cronbach Alfa and reliability coefficientof 0.89 was obtained. Data was analyzed using mean and standard deviation.

The structure questionnaire has three sections namely; section A, B and C. Section A Questionnaire has (13) items that elicited information on lecturers level of knowledge on the use ICT facilities in teaching and learning BED and Section B Questionnaire has (13) items that elicited information on lecturers extent to which they utilize these facilities. While Section C Questionnaire has (8) items that seek to elicit information on students levels of knowledge acquired on the use ICT facilities for learning of Business Education Real limits were used for the interpretation, thus, for research question one; I Cannot Use it (**ICNU**) =1.00-1.49, I Have Use it But Not in Teaching (**IHUBNT**) =1.50-2.49, I Can Use it in Teaching (**ICUT**) =2.50-3.49, I Have Use it in Teaching (**IHUT**) =3.50-4.00. While research question 2, 3 and 4 are on four (4) point rating scale, they have the following limits; 1.00-1.49, 1.50-2.49, 2.50-3.49 and 3.50-4.00 and research question 5 items were structured in a five point Likert rating scale of: Very High Extent (5 points), High Extent (4 points) Moderate Extent (3 points), Low Extent (2 points) and Very Low Extent (1 point). A mean score of 3.00 and above will be considered as high while a mean score below it will be considered as low.

Result

Research question one: What are lecturers' levels of knowledge (literacy/competency) on use ICT facilities for teaching and learning of Business Education?

Table 1. Lecturers level of knowledge on the use ICT facilities for teaching and learning OTM

S/N	ICT Facilities	Mean	SD	Decision
1	Electronic white board/ Smart Board (Triumph Board, Genee touch e.t.c)	3.09	0.77	ICUT
2	Desktop/Laptop Computers	3.15	0.75	ICUT
3	External Devices e.g flask disk, CD-ROM, Modem	3.14	0.77	ICUT
4	Microsoft Office Packages (Ms Word, Ms Excel, Ms PowerPoint, Ms Access)	2.88	0.85	ICUT
5	Graphic Packages (e.g Adobe Photoshop, Corel Draw, AutoCAD	2.94	0.864	ICUT
6	Video conferencing facilities (e.g.NgREN)	2.17	0.87	IHUBNT
7	Internet	2.88	0.85	ICUT
8	PDF	2.55	0.85	ICUT
9	Handhelds/Tablets computers (iPad)/other mobile devices	3.20	0.96	ICUT
10	Multimedia projector	2.88	0.85	ICUT
11	G Suites (e.g. Google Docs, Google sheets, Google Slides, Google Forms e.t.c)	2.28	0.922	IHUBNT
12	Graphic Packages (e.g. Adobe Photoshop, Corel Draw, AutoCAD	2.52	0.84	ICUT
13	PDF	3.20	0.96	ICUT
	Cluster mean	2.52	0.54	

Key: I Cannot Use it (**ICNU**) =1.00-1.49, I Have Use it But Not in Teaching (**IHUBNT**) =1.50-2.49, I Can Use it in Teaching (**ICUT**) =2.50-3.49, I Have Use it in Teaching (**IHUT**) =3.50-4.00

Table 1 show the level of knowledge of lecturers on the use of ICT facilities in teaching and learning Business Education The mean response showed that items 1, 2, 3, 4, 5, 7, 8, 9, 10, 12 and 13 had mean ratings within the range of 2.50-3.49 (ICUT), which means that the lecturers indicated that they can use ICT in teaching. Items 6 and 11 had mean ratings within the range of 1.50-2.49 (IHUBNT) which means that lecturers have used ICT facilities but not in

teaching. In general, the items had a cluster mean of 2.52 which is under the mean range of “I Can Use it in Teaching (ICUT)”. This implies that lecturers in Business Education can use ICT facilities in teaching.

Research question two: To what extent are the ICT facilities utilized by the lecturers in teaching and learning Office Business Education in Adamawa State College of Education, Hong?

Table 2. Extent of Utilization of ICT Facilities by Lecturers

S/N	ICT Facilities	Mean	SD	Decision
1	Electronic white board/ Smart Board (Triumph Board, Genee touch	1.42	0.57	NAA e.t.c)
2	Desktop/Laptop Computers	3.72	0.56	AED
3	External Devices e.g flask disk, CD-ROM, Modem	2.82	0.81	FTW
4	Microsoft Office Packages (Ms Word, Ms Excel, Ms PowerPoint, Ms Access)	3.62	0.66	AED
5	Graphic Packages (e.g Adobe Photoshop, Corel Draw, AutoCAD	1.45	0.56	FTW
6	Video conferencing facilities (e.gNgREN)	1.27	0.47	NAA
7	Internet	3.68	0.51	AED
8	PDF	3.20	0.74	FTW
9	Handhelds/Tablets computers (iPad)/other mobile devices	3.62	0.66	AED
10	Multimedia projector	3.20	0.74	FTW
11	G Suites (e.g. Google Docs, Google sheets, Google Slides, Google Forms e.t.c)	1.40	0.57	NAA
Cluster Mean		2.38	0.28	

Key: Not at All (**NAA**) =1.00-1.49, Few Times a Month (**FTM**) =1.50-2.49, Few Times a Week (**FTW**) =2.50-3.49, Almost Every Day (**AED**)=3.50-4.00

Table 2 show that, the most frequently used ICT facility was the Desktop computer/Laptop (M=3.72, SD=0.56), which is closely followed by Internet (M=3.68, SD=0.51) and Handheld/Tablets computers (M=3.62, SD=0.66). The least used ICT facilities are videoconferencing and G Suits facilities with means 1.27 and 1.40 respectively. The cluster mean of 2.38 shows that the extent

(frequency) of use of ICT facilities by lecturers of office Technology Management is low.

Research question three: What is the influence of years of teaching experience on lecturers' extent of utilization of ICT facilities in teaching BED?

Table 3: Mean Ratings of influence of years of teaching experience on Lecturers' Extent of Utilization of ICT Facilities in teaching BED

Years of teaching experience	N	Mean	SD
1-8 Years	2	2.37	0.27
9-16	3	2.39	0.29
17-25 years	4	2.40	0.30
Above 25 years	3	2.48	0.32
Total	12	2.38	0.28

Table 3 show the influence of years of teaching experience on lecturers' extent of utilization of ICT facilities in teaching and learning OTM. The result showed that lecturers within 1-8 years of teaching experience had mean ratings of 2.37, SD=0.27, 9-16 years had mean ratings of 2.39, SD=0.29, 17-25 years has mean ratings of 2.40, SD=0.30 while those with years of working experience above 25 years had mean ratings of 2.48, SD=0.32). This result showed that lecturers with longer years of teaching had slightly higher mean ratings compared to those with lesser years of teaching experiences.

Research question four: What is the influence of educational qualification on lecturers' extent of utilization of ICT facilities in teaching BED?

Table 4. Mean Ratings on Influence of Lecturers' Qualification on their extent of Utilization Of ICT Facilities in Teaching OTM

Qualification	N	Mean	SD
Ph.D.	2	2.72	0.56
Master Degree	3	2.61	0.55
Bachelor's Degree	4	2.51	0.54
HND	3	2.42	0.47
TOTAL	12	2.52	0.54

Table 4 show that lecturers with Ph.D. qualifications had mean ratings of 2.72 (SD=0.56), Masters' Degree holders had mean ratings of 2.61 (SD=0.55),

Bachelors' degree had mean ratings of 2.51 (SD=0.54) and those with HND had the least mean rating of 2.42(SD=0.47). This result shows that lecturers with higher qualification had a slightly higher mean ratings than those with lower qualification.

Research Question five:What are the student's levels of knowledge acquired on the use ICT facilities for learning Business Education?

Table 5:Mean Ratings on levels of knowledge acquired by students on the use of ICT facilities for learning Business Education

S/N	ITEMS	X	DECISION
1	Ability to prepare a slideshow using Microsoft Power point	2.93	Low
2	Ability to use Microsoft word for word production and processing	3.98	High
3	Ability to use Microsoft Excel to analyzed information, do basic calculations and view data	2.81	Low
4	Ability to make simple design of flyers, memos etc on Microsoft Publisher	2.73	Low
5	Ability to upload document on to the internet	2.23	Low
6	Ability to download material and save effectively on my computer or external storage device	3.22	High
7	Ability to use search engines to search gather information	3.86	High
8	Ability to manipulate computer peripherals like printer and scanners etc.	2.34	Low
9	Ability to setup an online video conferencing using Skype, Google hangout, Yahoo messenger	1.72	Low
10	Ability to organize data using Microsoft Access	2.76	Low
N=40	Grand mean	2.85	Low

Table 5 indicated “high” in items 2, 6 and 7 with a maximum mean score of 3.98 while they indicated “low” in the rest of the 7 items with a minimum mean score of 1.72 and a grand mean of 2.85. From the above, it shows that knowledge acquired by the students on the use of ICT facilities in learning Business Education was low.

Discussion of Findings

The discussion followed the main research findings of the study: One of the results of this study showed that lecturers have the knowledge of using ICT facilities in teaching OTM. However, they rarely use them in teaching (Since they use them few times in a month). Findings of this study agreed with Emeasoba and Ezenwafor (2019). However, it disagreed with findings of Apagu and Wakili, (2018). Another result of this study showed that the extent (frequency) of used of ICT facilities by the lecturers was low. The finding of this study is also in line with the results of Atakpa (2021). Also, the result showed that lecturers' years of teaching experiences and academic qualifications were significant factors influencing the extent of utilization of ICT facilities in teaching. The finding of this study is also in line with the result of (Egbert, Paulus & Nakamichi, 2019; Agbatogun, 2017). The finding of the study also showed that, the knowledge acquired by students on the use of ICT facilities in learning Office Technology and Management was low. The findings of this study is also in line with the results of Rasul and Mansor (2017).

Conclusion

The conclusion drawn from this study is that lecturers have the knowledge of using ICT facilities in teaching BED. However, they rarely use them in teaching (Since they use them few times in a month). The facilities that the lecturers seem to be using in teaching includes; Desktop/Laptop Computers, Handhelds/Tablets computers (iPad)/other mobile devices, Internet, Microsoft Office Packages (e.g. MS Word, MS Excel, MS PowerPoint, MS Access)

Recommendations

Based on the result of the study it was recommended that there should be regular sensitization programmes on the importance of using ICT facilities in teaching as it promotes students' learning and enhance their academic achievement

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