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Extent of Integration of Information and Communication Technology in Lecture Delivery by Economics Education Lecturers in Nigerian Public Universities

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Abstract

This study was to investigate the extent of integration of information and communication technology in lecture delivery by economics education lecturers in Nigerian public universities. Three research questions guided the study and three null hypotheses were tested. The study adopted a descriptive survey research design. The population of the study consist of 220 engineering lecturers. A 30 items structured questionnaire which was face validated by two experts was used for data collection. Test retest method was adopted in establishing the reliability of the instrument and data collected was analyzed using Pearson Product Moment Correlation Co-efficient which yielded index of 0.78, 0.66 and 0.83 for clusters A, B, C and an overall index of 0.67 considered reliable for the study. Data gathered from the study were analyzed with mean and standard deviation to answer the research questions while z-test was used to test the hypotheses at 0.05 level of significance. Findings of the study indicated that engineering lecturers integrate computer, internet and multimedia facilities at a small extent. Gender was not a significant factor on the extent of integration of computer facilities, but it influence integration of multimedia facilities in lecture significantly. The researchers recommended among others that government should ensure adequate provision of ICT resources/facilities for use by both students and lecturers.
Keywords: Integration, Lecture, Delivery, Economics Education and Public Universities

Introduction

The fact that information is power is altruism. Information is the heart and power house for fluency and effectiveness in communication whether in formal or informal organization. This is more exigent in school organization which is people (Modebelu & Anebi, 2013), individuals in school organization are teachers, students and ancillary staff with varying frames of reference. University is an arm and agency through which national development plans are achieved through quality education. Effective communication appear to be the only standard means, people within an organization or society understand themselves, like harmoniously, pursue common goals and contribute immensely to the national development.

Lecturers are generally employed in institutions of learning because of their knowledge as well as expertise gained before entering the profession or in the course of the job. Okon (2004) noted that it is through communication that such knowledge and expertise become available and are shared among different members of the institution. Having access to adequate information and ability to communicate same effectively will enhance growth and development in various facets of life in one's nation. In any institution, how much of quality information and adequacy of communication available in institution of learning would go along way to determine the effectiveness of teaching and learning of engineering courses.

Information and Communication Technology (ICT) is the bedrock for national survival and development. Its pervasiveness has brought rapid technological, economic and political transformation, improved human resources and enhanced capacity building (Nwaukwa, Eze and Eze, 2015). Information is a fact or knowledge provided or learned. It is therefore facts of or details about a situation, person or events (Hornsby, 2000). He further defined technology as the application of scientific knowledge for practical purpose.

Communication being the central component of ICT is a process through which people exchange information or express their thoughts and feelings. Obanya (2004) viewed communication as the process of sending and receiving messages, information, ideas, signals, instructions and intentions necessary for linking various organizational activities. ICT is an electronic device that is used in the automatic acquisition, storage, manipulation, management and transmission of information (Federal Republic of Nigeria, 2004). According to Nzewi (2009) ICT is a scientific method of sharing, exchanging and sending or moving such information from one place to another. The emergence of this new technology, according to Akawu (2010), is having a serious effect in the field of education as it is impacting on the quality of teaching and learning through its dynamic, interactive and engaging content while providing opportunities for individualized instruction. ICT is at the epicenter of educational development of any modern society and Nigeria cannot afford not to integrate it into her own educational system. The role of ICT in education is commonly associated with a process of educational innovation, schools cannot ignore the impact of technology and the changing face of the curriculum (Essien, Ajaka and Ojini, 2010). Ozoji in Jimoh (2003) defined ICT as the handling and processing of information (text, image, graphs, instructions) etc for use, by means of electronic and communication device such as computers, cameras, telephone. Gomes (1998) the foundation for a knowledge economy due to its ability to facilitate the transfer and acquisition of knowledge that give impetus to the wave of globalization. Anowor (2010) observes that not only can the teacher easily source the content of lessons from the computer via the internet but preparation and delivery of lesson can be made easier and more efficient through the use of a combination of computer, telecom facilities and multimedia projector. Adeboye (2011) noted that the world today is driven by information, communication and technology. Adeboye believes that if a country will be relevant in this new dispensation there must be readiness to embrace the new world order of information technologies.

Okafor (2009) states that the teachers are the drivers of any educative process and argues that ICT in schools can be better improved if there are well trained and qualified teachers on ground. Ocho in Aguba (2013) posits that any improvement in education must start with improvement in the quality of teaching staff. The importance of ICT in education also prompted the Federal Republic of Nigeria (2010) outline the objectives of ICT in education as to;

a. Use information and communication technology in education to empower the youths with ICT skills and prepare them for global competitiveness.
b. Integrate ICT into the education mainstream
c. Train teachers in ICT skills and
d. Establish new multifaceted ICT institution around the country, among others. That is why Federal Republic of Nigeria (2004) further states that teachers are the main determinant of quality in education. If they are apathetic, uncommitted, uninspired lazy, unmotivated, immoral, antisocial the whole nation is doomed. If they are ignorant in their disciplines and impart wrong information, they are not only useless but also dangerous. The kind of teachers trained and posted to the schools may well determine what the next generation will be.

Statement of the problem

Education is experiencing shortage of ICTs and human resources required for taking advantage of emerging technologies in this modern society. Among the problems facing effective use of ICT in the teaching and learning are insufficient numbers of computers, inadequate fund, lack of suitable software etc. The relationship between the use of ICTs and student learning in universities is unclear which ICT role and added value in classrooms and on student learning showed mixed results. Therefore, the impact of ICTs on students learning in universities have not been as impressive as expected. These variation constitute a source of worry to the researchers.

Purpose of the study

The main purpose of the study was to determine the extent to which university lecturers in Nigeria integrate ICT in lecture delivery. Specifically, the study seek to determine the extent engineering lecturers in Nigerian public universities;

1. Integrate computer facilities in lecture delivery
2. Integrate internet facilities in lecture delivery
3. Integrate multimedia facilities in lecture delivery

Research questions

The following research questions guided the study:

1. To what extent are computer facilities integrated in lecture delivery by Nigerian public universities lecturers?
2. To what extent are internet facilities integrated in lecture delivery by Nigerian public universities lecturers?
3. To what extent are multimedia facilities integrated in lecture delivery by Nigerian public universities lecturers?

Statement of hypotheses

The following null hypotheses were tested at 0.05 level of significance

Ho_1: Male and female respondents do not differ significantly in their mean ratings on the extent the integrate computer facilities in lecture delivery.

Ho_2: There is no significant difference in the mean ratings of respondents on the extent they integrate internet facilities in lecture delivery.

Ho_3: There is no significant difference in the mean ratings of male and female respondents on the extent they integrate multimedia facilities for lecture delivery purposes.

Methodology

The study was carried out in Nigeria public universities. The study adopted a descriptive survey research design. The population of the study consisted of 214 lecturers (67 male and 113 female) in 180 universities. Instrument for data collection a questionnaire titled "Integration of ICT in Lecture Delivery by Engineering Lecturers (IICTLDBEL)". The instrument was a five points rating scale with the following options; Very Great Extent (VGE – 5 point), Great Extent (GE – 4 point), Moderate Extent (ME – 3 point), Small Exent (SE – 2 point) and Very Small Extent (VSE – 1 point).

The instrument was subjected to face validity by giving initial draft of the instrument to two experts from measurement and evaluation and economics both from University of Calabar. They were requested to assess the instrument content, relevance of items to research questions and language used in structuring the items. Their useful inputs and comments were used in modifying the instrument. Test re-test method was used to ascertain the instrument reliability where 25 copies were administered to twenty five lecturers who were not part of the study population and after an interval of two weeks; the instrument was re-administered to them. Data obtained were analysed using Pearson product moment correlation co-efficient was established with index of 0.78, 0.66 and 0.85 respectively for cluster A, B and C and overall index of 0.67 which implies that the instrument was 67 percent reliable which is set to achieve the purpose of the study. 214 copies of the instrument were administered to the respondents and 180 copies were retrieved and used for the study. Data gathered were analyzed using statistical mean (X) and standard deviation (SD) to answer the research questions while the null hypotheses were tested using z-test analysis.

Presentation/results

Research question I: To what extent are computer facilities integrated in lecturing delivery by engineering lecturers in Nigerian public universities.

Table 1: Respondents' mean ratings on extent of integration of computer facilities in lecture delivery N = 180

S/N	Computer facilities	Mean	SD	Remarks
1	Laptops/desktop to aid lecturers lecture note presentation	3.68	0.74	Great Extent
2	Data organization/management	1.63	1.04	Small Extent
3	CDROM containing prepared lectures materials	2.29	1.18	Small Extent
4	Word processor software	3.12	1.11	Moderate Extent
5	ICT applications	3.24	1.22	Moderate Extent
6	Power point office	1.83	1.02	Small Extent
7	Spreadsheet (Excel) software	3.41	1.23	Moderate Extent
8	Design and graphic software	3.16	1.17	Moderate Extent
9	Desktop publishing software to aid lecturing	1.63	0.98	Small Extent
10	Flash drive for storing lecture materials	2.67	1.14	Moderate Extent
11	Page developer	2.28	1.36	Small Extent
12	Adoption of lecture motivators	1.61	1.20	Small Extent
13	CD/DVD player for recording students' work	2.31	0.84	Small Extent

14	Digital camera for producing class project	1.83	1.42	Small Extent
15	Class management/activities software	2.19	1.10	Small Extent
	Total	2.39		Small Extent

Table 1 data analysis show that one of the items is being integrated in lecture delivery by economics education lecturers at a great extent. Out of the 15 computer facilities listed, the lecturers integrate six at a moderate extent and the rest at a small extent. The grand mean score of 2.39 shows that on the whole, public universities lecturers in Nigeria integrate computer facilities in lecturing delivery at a small extent. The standard deviations for all the items are within the same range showing that the respondents are not wide apart in their findings.

Research question 2: To what extent are integrate facilities integrated in lecture delivery by economics education lecturers in Nigeria public universities.

Table 2: Respondents' mean rating on extent of integration of internet facilities in lecturing deliver in Nigeria public universities N = 180

S/N	Computer facilities	Mean	SD	Remarks
16	Electronic mail	4.61	1.32	Very Great Extent
17	Worldwide web	1.90	1.08	Small Extent
18	Internet and local area network	2.24	1.26	Small Extent
19	Search engine (Google, Wiki)	3.49	1.32	Moderate Extent
20	Chat room (face book)	3.61	1.11	Great Extent
21	Virtual classroom	2.82	1.02	Small Extent
22	Web camera	1.94	1.24	Small Extent
23	Lecture boards	2.22	1.10	Small Extent
24	News groups	2.18	1.02	Small Extent
25	Blogger	1.76	1.46	Small Extent
	Total	2.30		Small Extent

Data on table 2 indicate that one of the item is being integrated in lecture delivery by economic education lecturers at a very great extent. Item no 20 (chat room) is being integrated at great extent, item 19 at moderate extent, while the rest at a small extent. The mean of mean score of 2.30 show that on the whole, engineering lecturers in Nigerian public universities integrate internet facilities in lecturing delivery at a small extent. The standard deviations for all the items are within the same range showing that the respondents are not wide apart in their ratings.

Research questions: To what extent are multimedia facilities integrated in lecturing delivery by engineering lecturers in Nigerian public universities

Table 3: Respondents' mean rating on extent of integration of multimedia facilities in lecture delivery in Nigerian public universities N = 180

S/N	Multimedia facilities	Mean	SD	Remarks
26	Overhead projector	2.39	1.36	Small Extent
27	Electronic board	1.52	1.94	Small Extent
28	Lecture radio	2.34	1.17	Small Extent
29	Lecturing video	2.34	1.17	Small Extent

30	Facsimile	1.54	1.05	Small Extent
31	Interactive white board	1.45	0.90	Very Small Extent
32	Audio/video tape recorder	2.20	1.04	Small Extent
33	Digital camera	1.74	1.12	Small Extent
34	Bulletin board	1.41	0.78	Very Small Extent
35	Multimedia projector	1.59	1.17	Small Extent
		2.39		Small Extent

Table 3 analysis indicates that two of the items are being integrated in lecture delivery by economics education lecturers at a very small extent, while the rest are being integrated at a small extent. The means score of 2.39 shows that on the whole, engineering lecturers in Nigerian public universities integrate multimedia facilities in lecture delivery at a small extent. The standard deviations for all the items are within the same range showing that the respondents are not wide apart in their ratings.

Testing of hypotheses

The null hypotheses were tested using z-test at 0.05 level of significance.

$H0_1$: Male and female respondents do not differ significantly in their mean ratings on the extent they integrate computer facilities in lecture delivery.

Table 4: Z-test analysis of male and female lecturers on the extent they integrate computer facilities in lecture delivery

Gender	N	X	SD	a	df	z-cal	z-crit	Remark
Male	67	2.63	1.07					
				0.05	178	1.83	1.96	Not significant
Female	113	2.43	1.13					

Table 4 show that the calculated z-value of 1.83 is less than the critical z-value of 1.96 at 0.05 level of significance and 178 degree of freedom. This implies that the respondents did not differ significantly in their mean ratings and extent they integrate computer facilities in lecture delivery as a result of gender. Hence, the null hypothesis was accepted or upheld.

Ho_2: There is no significant difference in the mean ratings of respondents on the extent they integrate internet facilities in lecture delivery.

Table 5: Z-test analysis of lecturers on the extent they integrate internet facilities in lecture delivery

Gender	N	X	SD	A	df	z-cal	z-crit	Remark
Male	57	3.30	1.17					
				0.05	178	5.619	1.96	Sign.
Female	123	2.21	1.30					

Table 5 analysis also shows that the calculated z-value of 5.619 is higher than the critical z-value of 1.96 at 0.05 level of significance and 178 degree of freedom. This means that the respondents differ significantly in their mean ratings and extent they integrate internet facilities in lecture delivery. Therefore, the null hypothesis was not upheld.

$H0_3$: There is no significant difference in the mean ratings of male and female respondents on the extent they integrate multimedia facilities for lecture delivery purposes.

Table 6: Z-test analysis of male and female lecturers on the extent they integrate multimedia facilities in lecture delivery

Gender	N	X	SD	a	df	z-cal	z-crit	Remark
Male	67	2.78	1.16					
				0.05	178	2.948	1.96	Sign.
Female	113	2.26	1.11					

Table 6 indicates that the calculated z-value of 2.948 is greater than critical z-value of 1.96 at 0.05 level of significance and 178 degree of freedom. This means that the respondents differ significantly in their mean ratings and extent they integrate multimedia facilities in lecture delivery. Thus, the null hypothesis was not upheld or rejected.

Discussion of findings

Findings of the study in research question 1 revealed that economics education lecturers in Nigerian universities integrate computer facilities in lecture delivery at a small extent. This findings is in line with the study of Nwosu (2013) contended that ICTs should be utilized by the lecturers in training students for the world of work. In support, Thomas (2006) affirmed that the extent of integration of computer facilities by teachers is very low.

Findings of the study in respect of research question 2 revealed that lecturers in Nigeria public universities integrate internet facilities in lecture delivery at small extent. This findings is in agreement with that of Nwangwu Okoye et al (2018) that technology is radically transforming every industry and therefore need to be given a rightful place in the teaching and learning. Similarly, Nwachukwu (2018) revealed that teachers integrate internet facilities to a small extent due to lack of internet connectivity, irregular power supply and teachers' lack of interest in integrating ICT in teaching.

Findings of research question 3 revealed that lecturers in Nigeria public universities integrate multimedia facilities at small in lecture delivery. The findings of the study is in accordance with Okafor (2012) opinion that ICT helps in teaching students of higher institutions and others alike. It is however, necessary for lecturers to make adequate use of these ICTs for better assimilation by the students and saving of time used in teaching.

Conclusion

From the findings of this study, computer internet and multimedia facilities could help in improving the academic performance of engineering students though proper utilization of the facilities by the lecturers. Therefore, ICT has been identified and recognized as a mean of enhancing standards in the teaching and learning of engineering courses.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. The should be regular retraining of all categories of lecturers in the area of ICT utilization for effective productivity.

2. Government should ensure adequate provision of ICT resources/facilities for use by both students and lecturers
3. University management should ensure security and adequate maintenance and upgrade of ICT facilities for effective use by students and lecturers.

References

Adeboye, K. R. (2011). Information Technology as a vital tool to networking and resource, sharing in government libraries and information centre. Training seminar on networking and resources sharing among government libraries. Minna.

Aguba, C. R. (2013). Strategies for Effective Management of Information and Communication Technology (ICT) in Secondary Schools: Implications for National Transformation. *Unizik orient Journal of Education,* 7 (1) 142 – 146.

Akawu, A. B. (2010). Educational Communication Technology: Media & Utilization, Calabar, Nigeria: University of Calabar printing press.

Anowor, O. O. (2010). Imperatives of ICT for teachers Reforms in Nigerian Education. Enugu: New Generations Books.

Essien, Ajaka, & Ojini, (2010). ICT Availability, Access, Utilization as instigators of school climate change. *Nigerian Journal of Educational Administration and Planning,* 10 (3), 39 – 52.

Federal Republic of Nigeria (2004). National Policy on Education. Lagos: NERDC press.

Federal Republic of Nigeria (2010). National policy on ICT in Education. Abuja: MF.

Hornsby, A. S. (2000). Oxford Advanced Learner's Dictionary of Current English. Oxford. Oxford University Press.

Modobelu, M. N. & Anebi, J. (2013). Use of ICT in Teaching and Learning of Agricultural Education in Nigeria. *Unizik orient Journal of Education* 7 (1), 135 – 141.

Nwachukwu, C. C. (2009). The practice of Entrepreneurship in Nigeria. Port Harcourt: Africana – FEP Publishers Ltd.

Nwaukwa, F. C., Eze, A. N. & Eze, P. (2015). Extent by secondary school business subjects teachers in Abia state. *NAU Journal of Technology & Vocational Education,* 1 (2) 115

Nwosu, A. (2013). Effect of computer assisted instruction (CAI) with drill and practice on academic achievement of students in physics in Nigeria. *Journal of Science Education,* 8 (2) 72 – 86.

Obanya, P. A. C. (2004). Revitalization of education in Africa. Lagos: Sterling – Horden Publishers.

Okafor, I. C. (2009). ICT as a basis for National Development. Enugu: Amazing Publishers

Okon, M. S. (2004). Educational Administration. New Delhi: Ashsh Publishing House.

Okoye, A. C. & Nnajiofor, S. C. (2018). Business Educators' perception of the impact of ICT in teaching and learning of Business Education in Tertiary Institutions in Anambra State. *Multidisciplinary Journal of Vocational Education and Research,* 3 (1), 62 – 72.