EXTENT ICTS ADOPTION IMPROVE TEACHING AND LEARNING OF BUSINESS EDUCATION IN SOUTH-EAST NIGERIA

Dr. Justina I. Ezenwafor, Dr. Alice N.C. Mbaezue, and Dr. (Sr.) Mary-Noeleen Obi

[1]Department of Vocational Education, Faculty of Education
Nnamdi Azikiwe University, P.M.B. 5025, Awka.
[2]School of Business Education,
Enugu State College of Education Technical, Enugu

Corresponding Author: Dr. Justina I. Ezenwafor

ABSTRACT

The need to back up demands for adequate supply of ICT resources for business education with empirical evidence necessitated the study to determine the extent ICTs adoption improve teaching and learning in the field in South-East Nigeria. Two research questions guided the study and three null hypotheses were tested at 0.05 level of significance. The population of 179 (63 lecturers and 116 final year students) of the programme from all public universities in two out of the five states in the area was studied without sampling because the size was manageable. A validated 5-point rating scale questionnaire with 24 items in two clusters according to the research questions with reliability coefficients of 0.86 and .083 was used for data collection. The arithmetic mean and standard deviation were used to analyze data to answer the research questions and determine the homogeneity or otherwise of the respondents' means while the z-test was used to test the hypotheses at 0.05 level of significance. Findings indicate that ICTs adoption improve teaching and learning in business education in the area to a high extent by facilitating access to information, collaboration and knowledge enrichment among lecturers and students. This means that the students in the area of the study find their study more interest and perform better than their counterparts in institutions where ICT resources are not adopted by lecturers. Gender and institution ownership significantly influenced the opinions of the respondents but status did not. Based on the findings, the researchers concluded that ICT resources constitute major requirements for effective teaching and learning in the field of business education at all levels of the education system especially the tertiary level to equip the students with relevant competencies for success in employment. Consequently, it was recommended among others that business educators should continue the call for improved provision of ICT resources and that institutions' management and governments should evolve suitable strategies to meet the need.
© Ideal True Scholar

INTRODUCTION

Information and Communication Technology (ICT) comprises the diverse set of technological tools and resources used to communicate, create, disseminate, store and manage information (Mbaezue, 2010). ICT resources include computer, internet, broadcasting technologies like radio, television and telephony, internet software, database, fixed time telecommunications, mobile and wireless communications. ICTs are information handling tools that are used to produce, store, transfer, distribute and exchange information. These different tools are now able to work in combination and reach all corners of the globe. United Nations Development Program (UNDP, 2006) posited that ICTs are increasingly powerful tool for participating in global markets, promoting political accountability, improving delivery of basic services and enhancing local development opportunities.

High quality teacher preparation is very important and tantamount to teacher effectiveness. This implies knowledge of pedagogy, subject matter knowledge, experience and the combined set of qualifications required for teacher licensure. Darling-Hammond (2006) stated that teacher preparation helps prospective teachers to develop the knowledge and skills they need in the classroom. Well prepared teachers outperform those who are not well prepared; are more likely to remain in teaching and produce students with high academic achievement. Hammond added that leading industrialized nations invest heavily in pre-service teacher preparation. Liverpool, Marut and Ndam (2011) stated that Nigerian Higher Education Institutions (HEIs) must prepare scholars and graduates to contribute to the global market place of ideas. The authors added that in order to achieve this noble objective, Nigerian tertiary institutions must embrace the challenges in teaching and learning

with technology identified by EDUCAUSE which are:

o Creating learning environment that promote active learning, critical thinking, collaborative learning and knowledge creation;

o Developing 21st century literacy (information, digital and visual) among students and faculty;

o Reaching and engaging today's learners;

o Encouraging faculty adoption and innovation in teaching and learning with information technology and,

o Advancing innovation in teaching and learning with technology in an era of budget cuts.

New teaching competencies are required of universities business educators given the mounting pressure ICTs have placed on educational community. The more sophisticated and computerized business offices are the more ICT skills that will be demanded from lecturers and other administrative professionals. More so, due to economic crisis, many establishments including universities are downsizing and still expect those personnel who remain employed to meet the expected objectives and aspirations of learners and the curriculum. The current trend in technological development has forced many tertiary institutions to integrate ICTs into their teaching and learning to strive for excellence. ICT is viewed as not only crucial for the teaching and learning process but also for professional advancement of academicians. It becomes mandatory therefore for all university business educators to continually use and integrate new technologies into their instructional delivery in order to maintain and upgrade their competencies and adequately prepare their students for the world of work. Every lecturer must have a thorough mastery of the skills, competencies and knowledge required for teaching effectiveness.

LITERATURE REVIEW

The teaching of business education courses require the use of laboratories equipped with ICT resources for practical skills acquisition by the students. Business education lecturers are therefore required to possess adequate ICT competencies in order to provide training and support for development of course materials such as interactive presentations, videos, DVDs, web links and documents. They should be interested in teaching and learning how to use technology and multimedia resources to improve teaching and learning experiences since the courses are practical oriented. This entails ample provision of ICT infrastructure and resources because if they are not adequately provided the teaching and learning in the field will be boring and ineffective.

Business educators comprise males and females of different levels of training and teaching experience. However, males find it easier than females to handle the tedious practical aspects of teaching with ICT resources like connecting electric power to a generator and use of projector thereby making people believe that males possess more competencies than females. Liverpool, Marut, & Ndam (2011) investigated the existing levels of ICT competencies among male and female academic staff of Universiti Putra Malaysia (UPM)covering word processing, spreadsheet processing, data-base management, presentation software, e-mail, World Wide Web, multimedia and virtual class application and reported that gap exists as males excelled in the use of web while females excelled in use the e-mail.

There is no doubt that gender affects ICT related jobs. Some women abhor working or teaching with machines. Measurable gender differences are expected when females construe computers as computational tools rather than as tools for communication and productivity. Certain ICT related activities like handling computer hardware and maintenance are seen as masculine in nature. There is a widespread belief that computers and the internet are male dominated technologies. Van, Welsum and Montaingier (2007) reported that males have more positive attitudes towards e-learning than females and posited that while females use e-mails more than males while males use the web more.

Business education students need access to ICT resources for effective learning and skills acquisition because ICT resources are widely used in modern offices where they will work on graduation. The researchers as business education have observed that due to the low level of ICT resources many of their colleagues lack the motivation towards adoption ICTs for instructional purposes to produce better quality students instead they use them more for personal purposes and administrative tasks. It is the approach adopted by lecturers to integrate computers into classroom, the substance of technology-aided educational materials and the quality of software programs chosen that will indicate how adoption of ICTs will actually benefit students and lead to learning effectiveness.

E-learning, sometimes referred to as Computer-Based Training (CBT), Internet-Based Training (IBT) or Web-Based Training (WBT) which consists of all forms of electronically supported learning and teaching including educational technology depends on ICTs. Rich (2005) viewed e-learning (distance and online education) as alternative and sometimes superior to traditional classroom education but limited access to the resources in higher education institutions will continue to limit lecturers adoption of the useful instructional method. Information and communication systems whether networked learning or not, serve as a specific media to implement the learning processes.

According to Nte (1999) automation is gradually engulfing all manually-operated processes of office activities and executives are appreciating the benefits of office automation which enables documentation, storage, security and retrieval system with less difficulty. Nworgu (2006) conducted a study on acquisition of ICT skills by education students of tertiary institutions and reported that number of ICT courses offered was inadequate due to inadequate infrastructure and resources which and as a result, teachers on graduation lack knowledge and competencies for ICT utilization in instruction. This report was corroborated by Ezenwafor (2012), Ezenwafor, Okeke and Okoye (2014). Eze (2008) regretted that despite the fact that the modern society characterized and dominated by mega technology and multinational corporation control, educators, evaluators, educational institutions management and the government in Nigeria have not started to give adequate attention strategies for wide adoption of technologies for instructional delivery.

The study by Okeke, Ezenwafor and Umoru (2013) highlighted the great impacts of ICTs on student learningin tertiary institutions in Nigeria relative to employability skills acquisition for office work and entrepreneurship. In support of this, Ezenwafor and Olaniyi (2016) in a study on extent business education students need ICT skills for entrepreneurial success reported that the skills are needed to a large extent. However, Ezenwafor and Nwaokwa (2016) reported that institutional and government factors constitute major constraints to the adoption of e-learning by business education lecturers in Nigerian institutions as a result of inadequate provision of relevant ICT infrastructure and resources. Consequently, Ezenwafor (2012) Ezenwafor, Okeke and Okoye (2014), Okeke, Ezenwafor and Umoru, Ezenwafor and Olaniyi and Ezenwafor and Nwaokwa among others advocate concerted efforts by all relevant stakeholders in education to take necessary steps to positively support ICTs adoption in its various forms in instructional delivery by business education lecturers in tertiary institutions in Nigeria in order to equip the graduates with skills for success in office work and entrepreneurship.

Problem of the Study
Business education programmes at the tertiary levels are designed to equip students with business knowledge and skills for office work and entrepreneurship (Azuka, Nwosu & Agomuo, 2006). Given the rate of technological advancements in the current era, office work and business transactions have been greatly transformed requiring the integration of ICTs in business education programmes to enhance the global competitive abilities of lecturers and students. Researchers in the area of teaching and learning of business education, however, have widely reported that relevant ICT

resources are rarely provided for the programmes by government and institutions' management (Ezenwafor, 2012 & Ezenwafor & Nwaokwa, 2016). This situation demands improved provision of ICT resources for teaching and learning effectiveness in the field of business education. The current researchers are worried that relevant stakeholders are not giving desired attention to need possibly because they do appreciate the immense contributions of ICTs adoption in the development of lecturers and students in the field of business education, hence the imperativeness of this study.

Purpose of the Study
The purpose of this study was to determine the extent to which ICTs adoption improve teaching and learning of business education in South-East Nigeria. Specifically, the study determined the extent to which ICTs adoption improve
1. Teaching of business education in universities in South-East Nigeria.
2. Learning of business education in universities in South-East Nigeria.

Significance of the Study
Findings of this study will be of immense benefits to business education lecturers and students as the evidence would cause management of their institutions and the government to adequately provide ICTs resources for effective teaching and learning. This will make business education lecturers acquire relevant ICTs competencies for success in any fields of endeavour (office work and entrepreneurship) anywhere in the world. Furthermore, the outcome will benefit employers of labour whose employees will have requisite competencies to contribute effectively to the achievement of their organizational goals and objectives. Nigerian citizens and the government will benefit from the findings as the contributions of such well equipped graduates of business education will drive the socio-economic development of the nation.

Research Questions
The following research questions guided the study:
In the opinion of lecturers and students
1. To what extent do ICTs adoption improve the teaching of business education in South-East Nigeria?
2. To what extent do ICTs adoption improve the learning of business education in South-East Nigeria?

Hypotheses
The following null hypotheses were tested at 0.05 level of significance:
1. Male and female respondents do not differ significantly in their mean ratings on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria.

2. There is no significant different in the mean ratings of lecturers and students on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria.

3. Respondents from federal institutions do not differ significantly from their counterparts in state institutions on the extent ICTs adoption improve teaching and learning of business education in universities in South-East Nigeria.

METHOD

The study adopted a descriptive survey research design. According to Maduekwe (2011) and Uzoagulu (2011), descriptive survey design is the survey of opinions of a given population or its representative sample on existing phenomena using questionnaire. This design was suitable for the study since it used questionnaire to survey the opinions of university business education lecturers and students on the extent ICTs adoption improve teaching and learning in the field. The area of study was South-East Nigeria comprising Abia, Anambra, Ebonyi, Enugu and Imo States. Out of the five states, the researchers used Anambra and Enugu States for the study and covered only universities. People from the two states have similar characteristics in language and occupational interests. Population of the study is 179 (63 lecturers and 116 final students) drawn from all public (two federal and two state) universities in the area. The entire population was studied without sampling because the size was not too large.

A structured questionnaire titled "ICTs Improvement of Teaching and Learning in Business Education" (lCTITLBE) containing 27 items was used for data collection. The questionnaire has two main sections, Section A and Section B. Section A has three items on the respondents' demographic data while Section B was divided into Bl and B2 according to the research questions with 12 items respectively on a 5-point scale of very great extent (VGE) great extent (GE), moderate extent (ME), small extent (SE) and very small extent (VSE). The researchers personally administered the instruments to the respondents in their institutions and engaged the assistance of their colleagues in the others. The arithmetic mean and standard deviation were used to analyze data to answer the research questions and determine the homogeneity or otherwise of the respondents' means. .Item mean was used to take decision on the items while the cluster mean was used to answer the research questions based on real limit of numbers. The z-test was used for the null hypotheses and a hypothesis was upheld where the calculated z-value was less than the tabulated value but where the calculated value was equal to or greater than the tabulated value, the hypothesis was rejected.

RESULTS

Research Question 1: To what extent do ICTs adoption improve teaching of business education in South-East Nigeria?

Table 1: Respondents' Mean Ratings o the Extent ICTs Adoption Improve Teaching of business education in South East Nigeria
N = 179

S/N	Contributions of ICTs Adoption to Aspects of Teaching	Mean	SD	Remarks
1.	Correct interpretation of curriculum content	4.00	0.30	GreatExtent
2.	Using supplementary software to enhance teaching effectiveness	4.00	0.30	Great Extent
3.	Collaboration among lecturers for sharing of expertise	4.00	0.30	Great Extent
4.	Individualization of instructions to cater for all learner types	3.60	0.20	GreatExtent
5.	Improvisation and use of suitable instructional materials	3.90	0.20	Great Extent
6.	Access to information on curriculum content	3.90	0.20	Great Extent
7.	Team teaching of different courses	3.80	0.20	Great Extent
8.	Class management through interesting teaching process	3.90	0.20	GreatExtent
9.	Clear content delivery to enhance comprehension by students	3.80	0.20	Great Extent
10.	Development of teaching materials - books and notes	3.80	0.20	Great Extent
11.	Content coverage within the semester	3.50	0.20	Great Extent
12.	Adoption of various instructional methods	3.90	0.20	Great Extent
	Cluster Mean	3.84		Great Extent

Data in Table 1 show that mean ratings for all the aspects listed range between 3.50 and 4.00 while the cluster mean is 3.84. This means that the respondents were of the opinion that ICTs adoption improve teaching of business education to a great extent. The standard deviation for all the items were in the same range showing that the respondents were homogeneous in their views

Research Question 2: To what extent do ICTs adoption improve learning of business education in South-East Nigeria?

Table 2: Respondents' Mean Ratings on the Extent ICTs Adoption Improve Learning of Business Education in South East Nigeria
N = 170

S/N	Contributions of ICTs Adoption to Aspects of Learning	Mean	SD	Remarks
1.	Students' reading ahead of the class	4.00	0.30	Great Extent
2.	Collaborative study and sharing among students	3.80	0.30	Great Extent
3.	Knowledge acquisition by students	3.50	0.30	Great Extent
4.	Practical problem solving skills of students	4.00	0.30	Great Extent
5.	Access to information on all aspects of the programme	4.00	0.30	Great Extent
6.	Collaborations with students in other institutions	3.90	0.20	Great Extent
7.	Conduct of research studies among students	4.00	0.30	Great Extent
8.	Motivation for high academic achievement	3.70	0.20	Great Extent
9.	Personal study habits	4.00	0.30	Great Extent
10.	Conceptual knowledge of aspects of the programme	4.00	0.30	Great Extent
11.	Performance in examinations	3.20	0.20	Moderate Extent
12.	Interest in the programme	4.00	0.30	Great Extent
	Cluster Mean	3.50		Great Extent

Data in Table 2 show that all but one item (item 11) have mean ratings between 3.50 and 4.00 with a cluster mean of 3.50 which means that ICTs adoption improve the listed aspects of learning in business education to a great extent. The standard deviations for the all the items are in the same range which means that the respondents were homogeneous in their opinions.

Hypothesis 1: Male and female respondents do not differ significantly in their mean ratings on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria

Table 3: z-test analysis of the influence of gender on respondents' mean ratings on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria

Gender	N	Mean	SD	Df	z-cale	P	⎕	Remarks
Males	75	2.38	1.54					
Females	104	1.72	1.31	178	1.25	1.07	0.05	Significant

Data in Table 3 indicate that at the alpha level of 0.05, the calculated z-value is 1.25 which is greater than the P-value of 1.07. This means that gender has significant influence on the respondents' opinions. Therefore, the hypothesis was rejected.

Hypothesis 2: There is no significant different in the mean ratings of lecturers and students on the extent ICTs adoption improve teaching and learning of business education in Sourh-East Nigeria

Table 4: z-test analysis of the influence of status on respondents' mean ratings on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria

Status	N	Mean	SD	Df	z-cale	P	⎕	Remarks
Lecturers	63	2.38	1.68					Not Significant
Students	116	1.54	1.33	178	1.14	1.15	0.05	

Data in Table 4 indicate that at the alpha level of 0.05, the calculated z-value is 1.14 which is less than the P-value of 1.15. This means that status has no significant influence on the respondents' opinions on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria. The hypothesis was upheld.

Hypothesis 3: Respondents from federal institutions do not differ significantly from their counterparts in state institutions on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria.

Table 5: z-test analysis of the influence of institution ownership on respondents' mean ratings on the extent ICTs adoption improve teaching and learning of business education in South-East Nigeria

Institution Ownership	N	Mean	SD	Df	z-cale	P	⎕	Remarks
Federal	87	2.01	1.41					
State	92	1.95	1.39	178	1.33	1.03	0.05	Significant

Data in Table 5 indicate that at the alpha level of 0.05, the calculated z-value is 1.33 which is greater than the P-value of 1.03. This means that institution ownership has significant influence on the respondents' opinions. Therefore, the hypothesis was rejected.

DISCUSSION

Contributions of ICTs to the Teaching of Business Education

Findings of the study indicate that ICTs adoption improve the teaching of business education in Sourh-East Nigeria to a great extent. This supports the positions of authors and researchers like Azuka, Nwosu and Agomuo (2006) and Mbaezue (2010) Okeke, Ezenwafor and Umoru (2013) on the relevance ofICT to the effective teaching and learning in the field of business education. Furthermore, the findings corroborate the calls by researchers like Diego (2097), Eze (2008), Esuene (2009), Azi (2011), Ezenwafor and Nwaokwa (2016) among others for adequate supply of ICT resources for effective teaching and learning of business education. The findings imply that if the minimal supply of ICTs have contributed to the teaching of business education to a great extent, adequate supply will make lecturers and students of the programme excel in knowledge and skills needed for the current technologically and information driven office and business environment.

Contributions of ICTs to the Learning of Business Education

Findings of the study show that ICTs adoption improve learning of business education in South-East Nigeria to a great extent. This finding supports the positions of authors and researchers like Azuka, Nwosu and Agomuo (2006) Okeke, Ezenwafor and Okoye (2014) and Mbaezue (2015) on the relevance ofICTs to learning effectiveness in the field of business education. Furthermore, the findings corroborate the calls by researchers like Nteh (1999), Darling-Hammond (2006) and Esuene (2009), Ezenwafor (2012), among others for enhanced provision of ICT resources for use by business education students for enhanced learning effectiveness which will equip them with skills for success in office work and entrepreneurship. This implies that if the low level supply and adoption of ICTs resources by lecturers improve the learning of business education to a great extent, adequate supply and adoption will make students of the programme excel in knowledge and skills needed for the current technological and information age.

The study further revealed that gender significantly influenced the respondents opinions. This supports the position of Vance, Welsum and Montaigner (2007) regarding gender differences on ITCs utilization. Also institution ownership significantly influenced the respondent's opinions on the extent ICTs improve teaching and learning of business education. This could be due to the fact that institutions owned by the federal government have access to better funding than their state owned counterparts with higher pay and motivation for in favor of federal institutions lecturers. Finally, the finding of the study show that the lecturers do not differ significantly from students in their views on the extent ICTs improve teaching and learning of business education in the area of the study means that the evidence of the relevance of utilizing the resources for the purpose of teaching-learning effectiveness.

CONCLUSION

Based on the findings of the study, it was concluded that ICT resources constitute major requirement for effective teaching and learning in the field of business education at all levelsof the education system especially the tertiary level to equip the students with relevant competencies for success in paid or self employment.

LIMITATIONS OF THE STUDY

In relation to purpose of the study, there are no limitations since the objectives were fully achieved. However, in terms of scope, the study is limited to a fraction of the area covered as a result of which the findings cannot be generalized to the whole area.

RECOMMENDATIONS

Based on the findings and conclusion of the study, it was recommended that

- ❖ Business educators should continue to call on their institutions' management to improve supply of ICT resources for the programmes.
- ❖ Management of institutions should identify workable strategies for increased provision of ICT resources for business education programmes.
- ❖ Governments (federal and state) should stop paying lip service to the call by business educators and researchers on the need for improved funding to procure relevant ICT resources for the programme.

REFERENCES

Azih, N. (2011). The Impact of Office Technology and Management Curriculum on the new business education teacher, *Nigerian Journal of Curriculum Studies.* 18(3), 12-18.

Azuka, E.B, Nwosu, E. 0., Kanu, I. N. &Agomuo, E. E. (2006) Foundations of business education in Nigeria. Enugu: Jones Communication Publishers.

Darling-Hammond, L. (2006). Powerful Teacher Education: Lessons from exemplary programs Washington DC: John Wiley &Sons.

Esuene, J. (2009) The role of secretarial studies in Nigeria economic growth. *Technical Education today,* (2), 15-17

Eze, K.C. (2008). The utilization of secretarial competencies in computer-based business offices in Enugu state. *Business Education Journal,* 5(1), 95-106.

Ezenwafor, J.I. (2012). Adequacy of exposure to ICT by business education students of tertiary institutions in Anambra State. Business Exucation Journal 8(2), 45-60.

Ezenwafor, J.I., Okeke, A.U. & Okoye, K.R.E (2014). Utilization of e-learning resources for instruction by technology and vocational educators in tertiary institutions in South East Nigeria. Journal of World Educators Forum 5(1), 232-245.

Ezenwafor, J.I. & Nwaokwa, E.O. (2016). Institutional and government related constraints to e-learning adoption by business education lecturers in colleges of education in North-Central Nigeria. International Journal of Innovative Research in Education, Technology and Social Sciences 4(1),1-12. Available online at http://www.internationalpolicybrief.org/journals.

Ezenwafor, J.I. & Olaniyi, O.N. (2016). Extent business education graduates in Ondo and Ekiti States need technical and ICT skills for entrepreneurial success. Conference Proceedings, Association of Business Educators of Nigeria 3(1), 140-148.

Liverpool, L. S. O.; Marut, M. J. & Ndam, I. N. (2011). Towards a model for e-learning in Nigerian Higher Education Institutions (HEls): Lessons from the university of Jos ICT Maths Initiative. Liverpool@unijos.edu.ng&Oti,

Maduekwe, A.N. (2011). Research procedures in education: A practical guide. Lagos: Pumark Nigeria Ltd.

Mbaezue, A. N. C. (2010). *ICT and Business Education in a Globalised Economy*. Enugu. JTC Publishers

Mbaezue, A. N. C. (2015). *Information and Communication Technology competencies required* by Office Technology and Management lecturers in Polytechnic in South-East geopolitical Zone of Nigeria.

Nte, M. N. *(1999). The place of the secretary in an automated office*. Paper presented in the sixth Workshop/Exhibition Proceedings of NAPSSON, Enugu. October 11 - 15

Nworgu, B.G. (2006). Educational Research Basic Issues Methodology (2nd ed) Nsukka: University Trust Publishers.

Okeke, A.U., Ezenwafor, J.I. & Umoru, T.A. (2013). Perceptions so business educators on the impact of ICTs on student learning in tertiary institutions in Nigeria. Journal of Global Awareness 13(1), 1-12. Available online at http://orgs.bloomu.edu/GASI/2012.

Rich, M. (2005). Literacy debate: R U really reading? *The New York Times.* July 28 p.A1

UNDP Evaluation Office (2006). Information Communication Technology for development. 5(2) 1 – 31

Van-Welsum, D. & Montaingier, P. (2007). ICTs and Gender. Working Party on the Information Economy. Paris: OECD

Uzoagulu, A. E. (2011). Practical guide to writing research project reports in tertiary institutions. Enugu: John Jacob's Class Publishers Ltd.