Integrating Modern Technologies in Teaching and Learning of Business Education Programmes in Tertiary Institutions in Rivers State, Nigeria

[1]Hillary Wordu & [2]Destiny Anim

Department of Educational Foundations,
Faculty of Education, Rivers State University, Port Harcourt, Nigeria
Email: [1] drworduhillary@gmail.com; [2]destinyanim@gmail.com

ABSTRACT
This study investigated the issues of integrating modern technologies in teaching and learning of business education programme in tertiary Institutions in Rivers State -Nigeria. Three research questions were posed to guide the study and two null hypotheses were tested at 0.05 level of significance. A descriptive survey research was used which adopted an ex-post-facto design. Two hundred and twenty nine (129) business educators participated in the study. The participants were selected from three public higher institutions using stratified random sampling technique. The instrument used for data collection is a questionnaire constructed by the researchers. The questionnaire was validated by three experts. The reliability of the questionnaire was ensured using test re-test technique. The two sets of data collected by the two tests were analyzed using Pearson Product Moment Correlation technique which yielded a reliability co-efficient of 0.88. Data related to the research questions were analyzed using mean and standard deviation while z-test was used to test the hypotheses at 5% leveled significance. It was concluded that modern technologies should be provided in tertiary Institutions in Rivers State and business educators should be trained and retrained on the use of these technologies. Based on the findings of the study, it was recommended that government should grant permission to business educators to undertake in-service training locally and internationally and among others.
Keywords: Integrating modern technologies, teaching and Learning, business education programme and tertiary Institutions.

INTRODUCTION
Technology has become an integral part of the instructional process resulting in the development of new concepts in the logistics of instruction. The use of Information and Communication Technology (ICT) gadgets and machines has made teaching and learning a bit concrete, real and more result-oriented. Since the introduction of ICT, there has been a growing concern for the use of modern technologies. Technology is defined by Wikipedia (2021) as the sum of techniques, skills, methods and processes used in the production of goods and services or in the accomplishments of objectives, such as scientific investigation and it can be embedded in machines to allow for operations without detailed knowledge of their workings. Technology is ubiquitous, touching almost every part of our lives, our communities, and our homes. Yet most schools lag far behind when it comes to integrating technology into classroom learning environment. Many are just beginning to explore the true potentials that technology offers for teaching and learning. When properly used, technology will help students acquire the skills they need for survival in a complex, highly technological knowledge-based economy. Thus, technologies are applied in classroom situation to enhance teaching and learning processes. Ekpenyong (2004) asserted that the old technologies used in teaching have their origin from Paul Frefor banking of knowledge. At the period

when educators were seen as the custodians and dispensers of knowledge, whatever, the educators said were right and students must follow strictly all the dictates of the teachers. Ekpenyong (2004) condemned these old technologies applied in teaching as it was characterized by fatigue, poor relationship between students and teachers, low motivation for learning, teacher- centered and low retention of knowledge. Therefore, a business study educator who has not been trained in the modern technologies cannot be effective, efficient or able to deliver the knowledge and skills required by the students to succeed in a new learning environment that is increasingly ICT based. It is in keeping with the dynamics of social change and the demands on education that the Federal Government of Nigeria (FRN, 2004) came up with some policy innovations, initiation and changes, one of which was the introduction of information and communications technology (ICT) into the school system. Specifically, business education as a component of vocational education programme, prepares individuals for careers in business and to be an intelligent economic consumers of goods and services (Ugwoke, 2011). Therefore, for the business education programme to sustain its relevance in providing the needs of individuals and that of the society, it must embrace current trends in modern technologies in the academic and economic demands of the society. New technologies in teaching and learning in business education programmes according to Ezenwafor (2012) include:

a) Using micro-computers with soft-ware applications to write or produce documents,
b) Skillful keyboarding,
c) E-mail and Messaging,
d) Internet browsing using search engines, windows messenger, yahoo chat room and so on.
e) Using opaque projectors, slide projectors and multimedia projectors.
f) Utilizing e-banking, e-commerce, e-economies, and so on and
g) Utilizing different computer software, and applications such as word processors, spreadsheets, power-point, desktop publishing, and graphics among others.

Other technological devices available for teaching and learning, according to Osuala (2009) include media typewriter or processor, video tape recorder, sound on paper system, e-commerce, advanced calculators, dial access system, digital library, individual audio application and audio-visual retrieval system. Although these technologies are not new in many advanced countries, they are relatively new in Nigeria. While some of them are already being utilized in some schools, others are yet to be used in many of Nigeria's educational institutions.

Modern technologies in business education programme, according to Achugbue (2011) have posed many challenges to business educators in Nigeria. Achugbue (2011) further opined that business education in colleges of education would achieve the goals of teaching if such modern technological teaching hardware like computers, electric typewriters, television sets, projectors, internet facilities, among others are adequately provided and utilized. Many colleges of higher institutions do not give adequate priority and attention to the acquisition and utilization of modem instructional technologies needed for teaching and learning. The dearth of these facilities makes it difficult to teach and prepare business education students for the use of the modern technologies now and in future world of educational environments.

However. Stephanie (2016) saw technology integration as focusing on "how" to use technology to inspire positive changes in teaching methods on an international level. It also enhances the use of modern instructional mode of teaching and learning in tertiary institutions to meet the demands of the current trends in academics. Integrating technology into classroom instruction means more than teaching basic computer skills and software programs in a separate computer class. Effective technology integration must happen across the curriculum in ways that deepen and enhance the learning process. In particular, it must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts. Effective technology integration is achieved when the use of technology is routine and transparent and when technology supports curricula goals. Technology also changes the way teachers teach, offering educators' effective ways to reach different types of learners and assess students' understanding through multiple means. It also enhances the

relationship between teachers and students. When technology is effectively integrated into subject areas, teachers become advisers, content experts, and coaches. Technology helps to make teaching and learning more meaningful and fun.

According to Nagel (2013), despite increasingly widespread adoption of technologies in virtually every aspect of education, significant challenges are preventing widespread affective implementation. Nagel observed that key among all the challenges is the lack of sustainable professional development for business educators who are required to integrate the new technologies into classroom practices. In the same way, these challenges are facing Nigerian educational scene. It is against this background that this study was carried out to ascertain the availability, challenges and way forward of integrating new technologies into the teaching and learning of business education programmes in tertiary Institutions. The study will also try to find out ways of improving the use of new technologies in business education in tertiary institutions in Rivers State.

Statement of the Problem

One of the purposes of integrating modern technologies in the school curriculum is to improve the quality of education and expand access to education. The education sector is expected to be technologically driven and requires that technological resources are fully available and integrated in it. Unfortunately, the education sector seems to be lacking the necessary technological resources needed to bring the education sector in Rivers State as par with international standards. Business education programme being a skills development programme seems to be worst hit by the dearth of requisite technological tools on the one hand and the skills needed to effect the integration on the other. The consequence is that the programme is faced with the challenge of producing the needed manpower for the world of work. For technology to be successfully useful and deliver the goods expected of it such as making business education graduates global workers, it should be made part of the educational delivery for learning.

Purpose of the Study

The purpose of this study is to investigate the issues of integrating modern technologies into teaching and learning of business study education in tertiary institutions in Rivers State Specifically, the study sought to:

1. ascertain the availability of modern technologies for teaching and learning business education programmes in tertiary Institutions in Rivers State.

2. ascertain the challenges of integrating the modern technologies into teaching and learning business education programmes in tertiary Institutions in Rivers State.

3. Find out ways of improving the integrating of modern technologies into teaching and   learning business education programmes in tertiary Institutions in Rivers State**.**

Research Questions

The following research questions were posed to guide the study:

1. What are the modern technologies available for teaching and learning business education programmes in tertiary Institutions in Rivers State

2. What are the challenges of integrating modern technologies into teaching and learning business education programmes in tertiary Institutions in Rivers State

3. What are the ways of improving the integration of modern technologies into teaching and learning business education programmes in tertiary institutions in

Rivers State

Hypotheses

The following null hypotheses were formulated to guide the study and tested at 0.05 level of significance

Ho1. There is no significant difference in the mean responses of experienced and less experienced business educators on the challenges of integrating modern technologies into teaching and learning Business Education programmes in tertiary Institutions in Rivers State.

Ho2 There is no significant difference in the mean responses of experienced and less experienced business educators on ways of improving the integration of modern technologies into teaching and learning of Business Education programmes in tertiary Institutions in Rivers State

METHODOLOGY

The study was a descriptive survey design which adopted an ex-post-facto research. One hundred and twenty nine (129) business educators from three tertiary Institutions in Rivers State participated in the study. Stratified random sampling technique was used to collect data from the three Departments offering Business Education

in the four higher institutions in Rivers State. The institutions are Rivers State University, University of Education, Ignatius Ajuru University of Education, all located in Port Harcourt. The choice of Business Education educators was guided by the assumption that business educators use much of the modern technologies in the execution of their instructional tasks and are in a better position to understand, appreciate and benefit from the issues under study.

The instrument used for data collection was a structured questionnaire of the Likert scale type. The questionnaire was validated by experts in the field and its reliability confirmed before administering. The Pearson's Product Moment Correlation Coefficient of 0.88 was obtained from a two sets of scores using test-retest method. The administration of the instrument was carried out personally by the researchers with the assistance of desk officers of the Heads of Business Education Department. All copies of the questionnaire distributed were retrieved and used for data analyses.

Data collected regarding the research questions were analyzed using percentages for, the first research question while, descriptive statistics (mean and standard deviation) were used for research questions 2 and 3 respectively. The z-test statistics was used to analyze the hypotheses at 5% level of significance. The decision rule regarding the research questions were based on the real limit of numbers as shown in Table 1 below:

Table 1. Decision Rule

Response	Mean point	Boundary Real Limits
Strongly Agree	5	4.50 - 5.00
Agree	4	3.50 - 4. 49
Undecided	3	2.50 - 3.49
Disagree	2	1.50 - 2.49
Strongly Disagree	1	0.50 - 1.49

Any item whose mean score was 3.50 above to 5.00 qualifies to be accepted. On the other hand, any item with a mean score below 3.50 did not qualify to be accepted.

RESULTS

Research Question I: *What are the modern technologies available for teaching and learning Business Education programmes in tertiary Institutions in Rivers State?*

Table 2. Percentage scores on the availability of modern technologies for teaching and learning Business Education programmes.

S/N	Items	Available		Not Available	
		No	(%)	No	(%)
1	Desktop Computer	100	77.5	29	22.5
2	Interactive CD-Rom and DVD	110	85	19	15
3	Multimedia Circuit TV	38	29.5	91	70.5
4	Closed Circuit TV	29	22.1	100	77.5
5	Interactive Video (IVD)	93	72.2	36	27. 9
6	E-mail Facilities	39	30.3	90	69.8
7	E-banking/Commerce Facilities	30	23.3	99	76.7
8	Media Type writer and Hyper Media	36	27.9	93	72.1
9	Cyber Cafe' Internet	26	20.2	103	79.8
10	Audio Tape Recorder	105	81.4	24	18.6
11	Word Processing Software	100	75.5	29	22.5
12	Spreadsheet Software	93	72.1	36	27.9
13	Database Software	39	30.3	90	69.8
14	Material Generators	24	18.6	105	81.4
15	Graphics Tools for Lesson Planning	19	15.0	110	85.0
16	Using CAD and 3D Modeling	19	15.0	110	85.0

Table 2: shows that items 3, 4, 6, 7, 8, 9, 13, 14, 15 and 16 revealed that majority of the respondents stated that modern technologies into teaching and learning in Business Education programmes in tertiary

Institutions in Rivers State were not available while, only (6) six (item 1, 2, 5 10, 11 & 12) was agreed by the respondents as being available.

Research Question 2
What are the challenges of integrating modern technologies into teaching and learning Business Education programmes in tertiary Institutions in Rivers State?

Table 3. Mean Score of business educators on the challenges of integrating modern technologies into teaching and learning Business Education programmes.

S/N	Challenges of integrating new technologies	Mean	S/D	Remark
1	Dearth of machine/equipment	4.42	0.7	Accepted
2	Lack of space/accommodation	1.96	1.13	Rejected
3	Unsteady supply of electricity	4.52	0.79	Accepted
4	Lack of Maintenance	4.37	0.84	Accepted
5	Inadequate training opportunities for business Educators	4.57	0.86	Accepted
6	Inability of business educators to utilize available devices	4.45	0.97	Accepted
7	Lack of relevant technology software	4.37	0.84	Accepted
8	Lack of skills to apply the software	4.37	0.84	Accepted
9	Lack of fund to purchase and manage hardware	4.57	0.86	Accepted
10	Negative attitude for teachers to integrate technologies	1.96	1.13	Rejected
11	Lack of developed curriculum for technology integration	4.42	0.7	Accepted
12	Lack of administrative supports for teachers to integrate modern technologies	4.45	0.97	Accepted
	Total mean	4.03	0.88	

Table 3, shows that the business educators generally accepted that all the items listed except one (item 2) were the major or challenges of integrating modern technologies into teaching and learning Business Education programmes in tertiary Institutions in Rivers State.
This is because their mean scores were above 3.50 which is the cut of point or the boundary real limit. They did not, however, accept lack of space/ accommodation with a mean score of 1.96 as a challenge since they have enough space to accommodate such machines or equipment. The total mean revealed that most of the items listed were seen as challenges of integrating modern technologies with mean of 4.41.

Research Question 3
What are the ways of improving the integration of modern technologies into teaching and learning Business Education programmes in tertiary Institutions in Rivers State?

Table 4. Mean Score and Standard deviation of respondents' on the ways of improving the use of modern technologies into teaching and learning Business Education programmes.

S/N	Ways of improving the use of modern technologies	Mean	SD	Remark
1	Through In-Service Training	4.45	0.77	Accepted
2	Through installation of internet facilities	4.26	0.85	Accepted
3	Through provision of electricity	4.39	0.82	Accepted
4	Through workshop/seminar in relevant areas	4.10	2.07	Accepted
5	Private sector should be partnered with to invest in the provision of modern technologies for Business E education	4.67	0.55	Accepted
6	Business educators should demonstrate competencies in using modern technologies	4.61	0.66	Accepted
7	There should be adequate modern technologies	4.26	0.93	Accepted
8	There should be functional modern technologies	4.10	1.00	Accepted
9	Provision of digital library	4.48	0.83	Accepted
10	There should be a law to enforce maintenance of modern technologies for Business Education	4.36	0.80	Accepted
11	Employment of business educators should be based on demonstrable competencies in new technologies	4.53	0.91	Accepted
12	Availability of enough computers and accessories	3.92	1.37	Accepted
	Mean of means	4.66	2.16	Accepted

Table 4, shows that all the variables have mean scores above 3.50. The respondents accepted all the items as suitable measures for improving the use of new technologies into teaching and learning Business Education programmes in tertiary Institutions in Rivers State.

Test of Hypotheses
Hypothesis 1
There is no significant difference in the mean responses of experienced and less experienced business educators on the challenges of integrating new technologies into teaching and learning Business Education programmes in tertiary Institutions in Rivers State

Table 5. Summary of z-test on the responses of experienced and less experienced Business Educators in tertiary Institutions in Rivers State.

N=129

Business educators	N	X	SD	Df	z-cal	A	z-crit	Remark
Experienced	76	4.37	0.86					
				127	-1.39	0.05	1.96	Significant
Less Experienced	53	4.47	0.79					

Table 5, shows that the z-calculated of -1.39 is less than the z-critical value of 1.96 at 127 degree of freedom at 0.05 level of significance. Since the z-calculated value is less than the critical value, the null hypothesis is accepted. This implies, therefore, that there is no significant difference in the mean ratings of experienced and less experienced business educators on the challenges of integrating new technologies into teaching and learning of Business Education programmes in tertiary Institutions in Rivers State.. The null hypothesis was therefore, accepted while the alternate hypothesis was not accepted.

Hypothesis 2
There is no significant difference in the mean responses of experienced and less experienced business educators on the ways of improving the integration of modern technologies into teaching and learning of Business Education programmes in tertiary Institutions in Rivers State

Table 6. Summary of z-test on the responses of experienced and less experienced Business Educators on the ways of improving the integration of modern technologies into teaching and learning Business Education programmes in tertiary institutions in Rivers State.

N=129

Business educators	N	X	SD	Df	z-cal	A	z-crit	Remark
Experienced	76	4.71	0.46					
				127	1.65	0.05	1.96	Significant
Less Experienced	53	4.58	0.79					

Table 6, shows that the z-calculated value of 1.65 is less than the critical z-value of 1.96 at 127 degree of freedom at 0.05 level of significance. Since the z-calculated value is less than the z-critical value, the null hypothesis is accepted. This implies, therefore, that there is no significant difference in the respondents' mean ratings on the ways of improving the use of new technologies for teaching and learning Business Education programmes in tertiary Institutions in Rivers State. The null hypothesis was therefore, accepted while the alternate hypothesis was not accepted.

DISCUSSION OF FINDINGS
It was revealed in this study that modern technologies like desktop computer, CDRom, video tape recorder and audio tape recorder were available while, technologies such as: multimedia circuit TV, closed circuit TV, email facilities, e.banking/commerce facilities, media typewriter and cyber café internet were not available. These results agreed with the views of Osuala (2009) and Ezenwafor (2012) who observed that most of the modern technologies were not available in tertiary Institutions.
The findings also agreed with the opinion expressed in Federal Government of Nigeria (FRN, 2004) that students are only taught theory without the practical aspect of the courses. The study also revealed that the business educators generally accepted that all the items listed except lack of space/accommodation as major challenges of integrating the new technologies for teaching and learning business education programme in tertiary Institutions.
This is because the mean scores were above 3.50 which was the cut of point or the boundary real limit. The first hypothesis revealed that there was no significant difference in the mean ratings of respondents on the challenges of integrating modern technologies in teaching and learning business education programme.
Finally, the study also revealed that business educators accepted all the suggested ways as suitable measures for improving the use of modern technologies in teaching and learning Business Education programme in tertiary Institutions in Rivers State.
The test of the second hypothesis revealed that there was no significant difference in respondents' mean ratings on the ways of improving the use of modern technologies for teaching and learning Business Education programme.

CONCLUSION
Based the findings of the study, it is concluded that new technologies have been recognized as very vital in adding easy teaching and learning in the educational system. Modern technologies have always held great promise for transforming our teaching, thinking and learning. In spite of the importance of new technologies in educational sector vis-à-vis the Business Education programme, there are quite a number of challenges associated with the use of technologies in teaching and learning of Business Education programmes in tertiary Institutions in Rivers State.

Some of them are: dearth of machine/equipment, unsteady electricity supply, lack of maintenance, inadequate training opportunities for business educators and inability of business educators to utilize the available devices. Finally, ways of improving on the use of new technologies were also highlighted which include: through in-services training, through installation of internet facilities, through provision of electricity supply and through organizing workshops/seminars in related areas among others.

RECOMMENDATIONS

In view of the findings and conclusion of this study, it is recommended that:

1. The government should grant permission to business educators to undertake on in-service trainings (whether locally or intentionally), workshops, seminars and conferences in order to keep them abreast with the use of the modern technologies.
2. The curriculum of business education in universities should be enriched to include topics in information and communication technology, data management, web page design among others at all level or classes. This will help enrich the knowledge and the skill base of the students during training and prepare them adequately for the world of work.
3. Relevant equipment and machines should be provided to enhance teaching and learning of Business Education programmes in all tertiary institutions.

REFERENCES

Achugbue 1. E. (2011). The relevance of information and communication technology in Nigeria Universities. Research in Education 17 (1), 146 -152.

American Heritage Dictionary of English Language (3rd edition). Boston, MA: Houghton Muffin Company.

Anderson. C. L. & Borthwick, A. (2002). Results of separate and integrated technology instruction in pre-service training. ERIC Reproduction   Document # 1R021919, p.14.

Bazeli, M, (1997). Visual productions and student 1earning. ERIC Reproduction.

Bosch K.A. & Cardinale, L. (1993). Preservice teacher' perceptions of computer use   during   a   field experience. Journal of Computing in Teacher Education, 10 (1), 23-27

Eby, J. (1997). Reflective planning, teaching and evaluation, K-12. Upper Saddle   River,   NJ: Prentice Hall

Ekpenyong, L. E. (2004). Mimeograph on advance curriculum in Education, Faculty of Education, University of Benin, Benin City.

Ezenwafor, J. 1. (2012). Adequacy of exposure to information and communication technology by graduating business education students of tertiary institutions in Anambra State. *Business Education Journal: Association of Business educators of Nigeria*. 8 (2), 45 - 60.

Federal Republic of Nigeria (2004 Revised). *National Policy on Education Lagos*: NERDC Press.

Fletcher, G. (1996). Former director of the Division of Educational Technology, Texas Education Agency, Executive Vice President of T.H.E. Institute quoted in T.H.E. Journal , 24 (4), 87,

Gunter, S.C (2002). Integrating technology in the classroom. Canada: Thompson: Learning

Leh, A. S. (2005). Learned from service learning and reverse mentoring in faculty development: A case study in technology training. *Journal of Technology and Teacher Education*, 13 (1), 25-41.

Means, B. (1994). Introduction: Using technology to advance educational goals. In B. Means (Ed.), Technology and education reform: *The reality behind the promise*, pp. 1-21. San Francisco: Jossey-Bass

Mezirow, J. (1990). Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning. San Francisco: Jossey-Bass.

Nagel, D. (2013). Challenges of technology, Retrieved 6th October 2014 from www.journal.com/article.

Nworgu, B. G. (2006). *Educational Research: Basic Issues & Methodology*. Enugu; University Trust Publishers.

Okojie, Mabel CPO, Olinzock, A. A. & Okojie-Boulder, T. C. (2005). Technology Training Dilemma: A Diagnostic Approach, An unpublished manuscript.

Osuala, E. C. (2009) *Business and Computer Education.* Enugu Cheston Agency Limited.

Pierson. M. (2001). Technology integration practice as a function of pedagogical experts. Journal of Research on Computing in Education, 33 (5).

Ripley, D. (2001). Using technology to foster critical thinking and reflection: The R9 Process. International Journal of Vocational Education and Training, 9(2), November.

Schon, D. (1990). The reflective practitioner: How professionals think action. New York: Basic Books.

Sprague, D., Kopfman, K. & Dorsey, S. (1998). Faculty development in the integration of technology in teacher education courses. Journal of Computing in Teacher Education, 2(14), pp. 24 – 28.

Stephanie N. (2016). E learning industry. 7 benefit of technology integration in the educational sphere, https://elearningindustry.com

Topper, A. (2004). How are we doing? Using self-assessment to measure changing teacher technology literacy within a graduate education technology program, 12 (3), 303 – 317.

Ugokwe, E. O. (2011). Effective utilization of ICT for repositioning business education programme in tertiary institutions in Nigeria for national development. *International Journal of Educational Research.* 11(1), 20 – 24.

Wikipedia (2021) Technology. History of technology, en.m.wikipedia.org

Weizenbaum, J. (1976). Computer power and human reason. San Francisco, CA: W. H. Freeman.

Yao, J., Ouyang, J. & Wang H. (2000). A farewell to the traditional instructional media and technologies in the new millennium. Society for Information Technology and Teacher Education International Conference, February, 8 – 12.