

Assessment of The Integration of ICT in Teaching and Learning in Tertiary Institutions in Imo State, Nigeria, in The Era of Insecurity

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ABSTRACT: *The study investigated the assessment of the integration of ICT in teaching and learning in tertiary institutions in Imo state in the era of insecurity. Two research objectives, two research questions and one research hypothesis guided the study. The population of the study consisted of all the 2,722 lecturers in the seven tertiary institutions in Imo State, Nigeria. Random sampling technique was used to select 100 lecturers each from four out of the seven tertiary institutions. The instrument for data collection was a self-developed 10-item questionnaire entitled: Questionnaire for integration of ICT (QIICT). Test retest method was used to ensure the reliability of the instrument. A reliability coefficient of 0.8 was determined for the instrument using the Pearson's Product Moment Correlation. Mean was used to answer the research questions while ANOVA was used to test the hypothesis. The study found out that the extent of integration of ICT facilities for teaching and learning by lecturers in tertiary institutions in Imo State is still low even in this era of insecurity where it is necessary for lecturers interact with the students while they are at home. It also found out that the extent of application of ICT facilities did differ significantly among the institutions and that factors such as epileptic power supply and lack of ICT facilities are among the factors that militate against the application of ICT facilities by lecturers.*

KEYWORDS: ICT, integration, teaching and learning, insecurity

INTRODUCTION

Education is the most important component of human resources development and is accorded a pride of place in many countries' developmental activities. It is the instrument per excellence

for effective national development (FRN, 2014). From what has been viewed as education by different authorities based on their own perceptions, we can say that education is a process by which an individual acquires physical and social capabilities demanded by the society in which he is born into in order to be useful to himself and contribute to the development of the society at large. Orji (2020) said that education can be a procedure, product, discipline as well as schooling. According to the author, education as schooling may refer to instruction in which knowledge of facts, relationship, rules or principles of one kind or another is built into the mind of students. School in this case becomes the organised agent of education invented for the purpose of instruction (teaching and learning).

The presence of ICT in education has definitely reduced the authoritarian status of the teacher's old method of teaching which made the students mere passive members of the class, rather than active ones. The students now become more active than passive. The passive nature of the learners which resulted from the teachers' adoption of the old traditional approach of teaching is gradually phasing out. It is now being replaced by modern step-by-step systems approach which involves the use of computers and other mobile technologies in schools and this therefore aids improvement of students' opportunities to acquire meaningful skills and further provide intellectual growth leading to scientific reasoning, abstract thinking and formal operations greatly enhanced by computer and other technologies. Information and Communication Technology has broken barriers associated with distance in terms of dissemination of information in areas of education, homes, offices, industries etc.

ICT refers to all the technology used to handle telecommunications, broadcast media, intelligent building management systems, audio visual processing, transmission systems, network-based control and monitoring functions (Techopedia, 2015). It has made many dynamic changes in society with influences felt more and more in schools, giving both students and teachers more opportunities in adapting learning and teaching to individual needs; challenging schools to aptly respond to this technical innovation. These types of technology according to Pacansky-Brook(2013) are called 'emerging technologies. The author posited that emerging technologies are tools or types of tools that are making an impact in teaching and learning but are not yet adopted in mainstream teaching practice. These tools are "reinvisioning college learning" according to the author and fall into four categories which include: cloud based applications that are easily stored online and are accessible anywhere with internet connections; web 2.0 tools that make the creation and sharing of multimedia content simple; social media technologies that transform communication into a highly interactive experience and; mobile applications that are designed to operate on mobile devices such as smartphones. ICT has greatly influenced the educational sector, especially in teaching and learning and so has helped in the achievement of the developmental goals of every nation. The application of information and communication technology (ICT) is not only emphasized in corporate business sectors, but it is an essential part of education at all levels. ICT including computers is generally believed to foster co-operative learning and provide more information for easy understanding. Therefore, the use of ICT in teaching and learning cannot be ignored either by lecturers or students. According to Tinio as cited in Munienge and Muhandji(2012), ICT has a

tremendous impact on education in terms of acquisition and absorption of knowledge to both teachers and students through the promotion of the following:

- **Active learning:** Here, ICT tools help for the calculation and analysis of information obtained for examination and also students' performance report are all being computerised and made easily available for inquiry. In contrast to memorisation-based or rote learning, ICT promotes learner engagement as learners choose what to learn at their own pace and work on real life situations' problems.
- **Collaborative and Cooperative learning:** In this case, ICT encourages interaction and cooperation among students and teachers regardless of the distance between them. This also provides students the chance to work with people from different cultures and working together in groups, hence it helps students to enhance their communicative skills as well as their global awareness.
- **Creative Learning:** ICT promotes the manipulation of existing information and to create one's own knowledge to produce a tangible product or a given instructional purpose.
- **Integrative learning:** ICT promotes an integrative approach to teaching and learning, by eliminating the synthetic separation between theory and practice unlike in the traditional classroom where emphasis encloses just a particular aspect.
- **Evaluative learning:** Use of ICT for learning is student-centered and provides useful feedback through various interactive features. ICT allow students to discover and learn through new ways of teaching and learning which are sustained by constructivist theories of learning rather than students do memorisation and rote learning.

Before now, pedagogy in school was basically traditional. A teacher who was seen as sage who knew everything dished out all the learner needed to know to him. The learner was only a passive listener to instructions given by the teacher/ instructor. The traditional approach involves the directed flow of information from teacher as sage to students as receivers. The traditional pedagogy can be also defined as a pre-technology education context in which the teacher is the sender or the source, the educational material is the information or message, and the student is the receiver of the information. Typically, it is based on pre-packaged learning materials, fixed deadlines, assessment tasks and criteria determined by teachers. In terms of the delivery media, the educator can deliver the message via the “chalk-and- talk, marker-and-white board” method and overhead projector (OHP) transparencies (Munienge & Muhandji, 2012).

According to the authors, the students in these types of teaching methods are there only to listen and follow what is asked for them to do in the classroom. The teacher has the monopoly of prescribing the activities. The learners depend on the teacher who directs what, when and how a subject is learned and tests what has been learned. In this method the learner's skill, knowledge and practice is of little value. The integration of ICT therefore bridges these gaps. As Onwuagboke, Singh & Fonk (2015) put it, the coming of ICT into instruction is supposed to mark a paradigm shift signaling the end of the teacher being perceived as the sole repository of knowledge especially with the availability of numerous amount of information on the internet and the worldwide web.

Furthermore, the society of today especially the Nigerian society is full of insecurity in so many ways ranging from militancy to banditry and from insurgency to terrorism. There has been incidences of attacks on schools both at the secondary and tertiary levels in which students and teachers and/or lecturers were either killed, abducted or molested in many ways. As a result of this, the safety of students and teachers are no longer guaranteed on school campuses and they are forced to stay at home on numerous occasions. According to Ogwo(2022), the UNICEF had in April 2022 said that insecurity had caused the closure of 11,536 schools in Nigeria since December 2020 and has affected the education of 3 million children in less than two years. Another report by Agbakuru and Alozie(2022) has it had it that some schools in Owerri metropolis ended school sessions abruptly and forced their students to return home over alleged threat to attack them by unknown gunmen. Mondays have been adopted as a day for "sit at home" in fear of attacks by the unknown gunmen. As a result of this schools at various levels either totally or partially shut down on Mondays. Students at tertiary institutions also tactically stay away from schools on Mondays and other days with similar threats to avoid attacks.

Statement of the problem

Society depends on the education sector to achieve its goals and objective. Based on this fact, education has continued to experience a lot of reforms and innovations in Nigeria specifically and the world in general as the need arises. The innovations adopted in education has a way of helping nations in pursuit of several global aspirations for the building of a better national and international community to help mankind. The level of insecurity bedeviling Nigeria in the last decade has created another challenge to education generally and teaching and learning specifically. This, therefore, calls for a total reform in the curriculum, methodology, and technology of instruction delivery in the school system. The introduction of ICTs into education may be seen as a significant reform in the school curriculum in Nigeria. It has the capacity to actually contribute towards achieving a sustainable instructional delivery in the midst of insecurity where students find it difficult to involve in a face to face interaction with their teachers in the classrooms as a result of attacks from different groups of armed gangs. In view of this a pertinent question has to be asked: to what extent has the lecturers integrated ICT in teaching and learning in this era of insecurity?

METHODOLOGY

The survey research design was adopted in this study. The survey research design according to Nworgu (2015) is one in which a group or items are studied by collecting and analyzing data from only a few people or items considered to be representative of the entire population. It is therefore deemed appropriate in this study. The study was carried out in tertiary institutions in Imo state of Nigeria. There are seven(7) tertiary institutions in Imo State. Four out of the seven institutions were selected using random sampling technique. They included Alvan Ikoku Federal College of Education, Imo State University, Federal University of Technology and Federal Polytechnic, all in Owerri. The population of the study consisted of all the 2,722 lecturers in the seven tertiary institutions in Imo State. 100 of these lecturers were randomly selected from four out of the seven tertiary institutions.

The instrument for data collection was a self –developed 10-item questionnaire entitled Questionnaire for Integration of ICT (QAICT). The instrument was subjected to both face and content validity by experts in both Educational Technology and Measurement and Evaluation. The reliability of the instrument was determined using Pearson Product Moment Correlation. A reliability co-efficient of 0.8 was obtained, an indication that the instrument was reliable for data collection for the study. In distributing the copies of the questionnaire, the researcher with three trained research assistants adopted the technique of on-the-spot distribution and collection. This ensured a 100% return rate. A four point Likert scale was used for decision making in such a way that the mean for each perceived response was interpreted relative to the real limit or class interval of the scale. The range of the scale values were as follows for research question one.

0.50 to 1.49 = Very poor Extent (VPE), 1.50 to 2.49 = Poor Extent (PE), 2.50 to 3.49 = Moderate Extent (ME) and 3.50 to 4.49 = Great Extent (GE). The same thing was done in research question two, where the same range of scale values went for Strongly Disagreed (SD), Disagreed (D), Agreed (A) and Strongly Agreed (SA). Mean was used to answer the research questions while ANOVA was used to test the hypothesis at 0.05 level of significance.

Purpose of the study

The purpose of the study was to investigate the impact of ICT facilities for teaching and learning by lecturers in tertiary institution in the era of insecurity. The study specifically sought to:

- 1.determine the extent of integration of ICT facilities for teaching and learning by lecturers in tertiary institutions in Imo State amidst the current insecurity.
- 2.examine the factors that militate against the application of ICT facilities for teaching and learning by lectures in tertiary institution in Imo State amidst the current insecurity.

Research Questions

1. What is the extent of integration of ICT facilities for teaching and learning by lecturers in tertiary institutions in Imo State amidst the current insecurity?
2. What are the factors that militate against the application of ICT facilities for teaching and learning by lectures and students in tertiary institution in Imo State amidst the current insecurity?

Hypothesis

The extent of application of ICT facilities for teaching and learning by lecturers and students in tertiary institutions in Imo State in the era of insecurity do not differ significantly at 0.05 level of significance.

RESULTS

Research Question One: What is the extent of integration of ICT facilities for teaching and learning by lecturers in tertiary institutions in Imo State amidst the current insecurity?

Table 1: Mean Rating Scores on the extent of integration of ICT facilities in teaching and learning in Tertiary institutions in Imo State amidst the current insecurity.

Tertiary Institution		AIFCE		FUTO		IMSU		FED. POLY. NEKEDE	
S/NO	ICT FACILITY	\bar{X}	Dec.	\bar{X}	Dec.	\bar{X}	Dec.	\bar{X}	Dec.
1.	Computer	2.6	ME	2.8	ME	2.7	ME	4.1	GE
2.	Internet	2.7	PE	2.6	GE	2.5	PE	2.8	ME
3.	Telephone(mobile	2.8	ME	3.5	GE	2.8	ME	2.9	ME
4.	Youtube	2.3	PE	2.2	PE	2.1	PE	2.4	PE
5.	Use of Email in sending and receiving information for lessons/assignments	2.5	PE	3.4	ME	2.4	PE	2.1	PE
6.	MP4	2.3	PE	1.3	VPE	2.3	PE	1.7	VPE
7.	MP3	2.2	PE	2.1	PE	2.0	PE	2.3	PE
8.	Social media platforms such as whatsapp, Facebook	2.4	PE	1.8	ME	2.2	PE	2.4	PE
9.	Online Library	1.2	VPE	2.4	PE	2.3	PE	1.5	VPE
10.	Google Classroom	2.3	VPE	2.1	PE	1.7	VPE		PE

The table above shows that out of the four institutions, lecturers from FUTO uses two of the facilities to a great extent, and three to a moderate extent. This is an indication that even though the application of the facilities seems to be poor across the four institutions, FUTO seems to be above them all in the application.

Research Question Two: What are the factors that militate against the integration of ICT facilities for teaching and learning by lectures and students in tertiary institution in Imo State amidst the current insecurity?

Table 2: Mean Rating Scores on Factors Militating Against the application of ICT facilities for teaching and learning by lectures and students in tertiary institution in Imo State amidst the current insecurity?

Tertiary Institution		AIFCE		FUTO		IMSU		FED. POLY NEKEDE	
S/NO	Factors Militating Against the Application of ICT	\bar{X}	Dec.	\bar{X}	Dec.	\bar{X}	Dec.	\bar{X}	Dec.
1.	Non- Availability of Tools	3.3	Agreed	3.2	Agreed	3.1	Agreed	4.3	Strongly Agreed
2.	Inadequacy of Available Tools	3.8	Strongly Agreed	3.4	Agreed	4.1	Strongly Agreed	3.4	Agreed
3.	Lack of Maintenance Culture	2.8	Agreed	2.5	Agreed	2.7	Agreed	2.6	Agreed
4.	Lack of Interest by lecturers	1.4	Strongly Disagreed	2.3	Disagreed	2.1	Disagreed	2.2	Disagreed
5.	Lack of Interest by the School Administrators	2.1	Agreed	2.2	Disagreed	2.4	Disagreed	2.3	Disagreed
6.	High Cost of ICT Tools	3.3	Agreed	3.1	Agreed	4.2	Strongly Agreed	4.4	Strongly Agreed
7.	Epileptic Power Supply	3.7	Agreed	3.5	Strongly Agreed	4.0	Strongly Agreed	4.6	Strongly Agreed
8.	Lecturers' incompetence	2.3	Disagreed	2.1	Disagreed	1.1	Strongly Disagreed	2.4	Disagreed
9.	Inadequacy of Education Software	2.9	Agreed	2.6	Agreed	4.1	Strongly agreed	4.3	Strongly agreed
10.	Limited School Budget	3.3	Agreed	2.8	Agreed	4.5	Strongly agreed	3.2	Agreed

Hypothesis: The mean ratings scores of lecturers on the extent of application of ICT facilities in instructional delivery in tertiary institutions in Imo State during the era of insecurity do not differ significantly at 0.05 level of significance.

Table 2: Analysis of variance on difference in the mean ratings scores of lecturers on the extent of application of ICT facilities in teaching and learning in tertiary institutions in Imo State during the era of insecurity

Score	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.215	3	2.108	19.274	0.00
Within Groups	3.609	33	109		
Total	7.824	35			

From Table 2 above, F-value of 0.00 is less 0.05, therefore, the hypothesis, which states that the mean ratings score of lecturers on the extent of application of ICT facilities in instructional

delivery in tertiary institutions in Imo State do not differ significantly at 0.05 level of significance is rejected.

Summary of Findings

Based on the analysis, the following are the findings of this study:

1. the extent of application of ICT facilities in instructional delivery in tertiary institutions in Imo State differs significantly amidst the current insecurity in the state;
2. The constraint that hinders the integration of ICT facilities by lecturers includes lack of funds, lack of internet connectivity, poor power supply.

DISCUSSION OF FINDINGS

The first finding of the study is that the extent of integration of ICT facilities in the teaching and learning in tertiary institutions in Imo state in this era of insecurity is poor. The result also showed that the ICT facilities are employed more in the teaching and learning in FUTO than in IMSU, AIFCE and Nekede Polytechnic. Thus, FUTO is more properly positioned since their lecturers are more aware and ready to implement ICT policies in teaching and learning than IMSU, AIFCE and Nekede Polytechnic.

Differences may be due to difference in infrastructure and quality of recruitment of staff that have made them more acquainted and more effective in the use of ICT facilities. The results as regards to the use of ICT in teaching and learning in AIFCE, is least encouraging judging from the fact that AIFCE is one of the oldest of the institution in Nigeria and only a college of education, allocation from government may be low so as not help in acquiring the necessary facilities and skills needed for this purpose. This ought not to be so since this institution is a leader in the producing teacher who are expected to take up the job of teaching and learning in schools.

This is an indication that the lecturers are still adopting the conventional methods that are less effective in teaching and learning especially in this era of insecurity where it is expected that teaching and learning should go on even when students are kept out of school as a result of insecurity. The finding of this study agrees with Nneji and Otaru (2016) whose study revealed that their was inadequacy of teachers' training skills development for effective use of ICT in pre-primary education in Nigeria. The study revealed that the skills needed for effective use of ICT is not adequately absorbed because the teacher trainers do not have the requisite skills for the training.

The finding is also in line with that of Sambo and Udoh (2016) that Basic Science teachers in Akwa-Ibom State College of Education, Afaha Nsit exhibits a low level knowledge about 21st century ICT knowledge as well as low level of competence in utilising them to design course materials. The study also revealed that science teachers of the college are lagging behind in the utilization of internet services in their lesson delivery and that even that of interactive white board and other ICT packages utilization were very low.

The result of this study also shows that there may be challenges in the institutions as regard the integration of ICT to teaching and learning. Observations show that very few higher institutions in Nigeria are connected to the internet for free browsing for staff and students. None of FUTO, IMSU and AIFCE, have free internet provision as is provided in Federal College Of Education Kontangora where you can access internet both in offices, classrooms and hostels and staff quarters. Even the few internet providers are charging too high fees for browsing and then definitely will limit students and staff access. The save goes to high cost of computers in Nigeria making it difficult for lecturers to adopt the global changes by ICT for lesson delivery.

CONCLUSION

The following conclusions were made by the researchers:

- The extent of use of ICT facilities is low among lecturers in tertiary institutions in Imo State is poor in this era of insecurity.
- Certain constraints such as epileptic power supply has led to this.

Recommendations

- Government should increase the funding of the education sector.
- There should be a periodic training and retraining of teachers on computer and ICT skills.
- The deplorable conditions of our public institutions such as the public schools should be of a serious concern to both the government and non-governmental organizations who should make haste to refurbish them so that they can compete favourably with their private counterparts.
- Compulsory professional training in the knowledge and use of ICT should be made a part of the teacher training programmes of schools such as Universities and Colleges of Education.
- Teachers who lack knowledge of ICT should make efforts to get themselves trained in this all- important skill.

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