



INFORMATION AND COMMUNICATION TECHNOLOGIES FOR ENHANCING PERFORMANCE OF TEACHING STAFF IN OTM DEPARTMENTS IN TERTIARY INSTITUTIONS IN RIVERS STATE

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ABSTRACT

The study delved into information and communication technologies and Lecturers' Teaching Performance of Lecturer in Tertiary Institution in Rivers State. The research design is qualitative in which related literature was reviewed. The paper discussed information and communication technologies in the light of availability of information and communication tools, utilization of the ICTs, challenges of use ICTs and the concept of Lecturer performance. Availability was viewed in the sense of not just having the facilities available but the ability of the Lecturer to use the available digital tools. From the reviewed scholarly literature the paper suggested that government should embark on massive training and retraining of Lecturer in public tertiary institutions in Rivers State in Rivers State, while the lecturers themselves should brace up for self-development to cope with the contemporary world of education.

Keywords: Information and Communication Technologies, Lecturer performance, Challenges, Utilities, Availability, OTM (Office Technology and Management).

INTRODUCTION

Today's world and society is changing very fast with the help of ICTs (Information Communication Technologies). Everyday new technologies are developed to simplify the every day's work including that of education, but there is a resistance to accept these new technologies. In time past, the system of communication used in Nigeria was the traditional media, this was considered the best form of communication then, it involves the use of town criers, gong, ivory horn etc. to pass information across to the people. Information Communication Technology according to Weigel and Wald Burger, (2004) refers to technologies designed to access, process and transmit information. Information and communication Technologies have provided societies with a vast array of new communication capability.

The ability of the Lecturer to use the computer to communicate lessons to the students has become imperative considering the digital era. The Lecturer can no

longer run away from the developments in the educational sector in the global perspective. Rivers State and Nigerian Lecturer by extension are expected to use information and communication tools in carrying out their lessons. This is so because the students in question in themselves, digital citizens i.e. they were born into the digital era. Ofodu (2012) refers to ICT as Electronic or computerized devices, assisted by human and interactive materials that can be used for a wide range of teaching and learning as well as for personal use. The availability and use of information and communication technology is desirable considering the relevance of science education to the technological advancement. Information and communication technology has substantially changed the world, creating new patterns of social and economic interaction and information of life style, work and communication.

In the Nigerian Educational system today, the teaching and learning are being done mainly using lecture method with less emphasis on practical and demonstration method (Achuonye 2012). Generally, students sometimes shy away from practical oriented subjects either because of its difficulty or inadequate methods of teaching by the employed Lecturer. Lecturer often use ICTs for 'routine tasks' (record keeping, lesson plan development, information presentation, basic information searches on the Internet). Lecturer more knowledgeable in ICTs use utilize computer-assisted instruction less than other Lecturer who use ICTs, but utilize ICTs more overall.

Types of usage of ICTs correlate with Lecturer teaching philosophies. Lecturer who use ICTs the most -- and the most effectively -- are less likely to use traditional 'transmission-method' pedagogies. Lecturer who use more types of software tend to practice more "constructivist" pedagogies. Introducing and using ICTs to support teaching and learning is time-consuming for Lecturer, both as they attempt to shift teaching practices and strategies and when such strategies are used regularly.

Ensuring that school students can use computers and other forms of ICTs has become an increasingly important aspect of preparing them for adult life and it is the role of the Lecturer to carry out this expectation. Many countries have adopted policies directed toward helping schools and Lecturer use ICT for



pedagogical purposes (Bakia, Murphy, Anderson, & Trinidad, 2011; Plomp, Anderson, Law, & Quale, 2009). Many of those policies are predicated on the belief that ICT use facilitates changes in approaches to teaching, especially changes that result in a more collaborative, student-centered and student-shaped pedagogy. However, research shows that Lecturer' uptake of ICT varies greatly within as well as across countries (European Commission, 2013; Law, Pelgrum, & Plomp, 2008).

Although researches have shown that there is a relationship between ICT use in tertiary institutions in Rivers State or classrooms and achievement in academic learning areas such as language, mathematics, and science, conducted by Tamin, Bernard, Borokhovski, Abrami, and Schmid (2011) points to positive associations between Lecturer' use of ICT and achievement in various learning areas. Findings such as these doubtless also prompt the growing emphasis on ICT use in educational contexts. A considerable body of research has looked at the benefits of integrating ICT in teaching, but some research has also considered barriers to using ICT in teaching. Ertmer (1999), for example, proposed a distinction between first-order and second-order barriers. First-order barriers include factors such as resources (both hardware and software) and ICT-related training and support. Second-order factors are those that relate to Lecturer' expertise and interest, such as confidence in using ICT, beliefs about student learning, and perceptions about the value of ICT in education.

When conducting their study of computer integration in the classrooms of 185 primary and 204 secondary school Lecturer, Mueller, Wood, Willoughby, Ross, and Specht (2008) used discriminant function analysis to identify factors that distinguished between Lecturer who integrated computers in their classroom teaching and Lecturer who did not. The major distinguishing factors the authors identified were Lecturer' previous positive teaching experience with computers, how comfortable Lecturer were with computers, the beliefs they held about the value of computers in education (in terms of both instruction and motivation), and the support they received with respect to using computers. The authors also identified several general factors, such as Lecturer' sense of efficacy, beliefs about teaching, and attitudes to work.

Definition of Terms

ICTs: Referring to umbrella name for digital or computer related facilities used in teaching and learning.

Lecturer: Teaching staff under the employment of Rivers State Government. They are those trained in the profession of teaching.

OTM Dept: Department that offer Office Technology and Management in Tertiary institutions in Rivers State.

Tertiary Institutions: Institutions of higher learning that offer OTM as a course.

Utilization: The ability to use ICTs tools to teach students.

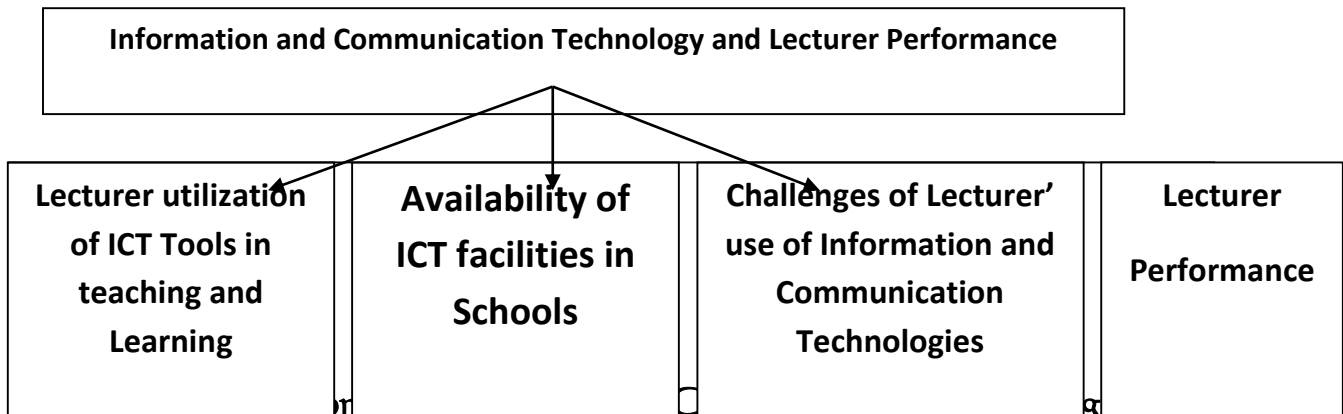
Challenges: Problems that hinder the implementation and use of ICTs by Lecturer.

Availability: The extent digital tools are available for Lecturer to use.

Lecturer: Lecturers in the department of Office Technology and Management

Conceptual Clarification

This paper will limit itself to availability of ICT tools for Lecturer, Lecturer utilization of ICT tools in teaching and learning, challenges of Lecturer' use of information and communication technologies in Public Tertiary institutions in Rivers State in Rivers State and the concept of Lecturer performance.



Teaching and Learning

Lecturer are the expected to use e-tools in carrying out their roles in delivering lessons and other roles. This appears not have been the case in most OTM department in Rivers State since most of the Lecturer are naïve of the use of digital tools. Participation in professional development workshops was identified



as a relevant factor for proper utilization of available ICT tools in tertiary institution (Nweke, 2017).

The European Commission (2013) concluded from its survey of schools, Lecturers, and students in 31 countries that although most of the participating Lecturers were familiar with ICT for teaching and learning, they used these technologies mainly for preparing lessons and only to a limited extent during their classroom work with students. The authors of the European Commission report also concluded that student use of ICT in lessons is most likely to occur and be successful when Lecturer are confident about using ICT, view ICT use in education positively, and are in school environments that support pedagogical ICT use. The authors furthermore emphasized that although Lecturers had become more confident users of ICT between 2008 and 2013, and computer resources were more abundant than in 2008, active use of ICT in lessons had barely increased.

The Second International Technology in Education Study (SITES) 2006, conducted by the International Association for the Evaluation of Educational Achievement (IEA), also concluded that Lecturer were more likely to use ICT if they were confident users of these tools, if they had participated in ICT-related professional development, and if there were relatively few contextual obstacles (infrastructure, digital learning resources, ICT access) to that use (Law, 2008). In addition, the results from SITES 2006 showed that the percentage of Lecturer reporting ICT use was significantly higher among science Lecturer than among mathematics Lecturer. Other studies have reported similar findings (Jones, 2004; Kozma & McGhee, 2003). One inference we can draw from these results is that the subject (or discipline) context may be an important aspect determining uptake of ICT in teaching.

An earlier iteration of SITES highlighted ways in which ICT can support pedagogical innovation. This international study, known as SITES Module 2 (SITES-M₂), involved a detailed examination of various pedagogical practices that, according to expert opinion, used ICT in innovative ways (Kozma, 2003b). Twenty-eight education systems took part in the study, which generated a set of 174 qualitative case studies of innovative pedagogical practices. The SITES

researchers then used qualitative and quantitative methods based on a common framework to conduct an intensive analysis of each case. The results identified seven patterns of innovation involving ICT use: tool use, student collaboration, information management, Lecturer collaboration, communication with outside authorities, product creation, and tutorial practice (Kozma, 2003b).

Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur (2012) conducted an indepth study focused on a small number of Lecturer recognized as notable users of technology. Findings indicated that the Lecturer’ general beliefs about teaching influenced how they used the technology as did their interest in the technology itself. According to Aubusson, Burke, Schuck, and Kearney (2014), learning technologies can influence how Lecturer adopt “rich tasks” (extended project work) in their classes. The authors argue that engagement with learning technologies “moderates Lecturer’ perceptions about the use of rich tasks” (p. 219). Aubusson and colleagues (2014), however, point to the complexity of factors mediating pedagogical use of technology, as well as to the range of factors that influence Lecturer’ decisions to adopt technology in the first place.

Some of the areas where Lecturer can use or adopt information and communication technologies according to Butcher & Neil (2010) include:

<i>Medium</i>	<i>Technologies for Delivery</i>	<i>Educational Applications</i>
Face to fact	<ul style="list-style-type: none"> • Overhead projector (manual or electronics) 	<ul style="list-style-type: none"> • Seminars, tutorials, classes, workshops and lectures. • Conferences • One-to-one interaction, either between educator and learner, learner and learner, or learner and mentor.
Text (including Print graphics)	<ul style="list-style-type: none"> • Print 	<ul style="list-style-type: none"> • Books, booklets, and pamphlets. • Study guides, written either as stand-alone material or as ‘wrap-around’ guides to already published materials. • Workbooks intended for use in conjunction with other media materials (for example, audio or video cassettes or computer-based learning.



	Facsimile/Emailing	<ul style="list-style-type: none">• Newspaper, journals, periodicals, periodicals, newsletters, and magazines.• Printed learner support materials (for example, self-tests, project guides, notes on accreditation requirements or other aspects of courses, typed materials or comments passing between learners and Lecturer.• Maps, charts, photographs, and posters.• Printed or written correspondence.• Lecturer-learner assessment ease for example computation of students' result using the spreadsheet.• On-multi point distribution• Using the email to communicate students' tests, projects without necessarily printing and correcting on hardcopy.
Audio	Audio Cassettes	<ul style="list-style-type: none">• Audio programmes (music, talk radio, documentary, literature review, lecture, panel discussion news, current affairs, debate drama.
	Telephone	<ul style="list-style-type: none">• Telephone tutoring• Information or enquiry service• Telephone conferences• Multi-media sound
Video	Television broadcasting (terrestrial, satellite or cable, digital or analogue transmission, including narrowcast educational television)	<ul style="list-style-type: none">• Video programmes (music, talk shows, documentary, literature review, lecture, panel discussions, news, current affairs, debates, game shows, drama, films, etc.• Simulations of procedures and processes.
Internet/intranet		<ul style="list-style-type: none">• Presentation of information or knowledge sharing.
Networked Linking		<ul style="list-style-type: none">• Interactive exercise• Presentation of material and/or resources integrating all above

computer-based
workstation

media (text, audio and video) and
possible application.

- Assignment submission, assessment and feedback
- Conference data, audio video.

Lecturer' use of ICTs as part of their lecture delivery technique and of particular interest is the extent to which Lecturer' pedagogical use of ICTs can be associated with their use of computers in other settings and their experience of using computers in general. Lecturer who only computer only in teaching will have limited knowledge or use of computer (Nweke, 2018).

In a research carried out by Aubusson (2012) questionnaire were issued to Lecturers to use the following response categories to indicate how much experience they had in using computers for teaching purposes: "never," "less than two years," and "two years or more." The questionnaire also asked Lecturers how frequently they used computers in various settings: at school when teaching, at school for other purposes, and outside of school. The response categories for each place were "never," "less than once a month," "at least once a month but not every week," "at least once a week but not every day," and "every day." In the discussion of computer use based on Table 7.1, we defined frequent computer use as at least once a week (i.e., the last two response categories indicating the highest frequencies).

National percentages of Lecturers' computer experience and use in different settings (at school teaching, at school for other purposes, outside school). The data for Lecturer experience with computers in terms of the percentages of Lecturers who said they were using computers in each of the categories. The table also records the percentages of Lecturers who said they frequently used computers at school when teaching, at school for other work-related purposes, and outside school for any purpose. The majority of Lecturers in all countries (an ICILS 2013 average of 84%) reported having at least two years of experience using computers. The national percentages ranged from a high of 94 percent in the Canadian province of Newfoundland and Labrador to a low of 71 percent in Croatia. Eleven percent of Lecturers crossnationally had less than two years'



experience; only five percent of Lecturers had no experience using computers. Lecturer experience in using computers for teaching purposes was, on average, moderately strongly associated with frequency of use ($r = 0.34$).

According to the survey data, Lecturer were most frequently using computers outside of school (the ICILS 2013 average was 90%), followed by use at school for work-related purposes other than teaching (84%), and finally use at school when teaching (62%). Lecturer from the Canadian province of Newfoundland and Labrador were the most frequent users of ICT in all three settings. The percentage of Lecturer who said they frequently used computers when teaching is of particular interest in the context of ICILS. In Newfoundland and Labrador as well as in Australia, the two percentages (93% and 90% respectively) were much higher than the ICILS 2013 average. Fewer than half of all Lecturer in Croatia (41%), Poland (41%), and Turkey (47%) reported using a computer at least once a week at school when teaching. We found only moderate correlations between frequent computer use when teaching and frequent computer use for other school-related purposes and frequent computer use outside school. The associations tended to be strongest when computer use for teaching was less extensive.

The ICILS 2013 average for the percentage of Lecturer frequently using computers (62%) was similar to the ICILS 2013 average for the percentage of students frequently using computers (56%). However, when we compare the data in Table 7.1 with those in Table 5.2, we can see that Lecturer in some countries were more likely than their students to report more frequent use of computers.¹ The correlations between school averages for Lecturer' weekly computer use and school averages for students' weekly computer use were relatively weak. Across countries, the school-level correlation coefficients between the aggregated data of these indicators averaged about 0.2. There are several possible reasons why Lecturer' and students' use of computers in classrooms might differ. One is that Lecturer use computers as part of their teaching practice even though their students do not use them during class time. This occurrence could be due to scarce resources or Lecturer-centered pedagogy. A second reason is that Lecturer and students undertake different activities in classrooms so that, for example, students use ICT for activities while Lecturer do not. A third reason may have to do with the correspondence between questions eliciting data. The ICILS

student questionnaire asked students if they used computers at school whereas the Lecturer questionnaire asked Lecturer if they used computers when teaching. Thus, the ICILS students may have been using computers at school but outside of lessons (classroom time). The point being made here is that recorded Lecturer use of ICT may not necessarily correspond with recorded student use of ICT.

Debates about the benefits of widespread adoption of ICT by schools tend to be characterized by different and often strongly held views. Various stakeholders maintain that these technologies develop, among other attributes, 21st-century skills that are central to life in modern societies, facilitate access to resources, provide rich learning materials that engage student interest, and support more effective curriculum design and planning (Kozma & McGhee, 2003). Others, however, argue that these technologies draw attention away from the traditional core educational tasks of reading and mathematics, limit the time spent on the direct contact with materials that is essential for concept formation, provide artificial views of the real/natural world, and encourage uncritical acceptance of views that may not be based in evidence (Cuban, 2001). We were interested in determining if the ICILS Lecturer' views on the advantages and disadvantages of ICT in school education had any association with the extent to which they were using computers in their classrooms. With regard to the statements reflecting positive aspects of ICT use for teaching and learning, almost all Lecturer across participating countries (an ICILS 2013 average of 96%) agreed that ICT use enables students to access better sources of information. The lowest rate of agreement was found in Russia (89%) and the highest rate in Thailand (99%). Similarly, more than 90 percent of Lecturer, on average crossnationally, indicated that using ICT helped students consolidate and process information more effectively. National percentages of agreement ranged from 78 percent in Australia to 95 percent in the Russian Federation. On average across the participating countries, 78 percent of Lecturer agreed that ICT helps students learn to collaborate with one another, and 68 percent believed that ICT helps students communicate more effectively with others. Percentages of agreement for countries ranged from 62 percent to 90 percent for the former statement, and from 57 percent to 88 percent for the latter.



Almost 80 percent of Lecturer on average across participating countries agreed that ICT helps students develop greater interest in learning. The national percentages ranged from 66 percent in the Czech Republic to 92 percent in Thailand. Across countries, four out of five Lecturer agreed or strongly agreed that ICT helps students work at a level appropriate to their learning. The lowest levels of Lecturer agreement with this statement were recorded in Croatia and Slovenia (69%), and the highest in Thailand (93%). There was less support for statements concerned with the impact of ICT on academic performance, planning, and self-regulation. Approximately two thirds of Lecturer (the ICILS 2013 average was 68%) agreed with the proposition that ICT improves students' academic performance. The level of agreement was highest in Thailand and Turkey (93% and 85% respectively) and lowest in the Czech Republic and Croatia (53% each). A similar percentage of Lecturer (65%) believed, on average, that ICT helps students plan and self-regulate their work. Agreement was less extensive among Lecturer from the Czech Republic, where less than half of the Lecturer agreed with this statement (41%). In contrast, 88 percent of Lecturer from Thailand either strongly agreed or agreed with this statement.

Lecturer' views of statements reflecting negative aspects of the use of ICT in teaching and learning generally attracted less support than statements reflecting positive aspects. However, the statement that ICT use results in poorer writing skills amongst students attracted agreement from two thirds of Lecturer. A majority of Lecturer in each country indicated that they believed this to be the case. An exception was in Newfoundland and Labrador (Canada), where only 39 percent of Lecturer expressed agreement with the statement. Slovenia had the highest percentage of Lecturer expressing agreement with this statement (79%). Similarly, almost half of Lecturer internationally (the ICILS 2013 average was 48%) endorsed the view that using ICT results in poorer calculation and estimation skills among students. The national percentages of agreement ranged from 30 percent in Newfoundland and Labrador (Canada) to 64 percent in Korea (Mueller, Wood, 2008). On average across the ICILS countries, Lecturer rejected the statement that ICT "only introduces organizational problems for schools" (the ICILS 2013 average was 17%). Only seven percent of Lecturer in both the Czech Republic and Poland agreed with this assertion whereas 42 percent of Lecturer in Korea endorsed this view. Across the ICILS countries, 40 percent of

Lecturer, on average, said they agreed with the view that “ICT impedes concept formation better done with real objects than computer images.” Percentages of agreement ranged from 20 percent in Newfoundland and Labrador (Canada) to 55 percent in Slovenia (Plom, Anderson, Quale, 2009). Internationally, almost half of all Lecturer (the ICILS 2013 average was 49%) thought that ICT “only encourages copying material from published internet sources.” Poland recorded the lowest rate of agreement with this statement (31%); two thirds of Lecturer in Thailand (66%) endorsed this view. With the exception of Lecturer in Australia (43%), Chile (46%), and Newfoundland and Labrador (34%), majorities of Lecturer in each country believed that ICT “limits the amount of personal communication among students” (an ICILS 2013 average of 58%). The highest percentage of agreement with this statement was recorded in the Czech Republic (71%). Majorities of Lecturer in all participating countries rejected the notion that ICT only distracts students from learning (on average 76% of Lecturer disagreed with this statement). Thailand had the highest percentage of Lecturer believing that ICT is a distraction (46%); Slovenia had the lowest such percentage (11%). Mueller and Wood (2008) found that the items in the question about possible consequences of using ICT in teaching and learning at school actually represented two separate dimension one reflecting the positive aspects of using ICT in teaching and learning at school and the other reflecting negative perceptions. They accordingly formed two scales reflecting Lecturer’ views on ICTs use in schools. The first contained positively worded items. The second contained negatively worded items.

Lecturer from Chile, Thailand, and Turkey had average scale scores that were more than three points higher than the ICILS 2013 average for the scale, a finding which suggests that the Lecturer in these countries held a relatively more positive opinion of the value that ICT offers teaching and learning. Lecturer in Slovenia scored three points lower than the average, suggesting that they held less positive views on the value of ICT for teaching and learning than their colleagues in the other ICILS countries. Overall, there were no differences in views between the two age groups. However, older Lecturer from the Czech Republic and Slovak Republic had slightly more positive views than the younger Lecturer of the value of using ICT; the scale score differences between the two were statistically significant.



Lecturer over 40 years of age tended to report significantly more negative attitudes toward ICT use than did their colleagues under 40 years of age. This finding featured in eight of the 13 countries that met sampling requirements. The only Lecturer under the age of 40 who held more negative views than their older colleagues about pedagogical use of ICT were those in Newfoundland and Labrador (Canada) (Ertmer, 2012). As studies such as SITES 2006 (Law et al., 2008) and the School Net 2013 survey (European Commission, 2013) indicate, Lecturer who are confident users of ICT are more likely than unconfident Lecturer to adopt ICT as part of their teaching. The ICILS Lecturer questionnaire invited Lecturer to rate their confidence (“I know how to do this,” “I could work out how to do this,” or “I do not think I could do this”) in their ability to complete various tasks on a computer by themselves. The tasks listed were ones further developed from an item set used in SITES 2006 (Law, 2008). On average internationally, more than half, but under four fifths, of the Lecturer expressed confidence in carrying out a series of other tasks. These were using the internet for online purchases and payments (77%), producing presentations with simple animation functions (76%), preparing lessons involving student use of ICT (73%), using a spreadsheet for keeping records or analyzing data (59%), and contributing to a discussion forum/user group on the internet (58%).

Approximately two thirds of Lecturer across participating countries were confident about their ability to use computers for the following two aspects of teaching. Seventy-one percent expressed confidence in their ability to use ICT for assessing student learning, and 65 percent were confident that they could use a computer for monitoring students’ progress. Less than half of the Lecturer (on average across participating countries) felt confident about installing software (47%) and collaborating with others using shared resources (44%) (Mueller and Wood, 2008). It is understood that the use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education with advanced teaching methods, improve learning outcomes and enable reform or better management of education systems (UNESCO-IS, 2009). The integration of ICT into education has been assumed as the latent of the new technological tools to transform an outmoded educational system. Thus, educational reforms to utilize ICT in the classroom need acceptance and assistance coming from Lecturer and administrators. Assistance to education is

necessary to provide cost efficient support to Lecturer and broaden access to educate. It is a support for comprehensive education programs The main goal of introducing ICT in the field of education is to help creating constructive, supportive, and rich learning environment in schools in general and classrooms in particular (Alzaidiyeen and Almwadhah, 2010). The ICT integration in school setting improves teaching and learning process and motivates students to learn. ICT – enabled education system transforms students into dynamic life-long learners and values-centered, productive and responsible citizens (De ICT Plan, 2008). As Siddiqui (Akram, 2010) stated that technology proficiency is but one dimension of Lecturer competence. The author further discussed that the success of the implementation of innovative technology is depending on the culture of the school. Today's rapid technological changing milieu requires the principal and Lecturer as a technology leader to become involved in discovering, evaluating, installing, and operating new technologies of all kinds, while keeping teaching and student learning as the guide and driving force behind it all (Gao et al., 2010). Though several studies and literature were conducted in determining the positive effect of ICT in the teaching and learning process, still there are areas that need to be intensified. In the work of Qablan, (2009), it was determined how the participants used ICT and if they had any internal and external weaknesses in the way of the effective integration of ICT in the teaching-learning process. The results of the study showed that despite of the considerable political pressure to increase ICT use in the classroom, the following the concerns were found out as the problems: most expressed frustration at the lack of ICT tools, support from the national government, school and from the surrounding community. Another area that needs improvement in the implementation of ICT in the classroom is the training of the faculty members. Citing the study conducted by Olelewe and Amaka (2011) that focused on the effective utilization of ICT for sustainable manpower development among computer educators. It was found out that there was poor utilization of ICT in evaluation of learning by the Lecturer. Based on the findings, it was recommended that retraining programs and workshops should be organized for educators on the use of ICT as a tool for enhancing teaching and learning. In Philippine scenario, Abcede (2008) of the Department of Education presented the highlights of the integration of ICT in the Philippines' educational system in UNESCO. The author wrote that the Philippine Education Technology Master Plan (2000-2010) has the following operational targets: all



public tertiary institutions in Rivers State shall be provided with an appropriate educational technology package, 75% of public tertiary institutions in Rivers State shall have a computer laboratory room equipped with basic multimedia equipment, 75% of tertiary institutions in Rivers State shall have an electronic library system, 75% of public tertiary institutions in Rivers State' Lecturer shall have been trained in basic computer skills and the use of the Internet and computer-aided instruction, and all learning areas of the curriculum shall be able to integrate the application of ICT, where appropriate.

ICTs is introduced at the elementary level as a subject called Home Economics and Livelihood Education (HELE) and in the secondary level as Technology and Home Economics (THE). In the majority of cases, ICT materials (software, multimedia, etc.) are used to supplement instruction. These materials may be produced by Lecturer themselves (as in the case of animated PowerPoint presentations) or ready-to-use courseware, either purchased from abroad, or leased to the school as part of the hardware. Currently, there is no integration of the application of ICT with textbooks. However, eighty-one percent (81%) of schools have no access to the Internet. The schools in Metro Manila, the Philippines' capital, have the greatest access to the Internet, but the incidence of connectivity decreases as one goes northwards and southwards throughout the archipelago (Cavas, 2009). The Department of Science and Technology (DOST) conducted a survey of schools that gathered baseline data on schools' Mathematics and Science Lecturer and the extent of the schools' use of ICT for instruction and other purposes. Interviews of innovative Lecturer on practices (Lecturer and student) related to innovation, problems, solutions and prospects for sustaining and continuing innovation. The following were identified as key problem areas for implementing ICT in basic education: few Lecturer had fear of the technology, some school principals had closed mindset and non-appreciation of ICT in education, constraints of the annual Education Budget, lack of maintenance of ICT resources and technician staff, and limited availability of education software and courseware. With regards to the integration of innovative technological resources in the classroom, the Religious of the Virgin Mary (RVM) Education Ministry believes that the use of technology-assisted instruction can positively affect the quality of teaching and learning by providing direct access to information and communication technology (Frailon n.d.).

Moreover, faculty members will be able to make their instruction more relevant to the real human experiences by integrating data from an array of electronic sources and through improved resources based on global issues. It envisions empowering students, faculty and staff with the knowledge, skills, values and attitudes to effectively manage, utilize and exchange information through the utilization of technology as part of the teaching-learning process. By effectively integrating technology in the curriculum, the Lecturer can continue to instruct students of the basics, promote self-worth and active student-centered learning, and equip users to become technology savvy, ready to compete in the global context through programs, projects and activities that include variety of support roles to foster and sustain the continued growth of the use of innovative technologies. With the immense role of ICT in education, this study is directed towards the utilization of ICT hardware and software resources by the Lecturer into the teaching-learning process. For this reason, this study is challenged to examine the responsiveness of the curricula, Lecturer' competency in ICT-related trainings and seminars, and availability of facilities and resources (Orlish, 2008).

Availability of ICTs Facilities

The existence of ICTs does not transform Lecturer practices in and of itself. However, ICTs can enable Lecturer to transform their Lecturer practices, given a set of enabling conditions. Lecturer' pedagogical practices and reasoning influence their uses of ICT, and the nature of Lecturer ICT use impacts student achievement. The need therefore to make these facilities available will lead to the Lecturer ability to use it and imparting into the students. In OECD countries, research consensus holds that the most effective uses of ICT are those in which the Lecturer, aided by ICTs, can challenge pupils' understanding and thinking, either through whole-class discussions and individual/small group work using ICTs. ICTs are seen as important tools to enable and support the move from traditional 'Lecturer-centric' teaching styles to more 'learner-centric' methods (Blanire, 2007). This paper views availability in the sense of physical presence of the digital tools and the ability of the Lecturer have the requisite skills in manipulating the facilities. If the ICTs facilities are made available and yet the Lecturer are not able to use such tools, it is as well not available (Nweke, 2018). The use of ICTs as presentation tools (through overhead and LCD projectors, television, electronic whiteboards, guided "web-tours", where students



simultaneously view the same resources on computer screens) is seen to be of mixed effectiveness. While it may promote class understanding of and discussion about difficult concepts (especially through the display of simulations), such uses of ICTs can re-enforce traditional pedagogical practices and divert focus from the content of what is being discussed or displayed to the tool being utilized. The sad story is that many of the government owned tertiary institutions in Rivers State that received these computers do not use them for either administrative or teaching and learning purposes. This indicates that the Lecturer and students are still lagging behind in the trend of changes in the world. This also shows that there is the tendency for the Lecturer and students to be denied the opportunities which information and technology offers in the teaching and learning activities. There is need to replace the traditional pedagogical practices that still underpin the educational system in the state, hence there is the need for the application of ICT in Nigerian senior tertiary institutions in Rivers State (Ofoedu, 2010). To teach any subject in an understandable way, there is the need to use different teaching aids and strategies by Lecturer. One is therefore worried that is it that there are not enough computers to supply to schools or that school on the other hand has failed to use them. Therefore this paper is aimed at determining the extent of availability and use of ICT resources in teaching and learning.

Lecturer require extensive, on-going exposure to ICTs to be able to evaluate and select the most appropriate resources. However, the development of appropriate pedagogical practices is seen as more important than technical mastery of ICTs (Shih, 2010). Few Lecturer have broad 'expertise' in using ICTs in their teaching. Even in the most advanced school in OECD countries, very few Lecturer typically have a comprehensive knowledge of the wide range of ICT tools and resources. While the development of technology skills is seen to have a role in the teaching and learning process, it is more important as an enabler of other teaching and learning practices, and not too important in and of itself. Schools that report the highest levels of student ICT-related skills and experience are often not those with heavy computer course requirements, but rather ones that made use of ICTs on a routine basis throughout the Lecturer professional development and the teaching and learning process. There appears to be a great disconnect between student knowledge and usage of ICTs the knowledge and abilities of Lecturer to use ICTs. This suggests that Lecturer inexperience and skill deficiencies may

often be an important factor inhibiting the effectiveness of ICT use in education by students (Agi, 2011).

Challenges of information and communication technologies in Public Tertiary institutions in Rivers State in Rivers State

Ejike, 2010 listed the following as some of the challenges of ICTs development in Nigeria.

- Inadequate financial resource
- Lack of technical know-how.
- High cost of production.
- Electricity
- Exploitation of colonial rulers
- Limited internet access
- Technophobia
- Poor cyber security
- Lack of maintenance culture
- Conservative nature of people
- Importation charges
- Education
- Inadequate ICT infrastructures

Inadequate Financial Resource:

The development of ICT in Nigeria is relatively slow Nigeria just like other developing countries is faced with shortage of financial resources. Nigeria as a country don't have the finance to purchase new devices because of their high cost. Instead of investing finance into the development of ICT in Nigeria they prefer to invest it on security etc because it sees ICT as not needing much attention. For instance, the purchase of modern devices for enhancing communication because of the cost of having them is very low if not completely backward because most Nigerians can't afford them. Lack of technical know-how. Another challenge of ICT development in Nigeria is lack of qualified staff. The manpower required to deal with it are no available or are few. The ICT staffs or qualified Lecturer are required to install and maintain the system needed. Limited internet access. Access to the internet is highly limited in remote areas. They have less access to the internet, most of the network providers in the country



while some have no coverage at all in this part. This is one of the fundamental problems of ICT development and it would take a long time and huge funding to improve. Also due to the dominance of English on the internet, non-English speaking people are also deprived the opportunity to use the internet. Poor power supply. Most of these technological devices needs power supply to function well. The issue of power has been a major problem in Nigeria over the years, this has explained the reasons why most people who wants to purchase these devices gets discouraged because they won't be able to maximise its use due to power shortage. For instance, people who have the intention of purchasing television may get discouraged not to because they feel there won't be enough power supply for them to use it effectively so instead they go for a radio set which uses battery but limited to only audio.

Exploitation from Colonial Era

Exploitation unleashed from the era of the colonial rulers still has a staggering amount of negative effect on the development of ICT in Nigeria since essential raw material, even ideas was exploited, this has posed as a challenge to the development ICT in Nigeria as instead of us developing our raw material we end up buying the end-product from them on international market even with high importation charges.

Technophobia

Many people tend to argue that technology fails when needed most. So they stay away from it or don't use it at all. They feel safer to carry out their activities with the analogue devices they have not minding the stress involved rather than making use of the ICT devices available to them. For example many of the non-citizens would prefer to go through the stress of queuing up in the bank to withdraw money than making use of ATM stands that makes withdrawal easy. Most of them lack the know-how on how to operate such devices why many are not just open to change.

High Cost of Production

The prices of some technologies are too expensive, that they are not affordable for some Nigerians. So it does not improve the development of ICT in Nigeria. Most of the raw materials used for production are imported from foreign

countries, thereby resulting to increase in cost of production.

Poor Cyber Security

This is another reason for the aversion towards ICT development in Nigeria. Due to the persistence attached on data bases and infringement on “cyber privacy”, ICT became less popular in Nigeria.

Lack of Maintenance Culture

This is another issue that could hinder ICT development in Nigeria. Maintenance of some technologies that are spoilt are not repaired, instead are abandoned or thrown away.

Conservative Nature of People

The conservative nature of people to new development is a major reason and problem facing ICT development. It can be said to be normal for people who didn't grow up with the system i.e. ICT fundamentals, to be reluctant in blending with the system. Resistance to change from traditional pedagogical methods to more innovative, technology-based teaching and learning methods by both students and academics. Institutions towards the development of ICT related facilities such as the internet and procurement of computers is rather slow in some instances and in others there are no aids or support by the government at all (Albirini 2006)

Importation charges

Most of this technological devices are imported, since Nigeria as a developing country don't have both the resources manpower to invent or produce these devices, it has no choice other than importing at last for the now, till when it is ready and have all it takes to have these devices here in this country. But, the charges on importation is too high and in some way has limited the way or rate at which Nigerians import useful devices which directly affects our development as a country. Because of this high amount of imported goods or devices from abroad,, discouraged so many persons who had the plan to get or ship in their technology has been discouraged and relax.



Education

ICT has a key role to play in enabling the education industry to manage complex information flows and to integrate them towards effective educational planning and development. Although ICT holds great potentials in supporting and augmenting existing education as well as national development efforts in Nigeria, several challenges remain.

Inadequate ICT infrastructures

Nigeria lacks the necessary infrastructural facilities to benefit from ICT. Again, most of the ICT infrastructures such as Internet, Tele-fax, and E-mail are dependent on NITEL (Nigeria Telecommunications Limited), NIPOST (Nigeria Postal Agency) and PHCN (Power Holding Corporation of Nigeria) services. These services are epileptic in delivery and attract unbearably high bills in connection with adequate infrastructure.

PROSPECTS OF INFORMATION COMMUNICATION TECHNOLOGY

The good news is that ICT is currently undergoing development in Nigeria, because several steps have already been taken by government agencies to improve ICT in Nigeria. Former Governor Amaechi saw the construction for computer laboratories and computer fittings in some public tertiary institutions in Rivers State in Rivers State. Good effort that may be but the facilities are today in total comatose as a result of adequate awareness and Lecturer inability to operate the computers (Ejike, 2012). In this aspect of the work, we'll be considering lines of action adopted by the government of Nigeria to improve its ICT development so far many world Organizations such as the U.N and other international groups are working on projects to deal with the financial problems in developing countries like Nigeria. For example the one laptop per child (OPC) project is working to deliver an affordable PC to every child in the developing nations at low cost; thereby, making kids digitally inclined to ICT devices at tender ages. Thus, increasing the possibility of ICT development in Nigeria. With the introduction of Databases like EBSCO host, Info Trac, Lexis Nexis, Pro Quest etc, to search for articles in Nigerian University Libraries, students tend to get more inclined and knowledgeable about ICT thus increases the possibility of ICT development in Nigeria.

With more Nigerians coming from developed countries to take up positions in Nigeria, they are impacting positively on ICT development in Nigeria. They usually try to replicate practices in advanced societies here, thereby sharing ideas and skills which goes a long way to spur growth & development of ICT in Nigeria. The issue of electricity that has been a challenge to ICT is development in Nigeria since most of these devices require electrical power to function is being tackled by the government of Nigeria. There is now an improvement in the power supply nationwide in the country which has boosted the use of these technological devices. The government is now involved in the advancement of the educational sector in the use of ICT by including it in the curriculum of schools in the country, starting from the primary to tertiary stage of learning. For instance in Kogi State University the course CSC has been adopted as part of their curriculum and it is compulsory for every student to do, this has added the students' knowledge on computer as well as the internet. Also materials can be looked up on the internet, thus enhancing their knowledge of ICT (Okon, 2012).

The government of Nigeria, time to time now create avenues where intelligent students who want to advance in ICT knowledge are sent to developed countries to study in order to impact Nigeria with the knowledge of ICT. For instance, Nigerian tertiary institutions in Rivers State embark on competitions after which successful candidates are sent abroad to further their ICT-related studies. On the issues of internet access, network providing companies are beginning to take their services to the grass-root to enhance internet access. For example, in Anyigba (2009), masts are now being mounted to improve service delivery unlike before when there was poor network delivery because of the absence or inadequate network masts in the community. Governmental institutions, ministries, even private firms in Nigeria are encouraging their staff to be literate in ICT. For example in Akwa Ibom state, the government trained 700 civil servants on the use of ICT and other states government are giving out ICT devices e.g. Laptops to their civil servant and with more of this, there is still huge hopes that ICT development in Nigeria is inevitable (Idong, 2012).

Lecturer Performance



The question of defining good teaching has concerned educationalists and academics for some considerable time. As Kyriacou (1986) postulated, perceptions of teaching depend upon philosophical premises anyway—is it a craft, an art, a science for example? The debates about the ‘deskilling’ of Lecturer (Ozga 1995) and whether Lecturer are professionals (Hoyle 1995) simply illustrate the complexity further. However, even if a model based upon measurable outcomes is assumed for the purposes of appraising the effectiveness or otherwise of a Lecturer’s performance, the issue of *context* remains a complicating factor. Much of the issue of context that is relevant here is related to the extent to which schools are held responsible for the success or otherwise of their students. Stoll and Myers (2008), draw attention to the distinct difference between the majority of countries who refer to ‘failure of pupils’ and a few who talk in terms of ‘school failure’. Where school failure is emphasised, external context has low consideration and school managers and Lecturer are criticised for having low expectations of pupils. The school improvement literature has come to acknowledge the significance of the context of schools. Stoll and Reynolds (1997:31) recognise that: ‘What is needed is knowledge of specific factors that will generate improvement for particular schools in particular socioeconomic and cultural contexts.’ The issue for assessing the performance of Lecturer who work in schools in very different contexts and situations is that it reveals the inadequacy of any single narrow model of appraisal, especially one focused upon measurable outcomes. Any list of criteria of effective teaching will be perceived as unfair when it is linked to required outcomes which can be affected so significantly by factors outside the Lecturer’s and indeed the school’s control. Thrupp (1999) says that: A nationally consistent list of attributes of quality or competent Lecturer is likely to remain elusive. Rather, contextual differences related to student composition will have to be carefully considered if we are at all serious about assessing Lecturer fairly.

Thrupp goes on to make the important point that even if a value-added approach is able to take account of individual differences between students, Lecturer working in disadvantaged school contexts will ‘inevitably appear inferior because of additional difficulties related to the group characteristics of their students’ (ibid.). For the managers of Lecturer performance and its appraisal, Thrupp’s (1999) own study of schools in Wellington, New Zealand, illustrated some of the

contextual issues beyond the manager's control. For example, a school in a prosperous area with powerful parental support attracted a good field of applicants for advertised teaching posts. In that situation, where Lecturer were under-performing, rigorous action could be taken. In less advantaged schools, whilst managers would not tolerate incompetence and were equally ready to start competency procedures where appropriate, there was less scope for action since: Not only were they limited in this time they could spend on competency procedures, but they often struggled to find good staff in any case. Senior staff were aware that some staff were ineffectual but consoled themselves that such Lecturer were valuable to the school in other ways (Thrupp 1999). It can also be argued that what it means to be an effective Lecturer will actually be quite different in different contexts. So that, in contrasting the most successful Lecturer in a working-class school with those in a school in an affluent area, Thrupp (1999) claimed that success was achieved in quite different ways. In the working-class school: the most successful Lecturer were those who took a highly structured role which could create controlled classroom. However Nwankwoala (2018) identified effective class room management, time management skills, ability to appropriate punishment and the skill of using digital tools to communicate lessons. This in effect agrees with the fact that the contemporary way of measuring Lecturer performance is gradually shifting from manual to digital. The Lecturer's ability to use information and communication tools to carry out his or her role forms greater part of the 21st century Lecturer Key Performance Indicator (KPI).

CONCLUSION

The role of ICT in public tertiary institutions in Rivers State in Rivers State is significant and critical for their rapid economic success which might lead to closing the gap between the developed and developing world. Implementing and developing ICTs in developing countries like Nigeria is a huge task as there are considerable challenges such as cost internet access, training and policy issue but each issue has its own ways of addressing them as provided in the recommendations above practice. The impact of information communication technology in Nigeria cannot be overemphasize, since information is very paramount in one way or the other, there is no one who will not touch by the information and communication technology. In the homes, microchips are already



controlling our washing machines, food processors, and VCRS. Personal computers are judiciously used to perform profitable works, instant messaging, through the social network, the information and communication gave way to the audience of the mass media to be involved in the dissemination of information as there are lot of radio stations and video uploaded on the internet. In medicine ICT providing new helps for the doctors and offering new hopes for deaf, blind and the disabled. These are few of the numerous advantages of ICT development in public tertiary institutions in Rivers State in Rivers State.

SUGGESTIONS

Based on the reviewed literature, the following have been suggested in respect of information and communication technologies and Lecturer' performance in public tertiary institutions in Rivers State in Rivers State:

1. Government should ensure the provided computer facilities are in use and regular maintenance done to them good for use.
2. There is need for self-improvement by the Lecturer by adapting themselves to computer ways of doing things and not necessarily waiting for government training.
3. Government should as a matter of urgency embark on the training and retraining of Lecturer in the training of Lecturer in the use of ICTs.
4. Campaigns by NGOs and public spirited individuals on the importance of ICTs in the 21st century should be encouraged.

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