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ICT and Digital Literacy Skills: a Mechanism for Efficient Teaching in Nigerian Colleges of Education

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Abstract

This study examines information communication technology (ICT) and digital literacy skills as mechanism for effective teaching in Nigerian colleges of education. The total population for this study comprises of 1,500 lecturers in four colleges of education in South West Nigeria. 10% was drawn from the total population using a random sampling technique giving a total 150 which form the sample size for the study. Questionnaire was used to collect data from the respondents. Findings from this study revealed among others that that ICT and digital literacy skills when applied will to a very large extent be a tool for efficient teaching aid for lecturers in colleges of education in Nigeria, that computers, printers, photocopiers, projectors, interactive white board/electronic notice board, internet facility and CD Rom will to a very large extent serve as ICT tools that can be used for effective teaching. This study also revealed that most of the lecturers in colleges of education in Nigeria are not proficient in the use of power-point, excel and spreadsheet, cannot apply computers to solve real life academic problems etc. Recommendations were put forward to enhance the use of ICT for efficient teaching in Nigerian colleges of education.

Keywords: ICT, Digital Literacy, Digital Literacy Skills, Teaching, Learning

Introduction

Education is the bedrock of every nation beginning from the primary to higher levels, this means that education that is enterprising and resourced based, brings out graduates that will carry the nation along. For such to be achieved there must be a shift from the traditional way of teaching, learning and research to the modern way, which entails the use of ICT, as a new technology that provides opportunities for improved manpower development (Amnipoor, 2007). College lecturers are the core employees of colleges of education and they extensively contribute towards the attainment of institutional goals. With the emergence of ICT, college lecturers are facing variety of options to teach and learn. Quality education that

gives recognition to ICT is a key concern as a means of preparing college undergraduate students for the knowledge economy in this 21st century as learners are now exposed to different technology and are now being referred to as "digital natives" (Kumari & D'Souza, 2016). It is no news that, modern life is dominated by ICT and there is universal recognition of the need to use ICT in higher institution of learning as we enter the era of globalization where the free flow of information via satellite and the internet hold sway in global information dissemination of knowledge.

The role of technology in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education policy (Thierer, 2000). Most experts in the field of education agreed that, when properly used, ICT hold great promise to improve teaching and learning in addition to shaping workforce opportunities. Kolawale (2008) defines ICT as the technologies that help us record, store, process, retrieve, transfer, and disseminate recorded information. This implies interaction between the user and the data. Information and Communication Technology is therefore an umbrella term that includes any communication device for teaching and learning. Such device could be computer system, communication device, telecommunication, telephone, satellites, telex, facsimile, internet, email, fax, video text and document delivery, electronic copiers, radio, television, etc. Olakule (2007) added that these systems link schools, homes, business, students, hospitals and facilitate teaching and studying. Digital literacy on the other hand is defined as the ability of individuals and communities to understand and use digital technologies for meaningful actions within life situations (Covello, 2010). Past researchers have defined digital literacy as the combination of a number of complex and integrated sub-disciplines that comprised of skill, knowledge, ethics and creative outputs in the digital network environment (Calvani, Cartelli, Fini & Ranieri, 2008; Covello, 2010). Thus, digital literacy is more than just embedding technology into teaching; it's about using technology to understand and develop modern communication, to locate oneself in the digital space and to manage knowledge and experience in the age of information for the benefit of students. This study therefore seeks to examine ICT and Digital Literacy as a mechanism for efficient teaching in Nigerian colleges of education.

Statement of the Problem

ICT has been a tool of transformation in the educational sector as it has transformed the sector from mere classroom teaching to virtual learning in the developed country which is as a result of the ICT and digital literacy skills possessed by the university and colleges of education lecturers. However, in developing countries such as Nigeria, the reverse is almost the case as the application of ICT to teaching and learning process is still in its infancy with little or no digital literacy skill on the part of the college of education lecturers (Ebele, Ejedafiru & Oghenetega, 2013). This is having adverse effect on the overall educational development of university students as university education is the apex of educational levels in building a literate individual that will in-turn transform the society to a literate society. This study therefore seeks to examine how ICT and digital literacy could serve as facilitator of effective and improved teaching process in Nigerian Colleges of education

Objectives of the study

The general purpose of this study is to examine ICT and Digital Literacy as a mechanism for effective teaching in Nigerian colleges of education while the specific objectives are:

1. To investigate the extent to which ICT and digital literacy can help to facilitate effective teaching in Nigerian colleges of education.
2. To identify the ICT tools that can be used to improve on teaching and learning among lecturers in Nigerian colleges of education.
3. To ascertain the types of digital literacy skills possessed by Nigerian college of education lecturers.
4. To identify the benefits of the use of ICT tools and the application of digital literacy skills in enhancing teaching processes in Nigerian colleges of education.
5. To identify the challenges facing the application of ICT for teaching in Nigerian colleges of education.

Research Questions

The following research questions have been raised to guide this study;

1. To what extent can ICT and digital literacy facilitate effective teaching in Nigerian colleges of education?
2. What are the ICT tools that can be used to improve on teaching and learning in Nigerian colleges of education?
3. What are the kinds of digital literacy skills possessed by Nigerian college of education lecturers?
4. What are the benefits of the use of ICT tools and the application of digital literacy skills in enhancing teaching processes in Nigerian colleges of education?
5. What are the challenges facing the application of ICT for teaching in Nigerian colleges of education?

Literature Review

The use of ICT and the application of digital literacy skills in education have been reported to result in many learning benefits even though it is quite demanding and challenging (Abdullah, 2009). Enough preparation must be put in place for ICT integration in education to succeed. It requires keen planning, effective lecturer preparation and sustained regular management support and visionary leadership that recognize the need to prepare the learners to live and work in the technological world of the 21st century. It also requires a lecturers' positive attitude that is adaptive to change and appreciation of the fact that in many ways, modern technology enriches pedagogies. Use of ICTs also demands lecturers' creativity, innovativeness hard work which can also be associated with digital literacy skills.

This is because university and colleges of education lecturers would have to search the web for relevant material which they would customize for use in class to meet students' individual needs. The innovation also demands costly infrastructure to be in place, facilities, resource policies, professional support, secure storage and maintenance (Kisirkoi, 2015).

According to Lim (2002), inappropriate use of technology in education can lead to negative effects which should be avoided while on the other hand effective use of ICTs as

teaching/learning resources and effective digital literacy skills has been associated with significant increase in students' achievement. Students gain confidence as they get engaged by their lecturers and sometimes work together with lecturers as co-workers in attempt to solve some technological problems. Quite a good number of researches have been conducted on the integration of ICT in teaching and learning processes in university education in developed countries of the world with only a few on ICT use and digital literacy integration to education in Nigeria.

In a review conducted on the effectiveness of integration of ICT in pedagogy in contrast to conventional teaching in India, result showed that computer-related technologies change the teaching-learning process rapidly in tertiary institutions, it improves students' achievement and creating learning environments which are more interesting, effective and interactive (Kumar & Singh, 2013; Kaur 2014; Anboucarassy, 2010; Patil, 2011). In a study conducted by Balanskat, Blamire and Kefala (2006), on the advantages and benefits of ICT in European school achievements, findings revealed a positive impact on student performance in higher institution, particularly in the faculty of social sciences, education and arts, although the effects are less significant in the sciences. The study also shows that Schools with higher levels of electronic maturity show a rapid increase in performances in scores compared to those with lower levels.

Deliberating on the use and ICT tools used in Nigerian universities Baro and Fyneman (2009) point out that in Niger Delta University, majority of the social science lecturers and students were deficient in using information technology through various ways. They observed that male lecturers and students were much more conscious than their female counterpart regarding using Internet at the University. They used Internet, email, various search engines, web based resources for obtaining information regarding academic curriculums. Also, Austine (2015) conducted a study on the availability and utilization of ICT resources in teaching and learning in secondary schools in Ardo-Kola and Jalingo, Taraba State, findings revealed that the major tools that can help teachers to teach effectively are: Desktop computer, laptop computer, television, Video player, Digital camera, Printer, projector, Scanner, Photocopier, Internet access and Interactive white board among others. The study findings also shows that over 80% of the respondent responded in the affirmative that the aforementioned tools are not available in their school while it is pertinent to know that teachers and learners can only access this vital tools only when they are available.

Information and digital literacy is a key component of, and contributor to, lifelong learning. Digital literacy competency extends learning beyond formal classroom settings and provides practice with self-directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all areas of life (Ebele, Ejedafiru & Oghenetega, 2013). Digital literacy does not replace traditional forms of literacy instead it builds upon the foundation of traditional forms of literacy. Digital literacy is the marrying of the two terms digital and literacy; however, it is much more than a combination of the two terms. Digital information is a symbolic representation of data, and literacy refers to the ability to read for knowledge, write coherently, and think critically about the written word (Warschwer & Tina 2010 as cited by Ebele, Ejedafiru & Oghenetega, 2013). Digital literacy researchers explore a wide variety of topics, including how people find, use, summarize, evaluate, create, and communicate information while using digital technologies. It is

important to note that for teachers and lecturers to be counted eligible for impacting students with the right knowledge in this era of proliferation of ICT, they (teachers/lecturers) have to be digitally literate and ICT compliance. Reflecting on the digital literacy skill required by teachers for effective teaching in the educational sector, Amri (2001) identified certain areas of ICT as important for language teachers, for example, the use of a word processor, e-mail, and multimedia, interactive boards and presentation applications, such as Microsoft PowerPoint, Adobe Photoshop, Corel Draw, and Picasa. The use of the skills though is dependent on availability, accessibility and ease of use of the ICT tools (Adetimirin, 2012).

Methodology

Survey research was adopted for this study. The total population for this study comprised of 1,500 college of education lecturers from four colleges of education in South West, Nigeria which comprised of Federal College of education Oyo, Federal college of education Osiele, Ogun State, Adeniran Ogunsaya college of education, Ijanikan Lagos, College of education Ikere Ekiti, Ekiti State.10% was drawn from the total population using a random sampling technique giving a total 150 which form the sample size for the study This is because, Ekeh (2003) asserted that, it is impossible for a researcher to use as subject every member of a large population for reasons of limitations in financial resources, time, efforts and scope. Jen (2002) therefore reported that if the population is large, say in thousands the percentage of population to sample should be a minimum of 10%. For these reasons, the researcher selected 10% of the total population to form the sample size. Questionnaire was used to collect data with the aid of four (4) research assistants and a total of 150 questionnaires were distributed, duly completed and found usable. The data collected for this study was analyzed using simple percentage and frequency counts. The composition of the sample size by institution is presented in the table below.

Name of Institution	**Number of Students**	**Total Sample**
Federal College of education Oyo	386	39
Federal college of education Osiele, Ogun State	364	36
Adeniran Ogunsaya college of education, Ijanikan Lagos	402	40
College of Education,Ikerre Ekiti	348	35
Total	**1500**	**150**

Sex	No of Respondents	Percentage (%)
Male	91	61
Female	59	39
Total	150	100%

Table 1 above shows that 91(61%) of the selected respondents are male and 59 (39%) of them are female. This indicates that majority of the respondents are male university lecturers.

Table 2: Age Distribution of Respondents

Age	No of Respondents	Percentage (%)
25 – 35	9	6%
36 -45	43	28.7%
46 – 55	51	34%
56 - 64	29	19.3%
65 and above	18	12%
Total	**150**	**100%**

Table 2 above shows that 9(6%) of the respondents are within the age bracket of 25-35 years of age, 43(28.7%) of them are within the age bracket of 36-45 years of age, 51(34%) of them are within the age bracket of 46-55 years and 29(19.3%) of them are within the age bracket of 56-64 years of age and 18(12%) of the respondents are 65 years and above. This means that majority of the respondents are within the age bracket of 46-55 years of age.

Table 3: Distribution of Respondents by Class of Degree

Class of Degree	Responses	Percentage (%)
B.Sc	**87**	**58**
M.Sc	**49**	**33**
Phd.	**14**	**9**
Total	**150**	**100**

Table 3 above shows that 87(58%) of the respondents are B.Sc certificate holder, 49(33%) of them are M.Sc certificate holder while only 14(9%) of the respondents are Phd certificate holder. This means that majority of the college of education lecturers in South Osuth Nigeria are B.Sc certificate holder.

Table 4: ICT and Digital literacy as a facilitator of effective teaching in Colleges of education

How can ICT and digital Literacy skills facilitate effective teaching in Colleges of education?

Note: VLE =Very Large Extent, LE= Large Extent, VSE= very Small Extent, SE= Small Extent.

Question	**Responses**							
	VLE	**%**	**LE**	**%**	**VSE**	**%**	**SE**	**%**
To what extent do you see ICT and digital literacy skill as tool to facilitate effective teaching in colleges of education	**153**	**65**	**52**	**22**	**18**	**8**	**12**	**5**

From table 4 above it is obvious that 153(65%) of the respondent agreed that ICT and digital literacy will to a very large extent be a tool for effective teaching in colleges of education, 52(22%) of them are of the opinion that ICT and digital literacy will to a large extent be a tool for effective teaching in colleges of education, 18(8%) of the respondent however feels that ICT and digital literacy will to a very small extent facilitates effective teaching in colleges of education while 12(5%) of them are of the opinion that ICT and digital literacy can only to a small extent facilitates effective teaching in colleges of education. This means majority of the respondents agreed to the fact that ICT and digital literacy will to a very large extent facilitates effective teaching in colleges of education.

Table 5: ICT Tools that are used to Enhance Teaching and Learning Process

To what extent do you agree with the below ICT tools as being useful for effective teaching in Colleges of education?

S/N	**ICT Tools**	**Extent of Usefulness**							
		VLE	**%**	**LE**	**%**	**VSE**	**%**	**SE**	**%**
1	Computers	235	100	---	---	---	---	---	---
2	Printers	218	93	17	7				
3	Photocopiers	235	100	----	---	---	---	---	---
4	Projectors	60	26	123	52	40	17	12	5

5	Audio and Video Players	---	---	----	----	230	98	5	2
6	Television	---	---	---	---	235	100	---	---
7	Interactive white board/Electronic notice board	235	100	---	---	---	---	---	---
8	Internet facility	189	80	46	20	---	---	---	---
10	Digital Camera	---	---	20	9	205	87	10	4
11	CD Rom	188	80	47	20	---	---	---	---

From table 5 above, all the respondents 235(100%) agree with the fact that computers are tools useful for effective teaching, 218(93%) agree to a very large extent with printers while 17(7%) of them are of the opinion that printers can only to a little extent be useful for effective teaching, 235(100%) of them agree that photocopiers can to a very large extent be useful for effective teaching with no opposition, 60(23%) agreed that projectors can be to a very large extent useful for effective teaching, 123(52%) responded in the affirmative that it can only be useful to a large extent, while 40(17%) on the contrary believe that projectors can only to a very small extent be useful for effective teaching while 12(5%) believes that it can to a small extent be useful for effective teaching, none of the respondents see audio and video player as being a tool for effective teaching in Colleges of education while 230(98%) are of the opinion that it can only to a very small extent be a tool for effective teaching and 5(2%) responded that it can to a small extent be a tool for effective teaching. Also, 235(100%) of the respondents unanimously agreed that interactive white board and Electronic notice board can to a very large extent be a tool for effective teaching in Colleges of education, more so, 189(80%) of the respondents see internet facility as a tool that can to a very large extent be effective for teaching in Colleges of education while, while 46(20%) of them agree that it will to a large extent be an effective tool for teaching in Colleges of education.

Meanwhile only 20(9%) of the respondents agree that digital camera can to a large extent be an effective tool for teaching while on the other hand, 205(87%) of them agreed that digital camera have a very little effect on effective teaching and 10(4%) believed that it can only have little effect on teaching in Colleges of education. Also, 188(80%) of the respondents agree that CD ROM can to a very large extent be an effective tool for teaching in Colleges of education and 47(20%) agreed that it can to a large extent be an effective tool for teaching in Colleges of education. This means that computers, printers, photocopiers, projectors, interactive white boards/Electronic notice board, internet facilities and CD ROM will to a very large extent/to a large extent be an effective ICT tool for teaching in Colleges of education while, audio and video player, television and digital camera are considered by the respondent as ICT tools that will have little influence on effective teaching in Colleges of education.

Table 6: ICT and Digital Literacy Skills Possessed by Lecturers in College of Education

S/N	ICT and Digital Literacy Skills	Response			
		Agree	**%**	**Disagree**	**%**
1	Internet Searching skill	156	66	79	34
2	Application of computers to solve real life academic problems	92	39	143	61
3	Proficiency in the use of MS word	183	78	52	22
4	Proficiency in the use of power-point, excel and spreadsheet	45	19	190	81
5	Information gathering skill	67	29	168	71
6	Ability to maximally utilize multimedia facilities	66	28	169	72
7	Effective utilization of CD ROM and other storage devices	179	76	56	24

Table 6 shows that majority 156(66%) of the respondents agreed that they possessed internet searching skill while 79(34%) of them disagree, only 92(39%) of them agree that they can use computers to solve academic real life problems while majority 143(61%) of them disagreed, 183(78%) of them admit that they are proficient in the use of Microsoft word while 52(22%) of them disagreed to that fact. 45(19%) of them agreed that they are proficient in the use of Power-point, Excel and spreadsheet while majority 190(81%) of them disagree. Also, only 67(29%) of the respondents admitted that they possessed information gathering skill while 168(71%) of them disagree to that. Only 66(28%) of the respondents agreed that they can maximally utilize multimedia facilities while 169(72%) of them cannot. 179(76%) of the respondents agreed that they can effectively use CD ROM and other storage device while 56(24%) of them disagree to that fact. This means majority of the respondents' only possesses internet searching skill, are proficient in the use of Microsoft word, and can effectively utilize CD ROM and other storage devices while a whole lot of the respondents can not apply computers to solve academic real life problem, they are not proficient in the use of Power-point, Excel and spreadsheet, they lack information gathering skills and they lack ability to maximally utilize multimedia facilities.

Table 7: Benefits of the use of ICT tools and the application of digital literacy skills in enhancing teaching processes in Colleges of education

S/N	Benefits of ICT and Digital literacy to teaching	Response			
		Agree	**%**	**Disagree**	**%**
1	Faster teacher-student communication	235	100	----	----
2	Cooperative learning among student	235	100	----	----
3	Helps to Locate/find teaching materials	235	100	----	----
4	Complementing classroom instructional materials	235	100	----	----
5	Improves students' knowledge retention	142	60	93	40
6	Encourages individual learning	180	77	55	23
7	Time saving with grading software	235	100	----	----
8	Collaboration and knowledge sharing among lecturers	197	84	38	16

Table 7 shows that 235(100%) representing all the respondents agreed that faster teacher-student communication, cooperative learning among students, helping to locate/finding teaching materials, complementing classroom instructional materials, time saving with the use of grading software are benefits associated with the use of ICT and application of digital literacy to teaching in Colleges of education. 142(60%) of the respondents agreed that application of ICT and digital literacy in teaching improves students knowledge retention while 93(40%) of them disagreed. In the same vein, 180(77%) of the respondents agreed that the use of ICT and application of digital literacy to teaching will encourage individual learning among students while 55(23%) of them disagree. 197(84%) of them agreed that collaboration and knowledge sharing is one of the benefits of the use of ICT and application of digital literacy skill to teaching while 38(16%) of them disagreed. This means that majority of the respondents agreed that faster teacher-student communication, cooperative learning among student, helping to locate/find teaching materials, complementing classroom instructional materials, improving students' knowledge retention, encouraging individual learning, time saving with grading software, collaboration and knowledge sharing among lecturers**.**

Table 8: Challenges facing the application of ICT and digital literacy to teaching in Colleges of education

S/N	Challenges of the application of ICT and Digital literacy to teaching	Response			
		Agree	**%**	**Disagree**	**%**
1	Lack of funds to purchase ICT tools	235	100	----	----
2	Epileptic power supply	235	100	----	----
3	Slow network/ Bandwidth issue	123	52	112	48
4	Lack of/inadequate ICT facilities in colleges of education.	235	100	----	----
5	Non integration ICT into the higher institution curriculum	235	100	----	----
6	Inadequate ICT literate/digital literate manpower in colleges of education	235	100	----	----
7	High cost of ICT facilities/components	235	100	----	----
8	Lack of/poor perception of ICTs among teachers and administrators	235	100	----	----
9	Poor management of ICT facilities on the parts of school administrators and government	201	86	34	14
10	Lack of maintenance culture	198	100	----	----
11	Lack of interest in ICT application/use on the part of students	66	28	169	72

From Table 8 above, all the respondents 235(100%) are in agreement that lack of funds to purchase ICT tools, epileptic power supply, lack of/inadequate ICT facilities in schools lack of/inadequate ICT facilities in schools, non integration ICT into the higher institution curriculum, inadequate ICT literate/digital literate manpower in Colleges of education, high cost of ICT facilities/components, lack of maintenance culture are all challenges facing the application of ICT and digital literacy skills to teaching in Colleges of education. Though 123(52%) of the respondents which is a little above half agree that slow telecommunication network/bandwidth issue is one of the challenges facing the application of ICT and digital literacy to teaching in Colleges of education while 112(48%) of them disagreed. Also, 201(86%) of the respondents believed that poor management of ICT facilities on the part of college of education management and the government is one of the challenges facing ICT and digital literacy application to teaching in Colleges of education while 34(14%) of them

disagree to that fact. Only 66(28%) of the respondents agreed that lack of interest in ICT application/ use by lecturers is a challenge facing the application of ICT and digital literacy skill to teaching in Colleges of education while 169(72%) of the respondents do not agree to that fact. This means that majority of the respondents agreed that lack of funds to purchase ICT tools, epileptic power supply, lack of/inadequate ICT facilities in higher institution, non-integration of ICT into the higher institution curriculum, inadequate ICT literate/digital literate manpower in Colleges of education, high cost of ICT facilities/components, lack of maintenance culture, slow telecommunication network/bandwidth issue, poor management of ICT facilities on the part of school administrators and government are all challenges facing the application of ICT and digital literacy skills to teaching by lecturers in Colleges of education while majority of the respondents believed that lack of interest in ICT application/use by lecturers is not a challenge.

Summary of Key Findings of the Study

Based on the data collected and analyzed for this study, the following are the major findings:

1. It is obvious from the study that 61% of the respondents in this study were male while 39% of the respondents were female. There were more male respondents in this study than female. It is also clear that majority 34% of the respondents are within the age bracket of 46-55 years of age and most of the respondents 58% are B.Sc. certificate holder
2. It is glaring from this study that majority of the respondent 65% is of the opinion that ICT and digital literacy skill will to a very large extent be a tool for effective teaching in colleges of education.
3. The findings revealed that almost all the respondents are in agreement that computers, printers, photocopiers, projectors, interactive white board/electronic notice board, internet facility and CD Rom are to a very large extent/large extent seen as ICT tools that can be used for effective teaching in colleges of education which is in agreement with Austine (2015) whose study findings revealed that the major tools that can help to facilitate teaching and learning process in schools are: Desktop computer, laptop computer, television, Video player, Digital camera, Printer, projector, Scanner, Photocopier, Internet access and Interactive white board etc. while majority of the respondents believed that audio and video player, television and digital camera will only to a very small extent be seen as ICT tools that can be used for effective teaching in colleges of education.
4. This study findings revealed among other things that majority of the respondents possessed internet searching skills, are proficient in the use of MS Word, and can effectively make use of CD ROM and other storage devices with 66%, 78%, and 76% respectively while a whole lot of the respondents who disagreed with the claims that they are proficient in the use of power-point, excel and spreadsheet. Many of the respondents can apply computers to solve real life academic problems, possesses information gathering skill and can maximally utilize multimedia facilities.
5. It is glaring from the study that the benefits of the use of ICT and digital literacy skill for teaching in colleges of education include but not limited to: faster lecturer-student communication; cooperative learning among student; helps to locate/find teaching

materials; complementing classroom instructional materials; encourages individual learning; improves students' knowledge retention; saves time with the use of grading software and collaboration and knowledge sharing among lecturers.

6. The study findings also reveals that the challenges facing application of ICT and digital literacy skill to teaching in colleges of education include but not limited to lack of funds to purchase ICT tools, epileptic power supply, lack of/inadequate ICT facilities in schools, non integration ICT into the school curriculum, inadequate ICT literate/digital literate manpower in colleges of education, high cost of ICT facilities/components, lack of/poor perception of ICTs among lecturers and administrators, poor management of ICT facilities on the parts of college of education management and the government, lack of maintenance culture among others which is in line with the study of Makinde, Makinde & Shorunke (2013) on ICT literacy of Language teachers in selected schools in Lagos State, Nigeria. Major constraints identified by respondents in their use of ICT included: erratic power supply, frequent computer breakdown, and lack of technical know-how, low ICT confidence, computer phobia, inaccessibility to ICT among others.

Conclusion and Recommendation

From the study it is crystal clear that the application of ICT and digital literacy skills to teaching in colleges of education will have tremendous impact on higher education in Nigeria as the respondents believed that ICT and digital literacy skills will transform higher education with the numerous advantages associated with its application to teaching. A great number of the respondents believed that computers, photocopiers, printers, interactive white boards and electronic notice board among others are all ICT tools that can be applied to make teaching more effective and efficient in colleges of education. Most lecturers in South West, Nigeria possesses internet searching skill, are proficient in the use of ICT and can maximally utilize CD ROM and other storage media. However, majority of them could not apply computers to solve real life academic problems, are not proficient in the use of power-point, excel and spreadsheet, lack the ability to maximally utilize multimedia facilities and they lack information gathering skill. Some of the advantages of the application of ICT and digital literacy skill to teaching in colleges of education include: faster lecturer-student communication, cooperative learning among students, helping to locate/finding teaching materials, complementing classroom instructional materials, time saving with the use of grading software. In spite of all these advantages, lack of funds to purchase ICT tools, epileptic power supply, lack of/inadequate ICT facilities in schools, non-integration of ICT into colleges of education curriculum, inadequate ICT literate/digital literate manpower in colleges of education, high cost of ICT facilities/components, lack of maintenance culture are all challenges facing the application of ICT and digital literacy skills to teaching in colleges of education. In view of the foregoing, the following recommendations were made:

1. The ministry of education should make it a point of duty to incorporate ICT into college of education curriculum as this will help all colleges of education lecturers to take ICT education serious.

2. Government should make available in colleges of education ICT facilities/tools that can motive college of education students to start developing the right attitude and likeness for the use of such facilities.
3. There should be constant training for colleges of education lecturers on the use of ICT tools which will help them to use these tools maximally when they are available.
4. Seminars, conferences and workshop should be constantly organized for lecturers so that they can acquire diverse ICT/digital skills that will make them relevant in this information and ICT age.
5. A modern computer laboratory or electronic library should be made available for colleges of education so that students can have quick and easy access to computers and other ICT facilities in their schools.
6. Government should endeavor to make electricity available in colleges of education as the ICT facilities cannot function without constant electricity in place.
7. Government should make ICT and digital literacy skill an important qualification for individual who are seeking employment into colleges of education teaching jobs

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