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Utilization of ICT Resources for Teaching among Some Selected Lecturers in Colleges of Education in Kwara State

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ABSTRACTS

The successful integration of Information and Communication Technology (ICT) resources into teaching and learning depends on the ability of lecturers to structure their learning environment to merge technology traditionally. This study examined the utilization of ICTs resources for teaching among selected lecturers in Kwara state. The study adopted descriptive research of the survey type. The population of this study was made up of all college of education students in Kwara State. Proportional sampling techniques were used to allocate several respondents in each school based on their estimated population using Israel Model. The instrument for data collection was an adapted questionnaire. Descriptive and Inferential statistics were used to answer the research question and test the stated hypotheses with the aid of statistical product and service solution (SPSS) version 20.0 at a 0.05 level of significance. The findings indicated that lecturers utilize ICT resources for teaching. No significant difference exists in the lecturer's level of utilization of ICT resources for teaching based on the area of specialization.

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1. INTRODUCTION

Information and Communication Technology (ICT) is derived from the combination of two technologies namely Information Technology and Communication Technology. Information technology is the carrier of information and the term is used to describe any material that creates, stores, and can exchange information (Ziar *et al.*, 2021). In every organization, including the educational system, information is always generated and stored in a particular medium before it is transmitted; while the process of generation and storage of this information is Information Technology, the process of its transmission to the intended audience or recipients is Communication Technology.

Some researchers noted that information is a message intended for communication. Information refers to knowledge and ideas which are provided to increase awareness in people. Information has to do with the sum of knowledge to be transmitted from an agent of change to the target groups. Communication is one of the processes of transferring Information from one person to another as well as from the sender to the receiver.

Iheukwumere-Esotu and Yunusa-Kaltungo (2022) defined Communication as the process of transferring ideas, skills, or attitudes from one person to another accurately and satisfactorily. Esah and Rotua (2021) opined that ICT is a generic term referring to technologies for collecting, storing, editing, and passing on information in various forms.

Information Communication Technology is a means of receiving, processing, storing, retrieving, and disseminating information through the use of computers and other telecommunication facilities. ICT is a diverse set of technological tools and resources used to communicate, create, disseminate, store and manage information. These technologies include computers, the internet, broadcasting technologies (radio and television), and telephony. The integration of Information and Communication technologies by Nigerian lecturers creates a powerful learning environment for both the lecturers and the students.

Ma *et al.* (2021) noted that ICT is the processing and maintenance of information and the use of all forms of computer communication networks and mobile technologies to mediate information. Information and communication technology is an umbrella term that includes any communication devices or application, encompassing; radio, television, cellular, phones, computer and other network hardware and software, satellite system and among others, as well as the various services and applications associated with them, such as video conferencing and distance learning.

In a rapidly changing world, basic education is essential for an individual to be able to access and apply information. Such ability includes ICT in the global village. Some researchers stated the Economic Commission for Africa has indicated that the ability to access and use information is no longer a luxury, but a necessity for development. Unfortunately, many developing countries, especially in Africa, are still low in ICT application and use. Some researchers Improve tertiary education is essential to the creation of effective human capital in any country. The need for ICT in Nigerian higher institutions cannot be overemphasized. In this technology-driven age, everyone requires ICT competence to survive.

ICT has gained credence as a means for the effective study of other subjects. Olorunsola (2007) stated that ICT assists in delivering instructions directly to learners by allowing them to interact with a designed lesson that has been programmed into the system. Daramola and Adegbiya (2012) enumerated the benefits of ICT in our school system to include promotion of learners' empowerment, enhancement of learning performances, improvement of human welfare, and ensuring the satisfaction of people's basic needs. These laudable benefits cannot

be realized in our tertiary schools if ICT facilities are not available and effectively utilized in teaching and learning.

Availability of ICT facilities refers to the provision made by educational institutions for effective teaching and learning with regards to hardware and software provision, training, seminars and workshop, and professional development. ICT creates powerful teaching, research, learning environment and it transforms the learning and teaching process in which students deal with knowledge, in an active, self-directed, and constructive way to benefit the people (Olorunsola, 2007).

The vision of every tertiary institution is to attain higher usage of ICT in all their undertaking, for this may present great opportunities in its achievement. It is germane to link the quality and quantity of human resources available in a country to functional education. Education plays a major role in human resources development which makes a country attains its level of transformation. Now that the world has become a global village through the development of ICT, it is only reasonable that education is effectively managed in Nigeria, the education system must equally brace up the present ICT challenges for it to be relevant in an era of globalization where the free flow of information via the satellite and the internet hold way in global information dissemination of knowledge.

One important factor necessary for achieving the objective of teaching and learning is if the available ICT facilities are utilized. Yusuf (2005) was of the view that ICT utilization is the presentation and distribution of instructional content through a web environment or (e-teaching) system offering an integrated range of tools to support learning and communication technology.

Some researchers opined that a greater proportion of educational objectives are achieved when there is the effective utilization of ICT facilities than when the contrary becomes the case. The expectation is that ICT facilities should be available and properly utilized in higher institutions to inculcate in the learner's skills for individual survival and national development. Higher institution lecturers' readiness to the utilization of ICT is a crucial factor to be considered in determining lecturer's preparedness towards the utilization of ICT.

Wang and Woo (2007) opined that concerning the use of ICT for learning, technology holds a promise of improved access to information and increased interactivity and communication between lecturers and their students. Some researchers stated ICT encompasses the effective use of equipment and programs to access, retrieve, convert, store, organize, manipulate and present data and information. ICT facilities even after they are provided should be properly utilized for positive result attainment.

The utilization of ICT by lecturers creates a powerful learning environment for students both within and outside the classroom settings. Effective utilization of ICT in Nigerian higher institutions is very crucial to accomplishing many educational objectives and improving the quality of lessons within and outside the classroom settings. It remains one of the major tasks of lecturers to ensure that available ICT facilities are well utilized. The success of a school programmer depends much on the way ICT facilities are utilized as this affects the overall performance of such a school.

ICT plays a vital role in the development of any nation. Some researchers stated it has been an instrument for achieving social, economic, educational, scientific, and technological development. ICT has greatly influenced the educational sector, especially in teaching, learning, and research. Some researchers stated that the application of ICT is not only emphasized in corporative business and the industrial sector, but it is an essential part of education at all levels. ICT, including computers, is generally believed to foster cooperative

learning, provide more information and, through simulation, make complex learning experiences easier to understand. Therefore, the use of ICT cannot be ignored either by lecturers or by students.

Colleges of education are teacher education institutions for the training of middle-level manpower. The Colleges admit and train candidates for three years after Senior Secondary School education for the award of the Nigeria Certificate in Education (NCE). Some researchers stated graduates of the Colleges of Education can teach at the pre-primary, primary, and junior secondary school levels of the Nigerian educational system. Though Colleges of Education in Nigeria have established ICT centers to cater to the information and communication technology needs of the staff and students in the academic environment, the job of integration of ICT in ensuring effective instructional delivery at that level has gone beyond setting up of such centers.

Gender had been established to be a factor in all fields of human endeavor. Gender refers to as socio attribute and opportunity associated with being a male or female in a mutual relationship. Some researches supported that most of the studies showed more of the male and female favored differently across the world. The distinction between males and females in the use of ICT for instructional delivery cannot be neglected. For ICT to be properly integrated into higher institutions of learning, male and female lecturers should be given equal opportunities for proper utilization.

Some researchers concluded in a study carried out in Botswana that lecturers in the higher institution have the same perception of factors of effective instruction. Both male and female lecturers were given equal opportunities for academic and professional training to qualify them for teaching at all levels of education in the country. Male and female lecturers contribute effectively to instruction, so they are expected to be treated equally. More so, the integration of ICT could also be traced to the teaching experience.

Experience as a general concept refers to knowledge or skills of something or events gained through involvement or exposure to that thing. Some researchers opined that experience refers to the nature of the events of someone or something undergone. He also explained that experience is what is happening to us all the time as long as we exist. Experience is not what happened to a man. It is what a man does with what happens to him.

The number of years one stays on a job determines one's productivity all things being equal how well he/she has been productive. This is done when appropriate mechanisms are put in place to measure the outcomes of the teacher at a regular interval. Some researchers found that years of teaching experience of lecturers have a significant contribution to the use of ICT in an instructional delivery also crucial to this study is qualification.

Qualification is quality or accomplishment that makes someone suitable for a particular job or activity or the action of the fact of becoming qualified as a practitioner of a particular profession or activity. A lecturers' qualification is a necessity to his/her productivity. Some researchers found that lecturers' qualifications account for far more variation in students' achievement. He also compared teachers with higher qualifications to the teachers with a lower qualification in teachers' education programmers.

The results showed that the teachers with higher qualifications had greater input on students' performances and it's also increased greatly than teachers with lower qualifications. Higher qualifications are very important to students' achievements and environmental development, due to these lecturers of colleges of education are expected to be qualified to integrate ICT for instructional delivery, realizing the roles and benefits of ICT integration colleges of education in Kwara State.

The main purpose of this study is to investigate Colleges of education lecturers' readiness to integrate ICT for instructional delivery in Ogun State. Specifically, the study will:

- (i) Investigate the available ICT facilities for instructional delivery in Colleges of education in Kwara State;
- (ii) Determine the lecturers' use of ICT facilities in Colleges of education in Kwara State;
- (iii) Find out the influence of lecturers' years of teaching experience on the use of ICT facilities in Colleges of Education, and
- (iv) Examine the influence of lecturers' qualification on their use of ICT facilities in Colleges of Education in Kwara State

The following null hypotheses will be tested to guide this study:

- (i) H_{01} : There is no significant difference between male and female lecturers in their use of ICT facilities
- (ii) H_{02} : There is no significant difference between experienced and less-experienced lecturers on their use of ICT facilities for instructional delivery.
- (iii) H_0 : There is no significant difference between qualified and less qualified lecturers on their use of ICT facilities.

2. METHODS

The study was descriptive research using a survey design. This method enabled us to describe events just as they appear without the manipulation of external researchers. The target population consisted of all lecturers in the colleges of Education in Kwara-state, Nigeria. The sample size was all lecturers in the selected colleges of Education in Kwara State. Purposive sampling techniques were used to select 300 respondents across the institutions while the Israel model was used to determine the sample size of the respondents used for the study.

The instrument for this study was a questionnaire, and it was validated by the supervisor/expert and three educational technology lecturers in the Department of Educational Technology, University of Ilorin. The experts reviewed the questionnaire for its appropriateness, content coverage in terms of acceptability, adequacy, and relevance to the stated objectives. Their comments, suggestions, and corrections were used to produce a final draft of the instrument.

The reliability of the questionnaire used in this study was achieved by administering twenty copies of the questionnaire on twenty lecturers at Kwara State College of Education Ilorin and the result of the pilot study was analyzed using Cronbach Alpha to ascertain the internal consistency of the instruments. The result was 0.78 on the lecturer's utilization of ICT facilities.

The result showed high internal consistencies of the items in the research instruments. Hence the result was adjudging to be reliable for the study. We administered 300 questionnaires to the respondents and were able to collect 261 amounted to 95%, of the entire administered questionnaire that is, 100% from the respondents.

The collected data were analyzed using descriptive and inferential statistics. Percentage, mean, t-test, and ANOVA were used to analyze data for the research questions and hypotheses with the aid of statistical package for social science (SPSS) version 20.0 at 0.05 level of significance.

3. RESULTS AND DISCUSSION

3.1. Result

3.1.1. Research Question 1: What is the Available of ICT Facilities for Instructional Delivery in Colleges of Education in Kwara State?

From **Table 1**, the most available instructional material is a computer set with 174 of the respondents who chose that it is available. In addition, 159 of the respondents chose that multimedia projector is available, 157 respondents chose that laptop are available, 156 chose that CD-ROMs and slide projector are available while 60 of them chose that internet and educational software are available for them to use. However, ICT facilities with little availability are interactive whiteboard, videodisc, television, and audiotape with 5, 29, 30, and 5 of the respondents choosing them to be available respectively.

Table 1. Available ICT Facilities for Instructional Delivery.

S/N	Items	A		NA		ANF	
		F	%	F	%	F	%
1	Interactive White Board	5	1.9	231	88.5	25	9.6
2	Multimedia Projector	159	60.9	43	16.5	59	22.6
3	Computer set	174	66.7	30	11.5	57	21.8
4	Internet	60	23.0	167	64.0	34	13
5	Video disc	29	11.1	209	80.1	23	8.8
6	DVD player	18	6.9	179	68.6	64	24.5
7	CD-ROM	156	59.8	31	11.9	74	28.4
8	Laptop	157	60.2	31	11.9	73	28.0
9	Audio tape	30	11.5	158	60.5	73	28.0
10	Printers	173	66.3	30	11.5	58	22.2
11	Educational Software	60	23.0	164	62.8	37	14.2
12	Television	5	1.9	230	88.1	26	10.0
13	slide projector	156	59.8	45	17.2	60	23.0

3.1.2. Research Question 2: What is the Lecturer Use of ICT Facilities in Colleges of Education in Kwara State?

Table 2 shows the use of ICT facilities by the lecturers in colleges of education in Kwara state. 90 of the lecturers said they use an interactive whiteboard for instructional delivery, 171 (53.5%) said they do not use it for instructional delivery. 185 (70.9%) said they use multimedia projectors and laptops while 76 (29.1) said they do not use it for instructional delivery. 207 (79.3%) of the respondents said they use computer sets and the internet while 54 (20.7%) said they do not use it. In addition, 74 (29.9%) said they use videodisc and Audiotape while 187 (71.6%) do not use it. Meanwhile, 78 (29.9%) said they use DVD players, 183 (70.1%) said they do not use them. 187 (71.6%) said they also use the printer for instructional delivery while 74 (28.4%) do not use it. However, 88 (33.7%) and 77 (29.5%) of the respondents said television and slide projectors are available.

It can be deduced above that, the most available ICT facilities in colleges of education in Kwara state are a multimedia projector, computer set, internet, printers, slide projector, and CD-ROMs.

Table 2. The use of ICT Facilities in Colleges of Education.

S/ N	Items	Yes		No	
		F	%	F	%
1	Interactive White Board	90	34.5	171	53.5
2	Multimedia Projector	185	70.9	76	29.1
3	Computer set	207	79.3	54	20.7
4	Internet	207	79.3	54	20.7
5	Video disc	74	28.4	187	71.6
6	DVD player	78	29.9	183	70.1
7	CD-ROM	129	49.4	132	50.6
8	Laptop	185	70.9	76	29.1
9	Audio tape	74	28.4	187	71.6
10	Printers	187	71.6	74	28.4
11	Educational Software	88	33.7	173	66.3
12	Television	77	29.5	184	70.5
13	slide projector	169	64.8	92	35.2

3.2. Results of Hypotheses Tested in the Study

The results of the hypotheses tested in this study are presented in subsequent tables. All hypotheses were tested at a significant level of 0.05.

3.2.1. Hypotheses 1 (H_{01}): There is No Significant Difference between Male and Female Lecturers on Their Use of ICT Facilities.

From **Table 3**, it can be deduced that there was no significant difference between male and female lecturers' on the use of ICT facilities for instructional delivery. This is reflected in the results of the hypotheses tested; $df (259) t = -1.49, 0.15 > 0.05$. Thus, the hypotheses are accepted. This means that the hypothesis which states that "there is no significant difference between male and female lecturers on the use of ICT facilities is accepted. The implication, therefore, is that both male and female lecturers use ICT facilities for instructional delivery.

Table 3. T-test Analyses of the Lecturer Usage of ICT Facilities Based on Gender.

Gender	F	Mean	SD	df	t	Sig (2-tailed)	Remarks
Male	125	19.53	1.94	259	-1.49	0.15	Accepted
Female	136	19.87	1.85				

3.2.2. Hypotheses 2 (H_{02}): There is No Significant Difference between Qualified and the Less Qualified Lecturers on Their Use of ICT Facilities.

From **Table 4**, it can be deduced that there was a significant difference between qualified and the less-qualified lecturers on their usage of ICT facilities for instructional delivery. This is reflected in the results of the hypotheses tested; $df (259) t = 2.41, 0.02 < 0.05$. Thus, the hypotheses are rejected. This means that the hypothesis which states that "there is no significant between the qualified and the less experienced lecturers on their versatility to integrate ICT facilities in instructional delivery" is rejected. The implication, therefore, is that the lecturers' usage of ICT facilities differs based on educational qualifications.

Table 4. T-test Analyses of the Lecturers Usage of ICT Facilities for Instructional Delivery Based on Qualifications.

Qualification	N	Mean	SD	df	t	Sig (2-tailed)	Remarks
Qualified	124	20.00	1.90	259	2.41	0.02	Rejected
Less-qualified	137	19.44	1.86				

3.2.3. Hypotheses 3 (H₀₃): There is No Significant Difference between Experience and Less Experienced Lecturers in Their Use of ICT Facilities

Table 5 shows the results of t-test analyses of the lecturer's usage of ICT facilities for instructional delivery based on experience. From the table, we divide gender into two types, namely experienced and less-experienced. Experienced gender has frequency 199 and mean is 19.86. Meanwhile, the less-experienced gender has a frequency of 142 with a mean of 19.57.

Table 5. T-test Analyses of the Lecturer's Usage of ICT Facilities for Instructional Delivery Based on Experience.

Gender	Frequency	Mean	SD	df	t	Sig (2-tailed)	Remarks
Experienced	119	19.86	2.02	259	1.25	0.21	Accepted
Less-experienced	142	19.57	1.78				

3.3. Discussion

The result of the findings from this study based on the availability of the ICT facilities in schools of the study revealed that most facilities like computers, multimedia, and slide projector, laptops and printers while facilities like educational software, audiotape and DVD player were not available. These findings corroborate with [Kirschner \(2003\)](#) noted that inadequacies in human and material resources, poor funding, lack of infrastructure, poor implementation of policies were some of the factors responsible for the situation. The position of this study is supported by the findings of Issac reported that is gross inadequate provision of ICTs facilities and equipment in African schools. It is also in agreement with the findings of the Association of African Universities which shows that ICT facilities and equipment were inadequate and factors such as poor telecommunication infrastructure, lack of enabling environment, non-reliability of electricity supply, and many others are obstacles in the introduction and utilization of ICTs in African universities. The level of inadequate supply of Computers and ICTs facilities at Nigerian universities, polytechnics, and colleges of education is worrisome.

It was revealed from the findings of the study that the lecturers' versatility in integrating ICT facilities is moderate as most lecturers said they have basic skills in booting the computer and using computers to teach. They also said they could use a computer operating system for instructional delivery and use Microsoft PowerPoint in presenting lectures. However, most of the lecturers cannot develop an educational website, and also they cannot prepare ICT-based learning materials. The results nullified the findings of some researchers whose opinion was that not all lecturers are versatile in integrating ICT facilities for instructional delivery and not all lecturers have been willing to introduce ICT facilities into their lecture room. The findings of the study examined the difference between male and female lecturer use of ICT facilities

and their versatility to integrate ICT facilities for instructional delivery. The study revealed that gender does not affect the lecturers' use of ICT facilities for instructional delivery and the versatility to integrate ICT facilities for instructional delivery. The result does not corroborate with some researchers who reported that females had significantly lower esteem than males in terms of their ability to use the computer and the gap between males and females continued to widen both in access and experience of teaching-learning opportunities with ICT. The study also disagreed with the study of some researchers who reported that females exhibit a negative attitude towards the use of ICT facilities. It was, therefore, recommended by some researchers that males and females should be provided the equal opportunity of using the internet and other ICT facilities for the teaching and learning process.

The findings of the study examined the influence of lecturers, experience on the usage and versatility in integrating ICT facilities for instructional delivery. The study revealed that there was no significant difference between the experiences and the less-experienced lecturers on the usage of ICT facilities and the versatility to integrate the facilities for instructional delivery. The results of the finding were in line with the findings of some researchers who opined that the teaching experience of the lecturers is not a significant factor in the use of ICT for teaching. He stressed that the number of years one has taught is not important in a teachers' desire or effort to improve his/her teaching through the use of ICT facilities. Though some researchers also reported that lecturers' experience in teaching did not influence the integration of their teaching. Some researchers argued that the quality of ICT integration was related to the years of teacher services.

A significant difference was found between the qualified and less qualified lecturers in their use of ICT facilities for instructional delivery. The result contradicts found that there is a significant difference between the teachers' attitude and level of training. However, no significant difference was found between the lecturers' versatility in integrating ICT facilities for instructional delivery. The study agrees with the study of Rice) who opined that lecturers' quality is the most important school-related factor influencing students' achievement.

4. CONCLUSION

The study concluded that available ICT facilities can be explored for instructional purposes since the colleges of education lecturers are versatile in the usage of ICT facilities. The study also concluded that tasks and assignments that will involve the use of ICT facilities should be given to lecturers without gender bias. This implied that lecturers' gender is not a barrier as to the use of ICT for learning in Nigeria College of Education it was recommended that female lecturers are to redirect their focus on the use of ICT for instructional delivery and not for entertainment alone.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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