

## Assessment of ICT Skills Application of Teacher Educators in Kwara State Colleges of Education, Nigeria

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### Abstract

The study was carried out to assess the Information and Communication Technology (ICT) skills application of teacher educators in Kwara State Colleges of Education, Nigeria. The descriptive survey research design was adopted; the population of the study comprised 430 lecturers from Kwara State Colleges of Education Oro, Lafiagi, and Ilorin, respectively. A proportional sampling technique was used to select 160 respondents from the two teacher educator institutions. A simple random sampling technique was used in selecting 60 respondents from Oro College of Education and 100 respondents from Kwara State College of Education Ilorin. One self-designed questionnaire titled 'Assessment of ICT Competency Skills of Lecturers' (AICTCSL) with four points Liker scale was used to elicit information from the respondents. The instrument was validated. Its reliability was ensured at .78. Total Average Weighted Response (TAWR), and percentage and frequency counts were used in analyzing the collected data for the raised research questions at .05 levels of significance, while z-test statistics were used in addressing the formulated hypotheses. It was discovered in the study that lecturers in the used institutions were competent in manipulating the computer keyboard and connecting to the internet but were not competent in accessing the information on CD, organizing electronic files into folders, use of application software, use of PowerPoint, word excel and blog website. Also, no significant difference was established between the mean scores of lecturers in Kwara State Colleges of education Oro and Ilorin on their ICT skills acquisition and use, while there was a significant difference in the mean ratings of teacher educators from Oro and Ilorin on their use of application software competency. It was therefore recommended that government should make it a matter of policy that all lecturers in the institutions are ICT literate and it should be a prerequisite for their promotion and recruitment for a lecturing job in the state.

**Keywords:** acquisition, application, Information Communication Technology, skill, teacher-educators

### Introduction

With the introduction of Western Education, the teacher has functioned as the pivot around which most school activities revolved in the sense that he takes crucial decisions as regards what to teach, how to teach and with what. Considering this fact, the enormous responsibility placed on the teacher makes teacher education a very important enterprise in every nation, as no nation likes to toy with the future of its youths. Teacher education, according to Izuagba and Obifina (2005), is a formal and systematic

process of preparing would-be teachers for the task ahead. Teacher education also includes all programs specifically designed to help teachers already in service to continuously update their knowledge, skills, and attitude in order to meet up with the continuing changes in methods, course contents and resources used in teaching. Teacher Education Programme in Nigeria can be described as the foundation of the educational system, which supports all other parts of the system (Amaechi et al., 2016). This

© 2022 The Authors. Published by Innovare Academic Sciences Pvt Ltd. This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>). DOI: <https://dx.doi.org/10.22159/ijoe.2022v10i5.46142>. Journal homepage: <https://innovareacademics.in/journals/index.php/ijoe>

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implies that teacher education is a form of education that is properly planned and systematically tailored and applied to the cultivation of those who teach or will teach, particularly but not exclusively in the primary and post-primary levels of education.

Therefore, for the teacher to teach effectively, he must be professionally trained by teacher educators who are exposed to different methods and strategies of teaching, especially in the face of the present health pandemic of coronavirus that is ravaging the whole world. The need to prevent the further spread of the virus called for an imposed lockdown not only in the economic sector but the educational sector in Nigeria. Teacher educator competency in the use of ICT facilities would have gone a long way in virtual and online classrooms. Teacher educators, according to Fisher *et al.* (2008), are anyone who educates teachers. They further defined it as those who provide formal practicing teachers with the necessary teaching and pedagogic skills. Teacher education can be received in:

1. Faculties in higher education who provide courses work and conduct research;
2. Schools that provide instruction or supervision of clinical experiences of prospective teachers, and;
3. Schools that administer or conduct instructional activities designed to provide advanced professional study for teachers.

It will not be out of place to say that teacher educators must demonstrate content and professional knowledge, skills, and dispositions reflecting research, proficiency with technology and accept best practices in teacher education. With this in mind, the curricular content of teacher institutions has been reviewed to ensure that it is comprehensive and ICT driven in line with global acceptance. According to Ezekoka (2009); Izuagba and Obiefuna (2005), Information and Communication Technology (ICT) is the technology that deals with the study, design, development, implementation, support and management of computer-based information systems that is used to acquire, convert, store, process, distribute and retrieve information according to the user requests. Without mincing words, the acceptability of Information ICT in the education sector in recent times can be said to be the best thing that has happened to the education sector in Nigeria.

Over the years in Nigeria, the competency of some teachers and lecturers in the use of ICT to improve the teaching and learning situation has been in doubt. There have been cases of lecturers who are unable to solve ICT competency-based problems like downloading applications and software. Could it be that most of them are not knowledgeable or have not acquired the necessary skills in the use of ICT gadgets for teaching and learning? A visit to most teacher education institutions may reveal that a great number of student-teachers are not equipped with the basic computer operation skills but are experts in manipulating their handsets to download applications, ping, what sap, interact on Facebook and do many other things at the expense of their knowledge in computer application skills in schools; therefore, for teachers to be able to integrate ICT into the school curriculum, groundwork must be done at the serving teacher educators.

Quite a number of researches focused on ICT skills application in teaching at various levels of education and in different institutions of learning across the world. Among such are Esiobu (2010), which found out that though teacher educators in Nigeria are moderately competent, they are yet to achieve the real use of ICT skills for teaching and learning. Researchers like Onasanya *et al.* (2009) reported that teacher educators, most especially in science subjects lectures have moderate competence skills in the use of ICT facilities/equipment for teaching and research work. The findings also is in tandem with the findings of Akpan (2014), whose study indicated that lecturers with high ICT skills competence were found to be more efficacious in classroom instruction, research/publication, communication and record-keeping than those with moderate and low ICT competence skills. His study further showed that the level of ICT competence of lecturers significantly enhances their job efficacy in the studied institutions. In consonance with, Bukaliya and Mubika (2011), Fashiku *et al.* (2015), Omoniyi and Quadri (2013) findings also indicated that; most teachers in Ogun and Osun State Secondary Schools did not have the required competence in ICT. Also, results from the practical test given indicated that the majority of the respondents were not able to

use the basic software in computers for lesson delivery. However, none of these studies was found to be conducted in Kwara State Colleges of Education, Nigeria. Hence, it becomes imperative to assess the ICT competency skills and application software by teacher educators in Kwara State Colleges of Education, Nigeria, in their different locations as this may affect their competency skills.

### **Purpose of the Study**

The main purpose of this study was to assess the ICT skills application of teacher educators in Kwara State Colleges of Education, Nigeria. Specifically, the researcher assessed;

1. ICT competency skills of teacher educators in basic computer operation.
2. ICT competency skills of teacher educators in the use of computer application software.

### **Research Questions**

The following research questions were raised to guide the study:

1. What are the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their basic computer operational competency skills?
2. What are the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their competency skills in the use of application software?

### **Hypotheses**

The following hypotheses were formulated to guide the study at a .05% level of significance:

Hypothesis 1: There is no significant difference in ICT competency skills of teacher educators from Oro and Ilorin Colleges of Education

Hypothesis 2: There is no significant difference in the ICT competency skills of teacher educators in Oro and Ilorin Colleges of Education on their use of application software.

### **Methodology**

The design of this study was a descriptive survey. The population of this study was made up of 430 teachers from the three Colleges of Education. Sixty teacher educators were selected through a simple random sampling technique from Oro College of Education, while 100 were sampled from Kwara State College of Education Ilorin. The respondents were proportionally sampled. One self-designed questionnaire titled 'Assessment of ICT Competency Skills of Lecturers' (AICTCSL) with four points Likert scale was used to elicit information from the respondents. The instrument was validated by two experts from the Department of Educational Foundations and Counseling of Obafemi Awolowo University, Ile-Ife, Nigeria. Its reliability was ensured through the test re-test method. The instrument used was administered on 20 teacher educators twice within an interval of two weeks at another teacher educator's institution in Kwara State but outside the sampled institutions for the research work. Their responses were coded and analyzed using Pearson's product-moment correlation statistics to arrive at .78. The used questionnaire was personally distributed with the aid of two trained research assistants from each teacher educator institution. Total Average Weighted Mean Score, percentage and frequency counts were used in analyzing the collected data for the raised research questions at .05 levels of significance, while Z-test statistics were used in addressing the formulated hypotheses.

### **Results**

Research question 1: What are the total average weighted responses of teacher educators from Oro and Ilorin on their basic computer operational skills competency? The total average response was between 1--5. Any response less than 2.5 was considered insignificant (not competent), while average responses between 2.6 and 5 were considered significant (competent).

**Table 1**

Total Average Weighted Response of Teacher Educators from Oro and Ilorin Colleges of Education on their Basic Computer Operational Skills Competency

Item statement: I can	ORO (N = 60)		ILORIN (N = 100)	
	TAWR	Decision	TAWR	Decision
Manipulate keyboard	2.70	Competent	2.61	Competent
Type-setting with computer	3.00	Competent	2.60	Competent
Connect the internet	2.63	Competent	2.52	Competent
Access information on CD/DVD	2.15	Not competent	2.39	Not competent
Organize electronic files into folders	2.00	Not competent	2.00	Not competent
Average mean	2.49		2.42	

Note. TAWR = Total average weighted response.

Table 1 shows the total average weighted response of teacher educators from Oro and Ilorin colleges of education on their basic skills in computer operation. A look at the table shows that items 1, 2, and 3 were all seen to be competent because their mean scores are above the criterion mean of 2.50, while items 4 and 5 were seen as not competent since their average scores are below the criterion average of 2.50. The grand average scores are 2.49 and 2.42. The conclusion is that teacher educators were competent in

manipulating the keyboard and type-setting with the computer, but they were not competent in connecting the computer and its peripherals, accessing the information on CD/DVD, and organizing electronic files into folders.

Research question 2: What are the TAWR of teacher educators from Oro and Ilorin on their use of application software competency?

**Table 2**

Total Average Weighted Response of Teacher Educators from Oro and Ilorin on their Use of Application Software Competency

Item statement: I can	ORO (N = 60)		ILORIN (N = 100)	
	TAWR	Decision	TAWR	Decision
Create a basic presentation package	2.00	Not competent	1.94	Not competent
Modify colors of text, lines, and spaces on	2.29	Not competent	2.34	Not competent
Introduction of animation into slides	2.38	Not competent	2.18	Not competent
Set up database	2.21	Not competent	2.38	Not competent
Enter and update in a database	2.37	Not competent	2.23	Not competent
Average mean	2.25		2.21	

Table 2 shows the total average weighted response of teacher educators from Oro and Ilorin colleges of education on their use of application software competency. A look at the table shows that all items 6, 7, 8, 9, and 10 were seen as not competent since their average scores were below the criterion average of 2.50. The grand average scores were 2.25 and 2.21. The conclusion is that the teacher educators were not competent in the use of application

software. This is because they cannot create a basic presentation package, modify colors of text, lines and spaces on a slide, introduce animation into slides, set up a database and enter and update data in a database.

Hypothesis 1: There is no significant difference in the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their basic computer operational issues competency.

**Table 3**

Z-test Analysis of Significant Difference between the Mean Ratings of Teacher Educators from Oro and Ilorin on their Basic Computer Operational Competency Skills

Respondents	N	M	SD	df	Zcal	Ztab	Decision
Oro	60	2.43	.50	158	.38	1.96	Accepted
Ilorin	100	2.36	.26				

Tables 3 gave the grand mean score and standard deviations of 60, 2.43, and .50, respectively, for Oro teacher educators, while the grand mean score and standard deviations of 100 Ilorin teacher educators were 2.36 and .26 respectively. Applying the Z-test calculation at a 5% level of significance, the outcome was .38, while checking the z-test tabulated with the degree of freedom of 158, the outcome was 1.96. The z-test calculated of .38 is less than the z-test

tabulated of 1.96, which led to the acceptance of the hypothesis and concluding that there was no significant difference in the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their basic computer operational skills competency.

Hypothesis 2: There is no significant difference in the mean ratings of teacher educators from Oro and Ilorin on their use of application software competency skills

**Table 4**

Z-test Analysis of the Significant Difference in the Mean Ratings of Teacher Educators from Oro and Ilorin on their Use of Computer Application Competency Skills

Respondents	N	M	SD	df	Zcal	Ztab	Decision
Oro	60	2.18	.15	158	5.12	1.96	Rejected
Ilorin	100	2.43	.10				

Table 4 gave the grand mean score and standard deviations of 60, 2.18, and .150, respectively, while the grand mean score and standard deviations of 100 Ilorin teacher educators were 2.43 and

.10, respectively. Applying the z-test at 5% significance, the outcome was 5.12, while checking the z-test tabulated with the degree of freedom of 158, the outcome was 1.96. The z-test

calculated of 5.12 is greater than the z-test tabulated at 1.96, which led to the rejection of the hypothesis and concluding that there was a significant difference in the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their use of application software competency skills.

### Discussion

The study indicated that the teacher educators were competent in manipulating the keyboard and type-setting with the computer, but they were not competent in connecting the computer and its peripherals, accessing the information on CD/DVD and organizing electronic files into folders. It was also established that there was no significant difference in the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their basic computer operational skills competency. This implies that there was conformity in the responses of the teacher educators from the institutions on the basic computer operational competency skills. In line with this finding, Onasanya et al. (2010), reported that teacher educators, most especially science subject lecturers have moderate competence skills in the use of ICT facilities/equipment for teaching and research work. The finding also is in line with the findings of Esiobu (2010) that discovered that though teacher educators in Nigeria were moderately competent, they were yet to achieve the real goals of use of ICT for teaching and learning in Nigeria.

It was also found in this study that teacher educators were not competent in the use of application software. This is because they cannot create a basic presentation package, modify colors of text, lines and spaces on a slide, introduce animation into slides, set up a database and enter and update data in a database. It was established that there was a significant difference in the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their use of application software competency.

The observed significant difference can be a result of the fact that the College of Education Ilorin is located in a metropolitan city where a lot of other tertiary institutions and universities are located with a lot of accessible ICT equipment and facilities that can be of challenge, use and advantage for self-development of teacher educators in the institution as against teacher educators from College of Education Oro that is located at the remote and rural environment where the required ICT facility and equipment may not be adequate. More still, urban settlers are perceived to have means of an additional source of income to acquire ICT equipment and facilities than those living in rural areas. One can therefore say that this non-competence could lead to poor job efficiency and effectiveness. In accordance with this finding, Akpan's (2014) study showed that lecturers with high ICT competence were found to be more efficacious in classroom instructions, research/publications, and communication and record-keeping than those with moderate and low ICT competence. Omoniyi and Quadri's (2013) findings also indicated that; most teachers in Ogun State Secondary Schools did not have the required competence in ICT skills application.

### Conclusion

In conclusion, teacher educators were found to be competent in manipulating the computer keyboard, type-setting, and in connecting the computer and its peripherals but were not competent in accessing the information on CD/, or DVD, organizing electronic files into folders and use of application software. It was also established that there was no significant difference in the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their basic computer operations competency skills. There was a significant difference in the mean ratings of teacher educators from Oro and Ilorin Colleges of Education on their use of application software competency skills.

### Recommendations

1. Computer literacy should be one of the prerequisites for recruiting lecturers into the teaching profession as teachers can

be examined on the practical usage of ICT software and application.

2. New lecturers must be inducted to develop the needed skills in the use of ICTs and develop a positive attitude towards their use in teaching and research.
3. Management of the Colleges should always organize workshops and seminars for their staff, in particular, the academic staff, from time to time to make them ICT friendly in their daily academic activities.
4. The College management should endeavor to make the environment of the institutions to be more conducive for the staff by making available ICT facilities and equipment.
5. In the Colleges, there should be a constant supply of electricity for members of staff to work with. The Colleges can make use of solar energy as an alternative to the epileptic power supply in the state.
6. The state government should make a policy for every academic staff of the Colleges to be computer literate and
7. Government should adequately fund the Colleges through their monthly subventions, without which the institutions can measure up to their goals and expectations.

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