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Abstract
This study focusses on influence of demographic variables of gender, school ownership, qualification, and Years of Experience on colleges of education lecturers' readiness to use ICT for instruction in Oyo state. It is a descriptive study where questionnaire was used to obtain data from 306 lecturers sampled from three colleges of education in Oyo state. The study found out that variable of gender had no influence on the lecturer's readiness while the other variables of qualification and Years of Experience had influence on lecturers' readiness to use ICT for instruction in the colleges of Education. The study concluded that younger and less experienced college of education lecturers use ICT for instruction irrespective of their gender or institution ownership. It is recommended that more experienced lecturers improve their skill and knowledge about ICT for instruction to be able to steer the younger lecturers for institution wide implementation.

Introduction

The advent of digital technology, particularly Information and Communication Technology (ICT), in the twenty-first century has disrupted traditional educational settings and resulted in a change in the methods of teaching and learning. The integration of ICT in pedagogical processes is crucial for effective lecturer-student interaction and to optimize learning outcomes. According to Boggs

(2019), technology has transformed the way people think, learn, work and live, and educational systems are under increasing pressure to incorporate ICTs into teaching and learning processes. This aligns with United Nations Educational, Scientific and Cultural Organization (UNESCO) policy paper that encourages higher education institutions to take advantage of communication technology to improve the quality and delivery of education (Boggs, 2019).

Information and communication technology (ICT) is an existing and widely deployed technology that can be mobilized to step up the pace and scale of transformation in teaching and learning processes in higher education (Hanushek & Woessmann, 2015). ICT can be a crucial enabler in helping to achieve the SDGs through higher education, particularly in developing countries like Nigeria where closing the development gap requires substantial effort, innovation, and investment (Ericsson Mobility Report, 2016). This has necessitated the intensive use of ICT in Teaching and learning Nigeria in order to broaden the understanding of teachers, lecturers and students. ICT can better prepare students for the information age and accelerate national developmental efforts. Introduction of ICT in education plays a role in shifting responsibility for learning from teacher to student and does not however remove the need for classroom leadership nor does it invalidate related traditional teacher skills and practices (Olafare, Adeyanju & Fakorede 2018).

ICT is a tool that higher institutions like the College of Education can use to facilitate training of pre- service teachers and enhance student learning (Olafare et al 2017). The College of Education is the unit of tertiary education in Nigeria saddled with the responsibility of training teachers to obtain non-degree but qualitative professional certificate in education. The philosophy behind establishment of Colleges of Education included the desire of the Nigerian Government to ensure uniformity of content and educational standard that will produce teachers with high professional discipline and integrity, who are dedicated and with appropriate skills and intellectual depth.
The achievement of the curriculum for colleges of education in Nigeria required that all students in Colleges of Education (COE) attain a certain minimum technology standard as part of their pre-service program to enable them thrive favourably in the 21st century (Adams & Yahaya, 2020). The importance of COE lecturers at achieving this requirement cannot be over emphasized. The way student relates and interact with internet technologies is complex and they identify with its values and benefits, nonetheless, they need teachers to guide them while using it for educational

purposes (Soetan & Coker 2018). Teachers are the driving factor that enables the deployment of technology to aid the learning process (Eristi, Kurt, & Dindar, 2012).

In order to drive the ICT literacy among the students of the colleges of education in Nigeria, the lecturers must be ready to integrate ICT into instruction. Champa et al (2019) stated that the success of technology integration and the effective use of technology in education mostly depend on teachers' willingness to adopt and attitudes toward technology. Lecturers' readiness to adopt and use ICT for instruction is their own perception of their abilities, skill and knowlegde required. Lecturers' readiness to integrate ICT is defined as instructors' perceptions and physical preparedness to integrate technology into their classroom education (Inan & Lowther 2010). This could be greatly influenced by demographic factors of individual lecturer such as the gender, qualifications, and Years of Experience.

Gender could be defined as the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. Gender determines what is expected, allowed and valued in a woman or a man in a given context. Despite the widespread use of ICT by educational institutions, many studies have shown a gender imbalance in ICT usage and skill development. Mumporeze and Prieler, (2017) showed that females have limited access to ICT than their male counterparts. A significant number of male students have a more positive attitude towards use of ICT and utilize it to improve their learning (Alnahdi., 2019; Suleiman et al., 2020). On the other hand, Adeyanju (2014); Ganiyu (2019) and Falade and Aladesusi (2020) showed that there is no difference in attitude, perception, skill and profiency level of male and female lecturers when it comes to the use of ICT for instruction.

Lecturers level of qualification is another demographic variable that has capability of influencing the use of ICT for instruction. It indicates the highest educational level the lecturer has achieved. Onasanya et al (2010) and Odigwe and Owan (2020) showed that lecturers' educational qualification had significant influence on the utilization of ICT resources for teaching, such that lecturers with higher educational qualifications are not good users of ICT facilities. The studies

suggested that lecturers with higher qualifications are older and less exposed to ICT when compared with lecturers with lesser qualifications.

On the other hand, Lubis, et al (2017); Kennedy (2019) and ; Ogunode and Musa(2020) studies discovered that educational qualifications of staff have no significant influence on the use of ICT for instruction. Also, contrary to others, Mariya eta al (2021) showed that Lecturers with higher qualifications, such as a master's or doctoral degree, tend to be more ready to use ICT in teaching than those with lower qualifications. This is because higher qualifications often require the use of technology for research and coursework. Lecturers with higher qualifications may also be more open to using new technologies and incorporating them into their teaching methods.

Closely associated with lecturers' qualification is the Years of Experience. Odigwe and Owan (2019) established an inverse relationship between lecturers' rank or Years of Experience with the use of ICT for teaching. The higher the Years of Experience among lecturers, the lesser the readiness and willingness to use ICT for teaching. Adigwe and Owan (2019) attributed this inverse relationship to increase in responsibilities and duties and other institutional activities that takes up more experienced lecturers time, leaving them with no time to consider integrating ICT into the teaching method they use for classes.

Purpose of the Study

1. To determine the readiness of College of Education Lecturers in Oyo state to integrate ICT for instruction
2. To determine the difference in male and female lecturers' readiness to integrate ICT for instruction
3. To acertain the difference in lecturers' readiness to integrate ICT for instruction based on their Years of Experience
4. To acertain the difference in lecturers' readiness to integrate ICT for instruction based on their academic qualifications

Research Questions

1. What is lecturers' readiness on integration of ICT for instruction?
2. is there any difference in male and female lecturers' readiness to integrate ICT for instruction
3. Is there any difference in lecturers' readiness to integrate ICT for instruction based on their Years of Experience

4. Is there any difference in lecturers' readiness to integrate ICT for instruction based on their academic qualifications

Methodology

The research was descriptive research of the survey type. The populations for this study were all colleges of education lecturers in Oyo State. Three (3) colleges of education were selected in the Ilorin, capital city of Keara State The target population consisted of all the colleges of education lecturers in the selected colleges. A proportionate sampling technique was used to allocate the number of respondents in each school base on their estimated population using Research Advisor sample size table at 0.05 margin errors. Simple random sampling was used to select 306 out of 500 lecturers from sampled colleges of education to serve as the respondents in this study.

Table1:

List of Colleges of Education in Oyo State, Lecturers' Population and Sample Size

S/N	Colleges of Education	Lecturers Population	Sample Size
1	College A	320	196
2	College B	130	80
3	College C	50	30
	Total	**500**	**306**

Data was collected using a researcher-designed questionnaire titled "Colleges of Education Lecturers' Readiness on Integration of ICT for Instruction in Oyo State Nigeria". The questionnaire was subjected to both face and content validity to check the arrangement of items and also questionnaire items if they are in-line with the purposes of the research. The reliability of the instrument was determined through trial testing on ten (10) randomly selected lecturers from Kwara State Colleges of Education Ilorin, using an independent sampling technique for the study pilot testing. The data gathered from the pilot study was analyzed to check for internal consistency of reliability and the Cronbach alpha value on readiness was 0.77, which indicated that the instrument was good.

Results

TABLE 2:

DISTRIBUTION OF THE RESPONDENTS ACCORDING TO GENDER

Gender	Frequency	Percentage
Male	190	62.1
Female	116	37.9
Total	**306**	**100**

Table 2 showed that 190 respondents representing 62.1 percent were male while 116 respondents representing 37.9 percent were female. It implies that many of the respondents were male.

Table 3:

DISTRIBUTION OF THE RESPONDENTS ACCORDING TO YEARS OF EXPERIENCE

Years of Experience	Frequency	Percentage
0-5	110	35.9
6-10	129	42.2
11-above	61	19.9

Table 3 revealed that 110 respondents representing 35.9 percent were within 0-5 years of experience, 129 respondents representing 42.2 percent were within 6-10 years while 61 respondents representing 19.9 percent were within 11 years and above. It implies that most of the respondents were within 6-10 years of experience.

Table 4:

DISTRIBUTION OF THE RESPONDENTS ACCORDING TO QUALIFICATION

Qualification	Frequency	Percentage
Ph. D	49	16.0
M. Sc	78	25.5
M. Ed	85	27.8
B. Sc. Ed	56	18.3
B. Sc	38	12.4
Total	**306**	**100.0**

Table 4 indicated that 49 respondents representing 16.0 percent were Ph.D., 78 respondents representing 25.5 percent were M.Sc while 85 respondents representing 27.8 percent were M.Ed. 56 respondents representing 18.3 percent were B.Sc.Ed while 38 respondents representing 12.4 percent were B.Sc. It implies that the majority of the respondents were M.Ed. Holders.

Research Question One: What is the Lecturers' Readiness on Integration of ICT for Instruction?

TABLE 5: COLLEGES OF EDUCATION LECTURERS' READINESS ON INTEGRATION OF ICT FOR INSTRUCTION

S/N	Statement	SA		A		SD		D	
		F	%	F	%	F	%	F	%
1	I have developed technologically and ready to use ICTs to solve instructional problems	122	39.9	160	52.3	18	5.9	6	2.0
2	I am willing and ready to collaborate and share information and knowledge through ICTs	136	44.4	146	47.7			24	7.8
3	I am ready to provide constructive and effective instruction using ICTs	147	48.0	135	44.1	18	5.9	6	2.0
4	I enjoy technology devices and I'm ready to use them for effective instruction	99	32.4	189	61.8	6	2.0	12	3.9
5	I am ready to use ICTs for better performance of the students	128	41.8	166	54.2	12	3.9		
6	I am ready to spend more time using ICTs for instruction	123	40.2	171	55.9	12	3.9		
7	I have experience with technology-based training and I'm ready to use it for better instruction	98	32.0	178	58.2	12	3.9	18	5.9
8	I typically use technologies for the delivery of instruction	98	32.0	184	60.1	6	2.0	18	5.9
9	I know the basic functions of computer and i am ready to integrate them for effective instruction	117	38.2	165	53.9	6	2.0	18	5.9
10	I am ready to ignore distractions around me when using ICTs for Instruction	90	29.4	192	62.7	6	2.0	18	5.9
	Overall Readiness	115.8 (37.8)		168.6 (55.1)		9.6 (3.2)		12 (3.9)	

Table 5 revealed the results of the opinions of the respondents on the colleges of education lecturers' readiness on integration of ICT for instruction in Oyo State. 282 respondents representing 92.2 percent agreed that they have developed technologically and ready to use ICTs for solve instructional problems while 24 respondents representing 7.9 percent disagreed. It implies that the lecturers have developed technologically and ready to it for instructional purposes in colleges of education in Oyo State. 282 respondents representing 92.1 percent agreed that they are willing and ready to collaborate and share information and knowledge through ICTs while 24 respondents representing 7.9 percent disagreed. It indicated that the lecturers are willing and ready to collaborate and share information and knowledge through ICTs.

A total number of 282 respondents representing 92.1 percent agreed that they are ready to provide constructive and effective instruction using ICTs while 24 respondents representing 7.9 percent disagreed. It means that lecturers in colleges of education in Oyo State are ready to use ICTs to

provide constructive and effective instruction. 288 respondents representing 94.2 percent agreed that they enjoy technology devices and ready to use them for effective instruction while 18 respondents representing 5.9 percent disagreed. It indicated that lecturers enjoy technology devices using them for effective instruction in colleges of education in Oyo State. A total number of 294 respondents representing 96.0 percent agreed they are ready to use ICTs for better performance of the students while 12 respondents representing 4.0 percent disagreed. It means that lecturers are ready to use ICTs for better performance of the students in colleges of education in Oyo State.

294 respondents representing 96.1 percent agreed that they are ready to spend more time using ICTs for instruction while 12 respondents representing 3.9 percent disagreed. It means lecturers in colleges of education in Oyo State are ready to spend more time using ICTs for instruction. 276 respondents representing 90.2 percent agreed that they have experience with technology-based training and ready to use it for better instruction while 30 respondents representing 9.8 percent disagreed. It implies that lecturers have experience with technology-based training and ready to use for better instruction. 282 respondents representing 92.1 percent agreed that they use technologies for delivery of instruction while 24 respondents representing 7.9 percent disagreed. It implies that the lecturers are ready to use technologies for delivery of instruction in colleges of education in Oyo State.

A total number of 282 respondents representing 92.1 percent agreed that they know the basic functions of computer and ready to integrate them for effective instruction while 24 respondents representing 7.8 percent disagreed. It indicated that lecturers know the basic functions of computer and are ready to use them for effective instruction. 282 respondents representing 92.1 percent agreed that they are ready to ignore distractions when using ICTs for instruction while 24 respondents representing 7.9 percent disagreed. It implies that the lecturers are ready to ignore distractions when using ICTs for instruction in colleges of education in Oyo State. Overall readiness index for College of Education lecturers in Oyo State indicated that over 92% of the lecturers agree or strongly agree that they are ready to integrate and use ICT for teaching. Only few respondents, less than 8% disagree or strongly disagree to being ready to use ICT for teaching.

Research Question 2: is there any difference in male and female lecturers' readiness to integrate ICT for instruction?

Table 6:

Influence of Gender on Colleges of Education Lecturers Readiness on Integration of ICT for Instruction in Oyo State

Variable	N	X	sd	df	t-calculated	t- critical	Sig
Male	190	1.71	0.72	304	0.37	3.32	0.046
Female	116	1.68	0.57				

Table 6 revealed that t calculated value of 0.37 is less than the t critical value of 3.32. This implies that there was no significant difference between male and female lecturers' readiness on integration of ICT for instruction in colleges of education in Oyo State. The mean score for male lecturers is (1.71) and the mean score of female lecturers is (1.68). The hypothesis which states that there is no significant difference between male and female lecturers' readiness on integration of ICT for instruction in colleges of education in Oyo State is hereby accepted. This implies that both male and female lecturers in colleges of education in Oyo state responded to be ready to use of ICT for instruction in colleges of education in Oyo State.

Research Question Three: Is there any difference in lecturers' readiness to integrate ICT for instruction based on their Years of Experience?

Table 7: Influence of Years of Experience on Colleges of Education Lecturers Readiness on Integration of ICT for Instruction in Oyo State

Model	Sum of Squares	df	Mean Square	F	Sig.
Between	6755.5	2	3377.7	127.7	.001
Residual	3314.1	303	11.2		
Total	**10069.6**	**305**			

The result of ANOVA presented in Table 7, showed that the f-value of 127.7 and 0.001 significant value ($f_{(2, 303)}$= 127.7; p<.05). Based on the ANOVA table, we can see that the F-ratio for the variation between groups is 127.7, with a corresponding p-value of less than 0.001. Since the p-value is much less than 0.05, we can reject the null hypothesis and conclude that there is a significant difference between the mean years of experience of employees in the three groups.

In order to get the difference among the three groups, Tukey HSD post hoc test is conducted and represented in Table 8.

Table 8: Tukey HSD post hoc test showing difference in readiness of college of education lecturers based on age

	Groups	Standard Error (SE)	Mean Difference (Diff)	HSD
1	0-5 years vs. 6-10 years,	1.3	9.04	9.26
2	0-5 years vs. 11 years and above	1.57	25.4	5.15
3	6-10 years vs. 11 years and above.	1.61	16.36	5.28

Where the difference between the means of two groups is greater than the HSD value for those groups, then the difference is statistically significant. Therefore, using the values in Table 8 we can see that: $Diff_1 = 9.04 < HSD_1 = 9.26$, so there is no significant difference between the mean years of experience of employees with 0-5 years of experience and those with 6-10 years of experience. $Diff_2 = 25.40 > HSD_2 = 5.15$, so the mean years of experience of employees with 0-5 years of experience is significantly different from those with 11 years and above.

$Diff_3 = 16.36 > HSD_3 = 5.28$, so the mean years of experience of employees with 6-10 years of experience is significantly different from those with 11 years and above. Therefore, based on the results of the Tukey's HSD test, we can conclude that there is a significant difference in the mean years of experience between employees with 0-5 years of experience and those with 11 years and above, as well as between employees with 6-10 years of experience and those with 11 years and above. However, there is no significant difference in the mean years of experience between employees with 0-5 years of experience and those with 6-10 years of experience.

Research Question 4. Is there any difference in lecturers' readiness to integrate ICT for instruction based on their academic qualifications

TABLE 9:

ANOVA table showing difference in COE lecturers' readiness to use ICT for teaching based on Qualifications

Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between	12.487	4	3.122	7.130	.000
Residual	131.787	301	.438		
Total	**144.265**	**305**			

The result of ANOVA presented in Table 9, indicated that the f-value of 7.130 is significant at .000 and also significant at 0.05 level of probability (f= 7.130; p<0.000). This implies that the influential variable qualification and readiness influenced the integration of ICT for instruction among lecturers in colleges of education in Oyo State. This suggests that qualifications and readiness had significant impact on the integration of ICT for instruction among lecturers in colleges of education in Oyo State. In this particular ANOVA table, the F-value for the "Between Groups" source of variation is 7.130 and the associated p-value is 0.000, indicating that there are significant differences among the means of the five groups. The "Within Groups" mean square is 0.438, indicating that there is some variability within each group. The post hoc analysis would be used to determine which specific groups are significantly different from each other as shown in Table 10.

Table 10: Tukey HSD Post Hoc test for difference in Readiness of COE lecturers based on Qualification

Qualification	Diff	Lwr	Upr	P adjustment
M. Sc-Ph. D	28.28	9.37	47.19	‘0.0014806
M. Ed-Ph. D	36.28	17.33	55.23	‘0.0001159
B. Sc. Ed-Ph. D	6.63	12.41	25.66	‘0.8624119
B. Sc-Ph. D	8	31.03	8.09	‘0.3915109
M. Ed-M. Sc	11.47	9	24	‘0.0000159
B. Sc. Ed-M. Sc	-21.65	-38.26	-5.04	‘0.0000159
B. Sc. Ed-M. Ed	29.65	46.2	13.11	‘0.0008379
B. Sc-M. Ed	47.75	64.99	30.51	‘0.0000000
B. Sc-M. Sc	47.75	65.98	29.52	‘0.0000000
B.Sc.Ed. - B.Sc.	39.75	57.07	22.44	‘0.0088041

Table 10 shows the differences in means between the pairs of groups, as well as the 95% confidence interval for each difference, and the corresponding p-values adjusted for multiple comparisons. For example, the mean difference between M.Sc and Ph.D groups is 28.28 with a 95% confidence interval between 9.37 and 47.19, and a p-value of 0.00148. This indicates that the mean of the M.Sc group is significantly higher than the mean of the Ph.D group. Similarly, the mean difference between B.Sc.Ed and M.Sc groups is -21.65 with a 95% confidence interval between -38.26 and -5.04, and a p-value of 0.0088. This indicates that the mean of the B.Sc.Ed

group is significantly lower than the mean of the M.Sc group. The results of the post hoc test showed that there were significant differences between all pairs of groups. This indicates that individuals with different levels of education have significantly different means on the readiness to use ICT for learning.

Discussions

This study showed that lecturers in Colleges of Education in Oyo state are ready to use ICT for instruction purposes. A very high proportion of lecturers have experience with technological-based training, they know basic functions of computers, ready to provide constructive and effective instruction and ready to ignore distractions around them. This finding supports Odigwe and Owan(2020) study on lecturers from University of calabar and Adeyanju (2014) study on College of Education in South west Nigeria. The studies reported the lecturers to have the basic technology skills needed to implement ICT enhanced teaching for their classes. However, the study did not agree with Ganiyu (2019) study on College of Education versatility level in e-learning, which showed that the College of Education lecturers have very low skill in using ICT for e learning. This difference in findings could be due to the fact that levels of skills that tested are different.

This study also discovered that there is no difference in the readiness of male and female College of Education Lecturers in Oyo State. The study is in line with several studies among which are Odigwe and Owan (2020); Falade and Aladesusi (2020) and Ganiyu (2019) that also showed that gender does not influence use of ICT for instruction among teachers. The finding negates the result of study conducted by Yusuf and Balogun (2011), which revealed the gender gap in the use of ICTs by student teachers in a Nigerian University. The Yusuf and balogun (2011) study was among students while this study was among lecturers who value their jobs and intend to utilise ICT to enhance their teaching.

Moreover, the study showed that there was a significant difference among the lecturer's readiness to use ICT for teaching based on years of experience. It was discovered that lecturers with 0-5 years of experience and those within 6-10 years of experience have similar readiness culture or values with mean high mean schore that depicts high readiness among these groups. Unlike the younger and less experienced groups, the lecturers with over 10 years' experience showed difference with what the other two groups. Ala et al (2018) reported similar finding among lecturers that younger lecturer demonstrated higher utility of ICT resources in higher institution

than older lecturers. Sutrisno and Yishuan (2010) had earlier discussed that more experienced lecturers have their hand full of activities and institutional duties that may not allow them to develop skills necessary for ICT integration instruction.

Lastly, this study showed that there was a significant difference among the lecturer's readiness to use ICT for teaching based on academic qualifications. This study made comparisons among categories of five qualifications (B.Sc., B.Ed. Msc. M.Ed. and Ph.D.). The college lecturers with Masters (M.Sc and M.Ed.) have a higher mean score than colleagues with either Bachelors or doctorate degree. This finding is related to the finding on years of experience as many of the Master's degree older falls in between the 0-10 years working experience group. This finding supports Odigwe and Owan (2020) which showed that lecturers with higher educational qualifications are not good users of ICT facilities. Onasanya, et al (2010) discovered that less experienced lecturers are more exposed to the use of ICT skills than moderately and highly experienced lecturers. The finding of this study also agrees with the results of Lubis, et al (2017) which showed years of teaching experiences and educational level of staff have no significant influence on the utilization of the technology.

Conclusion and Recommendations

This study concludes that male and female lecturers with 0-10 years of experience are skilled and knowledgeable enough to use ICT for instruction at colleges of Education in Oyo state. The study recommends that lecturers with years of experience above 10 years and/or those with Ph.D. should continue to improve their skills at utilising ICT in instruction and by so doing would be able to steer the younger lecturers right at institution wide implementation.

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