Information and Communication Technology (ICT) Competency of Serving Teachers for Quality Instructional Service Delivery in Aminu Saleh College of Education, Azare, Bauchi State, Nigeria

[1]Jimoh, A. A., [2]Salawu, S. A., [3]Yusuf, H. A & [4]Folorunso, M. I.
[1, 2 & 3] *Department of Computer Science Education,*
Aminu Saleh College of Education, Azare, Bauchi State, Nigeria,
[4]*Department of Computer Science, Nasarawa State Polytechnic, Lafia Nasarawa State, Nigeria*

Abstract

ICT has permeated all spheres of human endeavours in this 21st century of information-driven society, education sector inclusive. Consequence upon this development, teachers as stakeholders are not left behind in the aspect of training and retraining to acquire relevant skills in the usage of ICT in order to be ICT-compliant and use same in their teaching methodologies. This paper, therefore, examined ICT competency of serving teachers for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State, Nigeria. The study adopted survey research design as questionnaire was used as an instrument for data collection from the sampled serving teachers. The questionnaire used for this research was structured on three components of ICT: Microsoft PowerPoint Presentation, Internet Usage and Usage of projector/interactive multimedia board. Simple random sampling technique was used to draw sample of 196 from the population of entire academics totally 436 currently serving in the area of the study using sample size table provided by Research Advisor. The instrument used for the study was validated by the specialists in the fields of Computer Science and Measurement and Evaluation. The reliability index of the instrument yielded 0.82 using Crobanch alpha reliability technique. The results revealed that academics have skills in the usage of Microsoft PowerPoint Presentation for effective instructional service delivery. Besides, it was found out that the serving teachers possess technical-know-how in Internet usage for gathering materials for their lessons, but lack skills on how to operate projector/interactive multimedia board for their lectures. It was also discovered that age, gender and years of experience had significant influence on the level of ICT skills acquisition and usage of serving teachers. However, there was no association between educational qualification of serving teachers and their level of ICT skills acquisition. The study recommends that Bauchi state government, in conjunction with College authority, should organize seminar on how to use and operate projector as well as interactive multimedia board for quality instructional service delivery by the lecturers.

Keywords: *ICT, Competency, Serving Teacher, Quality Service and Instruction Delivery*

Corresponding Author: Jimoh, A. A.

Background to the Study

Information and Communication Technology (ICT) is pervasive every field of human endeavours. It has been well established that the use of ICT cannot be undermined in all facets of human works. ICT, according to Jimoh, Osunkunle and Adewumi (2017) is all forms of technological tools that can be used in transmitting, disseminating or communicating, storing and managing of information. United Nations Education Socio-Cultural Organization-UNESCO (2002) described information and communication technology (ICT) as the combination of 'Informatics technology' with other related technology, specifically communication technology. In the opinion of Arugu and Chigozie (2016) and Blurton (2011), ICT is seen as a generic term that includes all communication devices or applications, which includes: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing, social media, e-mailing, e-learning, e-marketing, e-transactions, and so on.

The transformation of ICT in this 21st century of information driven society has been noticed by several authors and thus commented that it has accelerated development to many sectors, such as agriculture, economy, education, politics, manufacturing firm/industry, to mention but a few (Adepoju, 2018; Maduewesi, 2013; Jimoh and Salawu, 2008; Yusuf, 2005; Akawu, 2009; Noor-Ul-Amin, n.d. and Ebunuwele, Ola and Uduebor, 2014). However, focusing on ICT revolution on education, Akpan-Atata, Akwang, Akai and Eyene (2015) stressed that ICT has changed the way teachers teach and learners learn. In this direction, software programs were developed and installed in computers which provide learning opportunities that emphasize exploration, problem solving creativity and innovation techniques.

Similarly, Samuel (2013), and Trucano (2016) pin-pointed that with the evolution of Information Communication Technology (ICT), the delivery of education and training is changing rapidly, such as in the utilization of interactive multimedia software, which motivates learners and eventually leads to improved performance (Odedele and Ogbolumani, 2015). This advancement in education, according to Bass (2010), has led to increase interest in the use of information and communication technologies (ICTs) in various institutions in developing countries.

However, in the opinion of Hussain, Iqbal, and Akhtar (2010), teaching through technology-based learning environment enhanced the achievement level of the students in public schools in Islambad, Pakistan and the use of ICT to facilitate teaching and learning processes (Department of Education and Science, 2008). In the words of Mikre (2010), the use of ICTs in education contributes to a more constructivist learning and an increase in activity and greater responsibility of students. Thus, the potential of ICT in education as rightly said by Haddad and Draxler (2002), cited in Ogbomo (2011) has at least five levels of technology use, that is, presentation, demonstration, drill and practice, interaction, and collaboration.

Undoubtedly, ICT has impacted on the quality and quantity of teaching and learning through its dynamic, interactive and engaging content, and it can provide real opportunities for individualized instruction (Egomo, Enyi and Tah, 2012). The utilization of ICT in

instructional service delivery among lecturers in Nigeria universities according to Akuegwu, Ntukidem and Jaga (2011), has been limited to the department, rather than to cover entire institution and these departments are science-oriented where the link between research and teaching is strongest.

Instructional service delivery is the process of teaching and learning that can take place either in physical classroom, laboratory or virtual classroom/laboratory. Ehujuo, Ugwu, Eze and Ugwoke (2018) opined that instructional service delivery has to do with teaching/ learning activities that take place in the classrooms and therefore, quality of instructional service delivery entails the extent of effectiveness to which teachers carry out their classroom teaching/learning process. Instructional service delivery, in the words of Eneovo (2018), is a process in which educators apply a collection of instructional strategies to communicate and interact with students on academic contents, and to support student engagement. It is also seen as using technologies to complement teaching/learning process. In fact, it is evident that computer can aid the instructional process and facilitates students' learning. Studies have also confirmed that there is a positive effect and relationship associated with technology aided instruction and teaching (Ifejiofor and Nwankwo, 2015).

In order to deliver quality instructions to learners, there is a need to shift from conventional lecturing pedagogy to approved international instruction delivery approach, which is the use of both presentation software and hardware. UNESCO (2008) observed that when lesson delivery is combined with audios and videos presentation, such lesson is more retained by learners compared with learning activities which is done by conventional lecturing method. As such, ICT competency of teachers is required for effective use of ICT facilities for qualitative instructional service delivery in various schools.

In order to achieve a reasonable ICT competency in schools, UNESCO designed a ICT competency framework for teachers (ICT-CFT) globally so as to assist educational policy-makers and curriculum developers identify the skills teachers need to harness technology in education (UNESCO, 2008). The Competency Standards were developed in conjunction with Cisco, Intel, Microsoft and the International Society for Technology in Education (ISTE). The framework, according to Danner and Pessu (2013), was created by juxtaposing three approaches to ICT integration in education (Technology Literacy, Knowledge Deepening, and Knowledge Creation) with the six components of the educational system (Policy & Vision, Curriculum & Assessment, Pedagogy, ICT, Organization & Administration, and Teacher Professional Development). The framework is shown in figure 1 below:
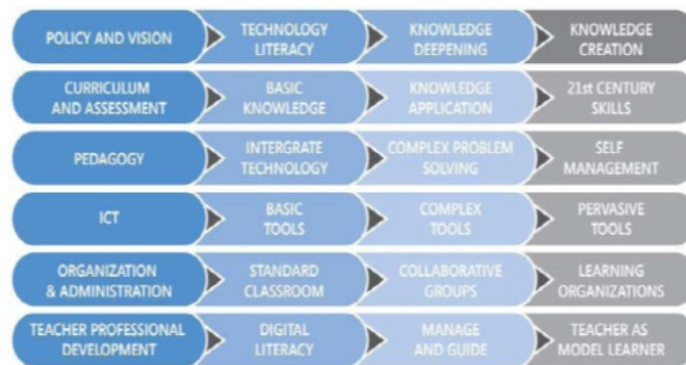
Figure 1: UNESCO ICT Competency Framework for Teachers Framework
Source: UNESCO (2008)

Furthermore, in order to achieve quality instructional delivery, teachers must acquire certain level of ICT competencies in its usage and such acquired knowledge can be applied in operating the ICT tools. Moreover, many factors, such as age, gender, highest qualification, years of teacher's experience, and so on can influence teachers/educators' skilled in the usage of ICT gadgets. Studies conducted on the factors that influence skill acquisition on ICT usage among teachers have shown varying results.

For instance, Adedoja (2016), conducted a research and asserted that teachers' factors remain critical parameters in achieving successful integration of technology across all levels of education. It was observed that teachers' age is a major determinant in integrating technology for instruction delivery as young teachers who are considered as digital 'guru' could have the technological capabilities to effectively use digital tools to facilitate classroom activities than their old counterparts. In another study, Waugh (2004) also opined that integrating technology into classroom instruction is partly a function of teachers' age and technology adoption decreases as age increases.

Similarly, in a research conducted by Vitanova, Atanasova-Pachemska, Ilievc and Pachemskad (2015), the results revealed that ICT competence score decreases as age increases for teachers. Therefore, it is believed that older teachers may experience a decline in motor skills and the use of sensory organs that would be needed to operate digital devices in the classroom. In a nut shell, the older teachers need to be specially-trained to acquire necessary skills in integrating technology to instructional delivery.

Another factor is teachers' educational qualification. This factor could be barrier to successful integration of technology to classroom activities. Neyland (2011), pinpointed that factors such as institutional support, teacher's technological skills and educational qualification influence the use of digital tools for instructional delivery. Teachers' educational qualification, understanding of content knowledge and how to apply technology to support students' learning and attainment could go a long way in improving instructors' capabilities to integrate technology with classroom instruction (Lawless and Pellegrino, 2007). Besides, study

conducted by Alazam, Bakar, Hamzah and Asmiran (2012) also showed that level of qualification appeared to have some influence on the ICT integration in classroom, that is to say only those with a bachelor degree tend to integrate ICT more frequently than the others (diploma and masters).

Other factors such as gender and teachers' work experience have influenced on ICT skill competence of the teacher as rightly observed in the study carried out by Vitanova, Atanasova-Pachemska, Ilievc and Pachemskad (2015), which concluded that men are more likely to have higher ICT competence than women and the results of ICT competence scores decrease as the experiences of teachers in years increase, this undoubtedly is due to the relationship between age and experience in teaching. Also, Mahdi and Sa'ad Al-Dera (2013) carried out a research in which result showed that female teachers reported less use of ICT in their instruction than male teachers.

In a work done by Alampay reported in Aramide, Ladipo and Adebayo (2015), men were more receptive to ICT use than women which may mean that male teachers would be more receptive to ICT use than female teachers. This may be due to the fact that women are more preoccupied with other issues that they do not have time to use the ICT facility.

Furthermore, the relationship between years of experience of teachers and ICT use was also examined by many researchers with the varying results. For instance, Mueller, Wood, Willoughby, Ross, and Specht (2008), investigated the discriminating variables between teachers who fully integrate computers and teachers with limited integration and found no significant relationship between teaching experience of teachers and their use of ICT in teaching.

Critical observation of these studies, the researchers are unaware of any study that has investigated ICT competency of serving teachers for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State, Nigeria. Therefore, the focus of this study is to investigate the extent to which demographic variables such as age, gender, years of teaching experience and highest educational qualification influence the use of ICT skills of serving teachers for quality instructional service delivery.

Statement of the Problem
During conference and seminar presentations, it is observed that majority of academia give their papers to be presented in a flash drive to projector operator who in turn projects and displays the papers on the screen so that presenters can discuss the papers. Perhaps, this action gives an impression that academia may lack the skill to operate the projector. Moreover, it has been observed that some departments procured the projectors, but such projectors are not being used for instructional delivery during classroom lessons. These observations, as noticed by the researchers, need to be verified by carrying out this research to ascertain whether serving teachers in Aminu Saleh College of Education possess ICT competency in the aspects of Microsoft PowerPoint presentation, Internet usage skills and projector/interactive multimedia board operation for quality instructional service delivery.

Objectives of the Study

The main aim of this study is to investigate ICT competency of serving teachers for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State, Nigeria. The specific objectives are to:

(i)   Determine skills acquired in Microsoft PowerPoint Presentation for quality instructional service delivery by academic staff;

(ii) Assess Internet usage skills of academic staff for quality instructional service delivery using various browsers; and

(iii) Examine skills in usage of projector and interactive multimedia board for quality instructional service delivery by academic staff.

Research Questions

The following research questions are to be answered in this study:

(1)   What is the level of Microsoft PowerPoint presentation skills acquired by academic staff of Aminu Saleh College of Education, Azare, Bauchi State?

(2)   To what extent are the Internet usage skills of academic staff of Aminu Saleh College of Education, Azare, Bauchi State?

(3)   What is the level of skills in projector and interactive multimedia board operation by academic staff of Aminu Saleh College of Education, Azare, Bauchi State?

Hypotheses

Four hypotheses were formulated to guide this study:

Ho_1:   Gender of serving teachers is independent on their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State.

Ho_2:   There is no association between age of serving teachers and their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State.

Ho_3:   Years of experience does not have significant influence on ICT skills acquisition of serving teachers of Aminu Saleh College of Education, Azare, Bauchi State.

Ho_4:   Serving teachers' educational qualification does not have significant influence on their ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State.

Methodology

In this study, descriptive survey research design was adopted as structured questionnaire developed by the researchers was used as an instrument for data collection. The instrument was face validated by a specialist in Measurement and Evaluation from Abubakar Tafawa Balewa University, Bauchi and a senior colleague in the Department of Computer Science, Aminu Saleh College of Education, Azare, Bauchi State.   All suggestions made were incorporated in the instrument before administering it to the targeted audience.   The questionnaire has four sections. Section A consists of demographic information of respondents, section B comprises items related to the skills in Microsoft PowerPoint presentation, section C highlights items in relation to skills in Internet usage and section D is on the skills related to operation of projector / interactive multimedia board. The items were constructed on five-point Likert scale: Very High (VH) =5; High (H) =4; Moderate (M) =3,

Low (L) =2 and Very Low (VL)=1. The instrument was pilot-tested at College of Administration and Business Studies (CABS), Azare campus using 10 academic staff. The reliability index of the instrument yielded 0.82 using Crobanch alpha reliability test technique.

The population of the study consists of 436 academic staff of Aminu Saleh College of Education, Azare, Bauchi State, out of which 196 was selected using simple random technique. The sample size selected for the study was suggested by Research Advisor (2006) which opined that if the population is within 500, 196 sample of the population is required. Based on this suggestion, 196 copies of questionnaire were administered and 188 copies were retrieved, giving 96% return rate. The data collected were analyzed and interpreted. All research questions were answered using descriptive statistics (mean and standard deviation), while the four hypotheses were tested using chi-square statistics at 0.05 level of significance. The criterion for accepting whether an item statement has a low or high level of skill acquisition is based on calculated mean of five-point Likert scale, that is, 3.00, which is evaluated as (5+4+3+2+1)/5 = 3.00. In essence, any item statement with mean value found to be greater than or equal to 3.00 is high, otherwise is low.

Results and Discussion

This section of the research presents the results of the study by answering all research questions and testing of hypotheses.

Research Question One: What is the level of Microsoft PowerPoint presentation skills acquired by academic staff of Aminu Saleh College of Education, Azare, Bauchi State?

Table 1: Mean and SD of serving teachers in Microsoft PowerPoint Presentation Competency

S/N	Item Statement N = 188	X	SD	Remark
1.	Ability to create slides in Microsoft PowerPoint for lectures and seminar presentations	3.91	1.35	High
2.	Ability to open existing slides	4.00	1.25	High
3.	Ability to save created slides	3.98	1.24	High
4.	Ability to format created slides	3.72	1.32	High
5.	Ability to change theme colour for slides	3.58	1.33	High
6.	Ability to copy text from Microsoft Word and past in Ms PowerPoint	3.41	1.43	High
7.	Ability to use drawing object function to create shapes and objects	2.93	1.36	Low
8.	Ability to use Microsoft PowerPoint to record narrations	2.76	1.37	Low
9.	Ability to apply different animations on slides	2.91	1.45	Low
10.	Ability to use slideshow to view prepared slides	3.13	1.46	High
11.	Ability to change slide styles in Microsoft PowerPoint	3.03	1.44	High
12.	Ability to add slide to existing ones	3.22	1.36	High
13.	Ability to print created slides	3.40	1.40	High
14.	Ability to add transition to created slides	2.95	1.36	Low
15.	Ability to append transition speed to the created slides	2.62	1.29	Low
	Overall Mean	3.30	1.36	High

Key: N = Number of sampled teachers, X = Mean, SD = Standard Deviation
Source: Fieldwork 2019

Information presented in Table 1 above revealed mean and standard deviation of serving teachers' Microsoft PowerPoint presentation competency for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It was discovered that serving teachers were highly skilled in creating slides in Microsoft PowerPoint for their lectures and seminar presentations, opening existing slides, saving created slides, formatting created slides, changing theme colour for slides, copying text from Microsoft Word and pasting in Ms PowerPoint, using slideshow to view prepared slides, changing slide styles in Microsoft PowerPoint and adding slides to existing ones as computed mean for each of the item statements is greater than 3.00, which is cut-off for five-point Likert scale. Besides, serving teachers have low competency in using drawing object function to create shapes and objects, using Microsoft PowerPoint to record narrations, applying different animations on slides, adding transition to created slides and appending transition speed to the created slides as computed mean value for each of these item statements is less than cut-off point (3.00) of five-point Likert scale used in this study. Similarly, the computed overall mean was found to be 3.30. Therefore, it can be inferred here that serving teachers possess Microsoft PowerPoint presentation skills. The standard deviation for each of the item statements is lower than the mean, which is an indication that there was no wide gap in the respondents' responses during the data collection.

Research Question Two: To what extent are the Internet usage skills of academic staff of Aminu Saleh College of Education, Azare, Bauchi State?

Table 2: Mean and SD of serving teachers on the Internet Usage Skills

S/N	Item Statement N = 188	X	SD	Remark
1.	Ability to connect to Internet using Modem and smart phone hotspots	3.82	1.18	High
2.	Ability to use search engine like Google or AltaVista to search for information on the Internet	4.02	1.13	High
3.	Ability to use Google scholar to create account	3.36	1.52	High
4.	Ability to use Google scholar to upload published journals	3.04	1.45	High
5.	Ability to download needed files from the Internet	3.68	1.37	High
6.	Ability to save downloaded files safely on a flash drive or hard disk	3.85	1.19	High
7.	Ability to convert your document in Ms Word to portable document format (PDF) file	3.56	1.32	High
8.	Ability to upload or attach files to your mail on the Internet	3.65	1.35	High
9.	Ability to disable popup menu while browsing	3.24	3.97	High
10.	Ability to delete read files from your mail inbox	3.62	1.40	High
11.	Ability to sign up for an email address from either Google or Yahoo sites	3.93	1.34	High
12.	Ability to use address bar to send request for a website address	3.88	3.14	High
	Overall Mean	3.64	1.70	High

Key: N = number of sampled teachers, X = Mean, SD = Standard Deviation.
Source: Fieldwork 2019

Table 2 presented information on mean and standard deviation of serving teachers on the level of Internet usage skills for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It was observed that serving teachers were highly skilled in all item statements sought to reveal information on the Internet usage as computed mean value for each of the item statements is greater than 3.00, which is cut-off for five-point Likert scale used in this study. Besides, from computed overall mean which is found to be 3.64 (high) indicated that serving teachers have competency in Internet usage. Also, the evaluated standard deviation for each item is low, which is an indication that the respondents' responses were not far away from each other.

Research Question Three: What is the level of skills in projector and interactive multimedia board operation by academic staff of Aminu Saleh College of Education, Azare, Bauchi State?

Table 3: Mean and SD of serving teachers in the operation of Projector / Interactive Multimedia Board

S/N	Item Statement N = 188	X	SD	Remark
1.	Ability to power on projector or Interactive Multimedia Board (IMB)	3.50	1.34	High
2.	Ability to connect projector signal cable to the laptop Video Graphic Adaptor (VGA) to display information on projector screen	3.23	1.28	High
3.	Ability to connect signal cable to the laptop with HighDefinition Multimedia Interface (HDMI).	3.33	1.32	High
4.	Ability to adjust projector focus to give accurate viewing	2.27	1.45	Low
5.	Ability to set resolution of laptop VGA to suit that of projector	2.13	1.39	Low
6.	Ability to adjust sharpness of the projector/IMB	2.68	1.41	Low
7.	Ability to adjust brightness and contrast of the projector if need be	2.84	1.45	Low
8.	Ability to power off projector/IPMB after use	3.06	1.55	High
9.	Ability to troubleshoot the root problem if the laptop VGA or HDMI cannot communicate with projector or IMB	2.16	1.25	Low
10.	Ability to use projector / IMB to deliver lecture and present conference or seminar papers	3.15	1.35	High
	Overall Mean	**2.84**	**1.38**	**Low**

Key: N = number of sampled teachers, X = Mean, SD = Standard Deviation.
Source: Fieldwork 2019

Information presented in Table 3 above revealed mean and standard deviation of serving teachers' skills in the operation of projector / interactive multimedia board for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It was uncovered that serving teachers were highly skilled in powering on projector or Interactive Multimedia Board (IMB), connecting projector signal cable to the laptop Video Graphic Adaptor (VGA) to display information on projector screen, connecting signal cable to the laptop with High Definition Multimedia Interface (HDMI), powering off projector/IPMB after use and using projector/IMB to deliver lectures and present conference or seminar papers. The computed mean value for each of the item statements is greater than

3.00, the cut-off for five-point Likert scale used for study. However, serving teachers' skills is low in their ability to adjust projector focus to give accurate viewing, set resolution of laptop VGA to suit that of projector, adjust sharpness of the projector/IMB, adjust brightness and contrast of the projector if need be and troubleshoot the root problem if the laptop VGA or HDMI cannot communicate with projector or IMB as computed mean value for each item statement is less than 3.00, the cut-off for five-point Likert scale. The computed overall mean of responses yielded 2.84, an indication of low acquisition of projector/interactive multimedia board operation by serving teachers of Aminu Saleh College of Education, Azare. Besides, the computed standard deviation is lower than the mean, an indication that there was closeness in the respondents' responses during data collection.

Testing for Hypotheses
    Ho₁: Gender of serving teachers is independent on their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State.

Table 4: Chi-square Cross-tabulation of Gender and ICT skill acquisition of serving teachers in Aminu Saleh College of Education, Azare, Bauchi State.

Gender	Respondents' Responses				df	α	χ^2cal.	χ^2crit.	p-value	Remark
	Low	Moderate	High	Total						
Male	13	65	63	141						
	(6.9)	(34.6)	(33.5)	(75.0)						
Female	0	29	18	47						
	-	(15.4)	(9.6)	(25.0)	2	0.05	6.38	5.99	0.04	Reject Ho₁
Total	13	94	81	188						
	(6.9)	(50.0)	(43.1)	(100.0)						

Key: df=degree of freedom, α=level of significance, χ^2cal.= calculated chi-square value, χ^2crit.= critical chi-square value, p-value = probability. Values in parenthesis are in percentage (% of observations).
Source: Fieldwork, 2019

Table 4 depicted chi-square cross-tabulation of gender and ICT skill acquisition of serving teachers for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It is evident that computed chi-square value (6.38) is greater than critical chi-square value (5.99). Besides, generated probability value (0.04) is less than significance level (0.05). From these observations, the null hypothesis one which states that gender of serving teachers is independent on their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State was not upheld. Thus, gender of serving teachers has influence on their ICT skills acquisition.

  Ho₂: There is no association between age of serving teachers and their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State.

Table 5: Chi-square Cross-tabulation of Age and ICT skill acquisition of serving teachers in Aminu Saleh College of Education, Azare, Bauchi State.

Age (years)	Respondents' Responses				df	α	χ^2cal.	χ^2crit.	p-value	Remark
	Low	Moderate	High	Total						
21-30	0	0	3	3						
	-	-	(1.6)	(1.6)						
31-40	1	50	56	107						
	(0.5)	(26.6)	(29.8)	(56.9)						
41-50	9	36	22	67	6	0.05	30.26	12.59	0.00	Reject Ho₂
	(4.8)	(19.1)	(11.7)	(35.6)						
51+	3	8	0	11						
	(1.6)	(4.3)	-	(5.9)						
Total	13	94	81	188						
	(6.9)	(50.0)	(43.1)	(100.0)						

Key: df=degree of freedom, α=level of significance, χ^2cal. = calculated chi-square value, χ^2crit. = critical chi-square value, p-value = probability. Values in parenthesis are in percentage (% of observations).
Source: Fieldwork, 2019

Table 5revealed chi-square cross-tabulation of age and ICT skill acquisition of serving teachers for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It was uncovered that evaluated chi-square value (30.26) is greater than critical chi-square value (12.59). In addition, the probability value (0.00) is less than significance level (0.05). From these observations, the null hypothesis two which states that there is no association between the age of serving teachers and their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State was not accepted. In essence, age has significant influence on serving teachers' level of ICT skills acquisition.

Ho₃: Years of experience does not have significant influence on ICT skills acquisition of servicing teachers of Aminu Saleh College of Education, Azare, Bauchi State.

Table 6: Chi-square Cross-tabulation of years of experience and ICT skill acquisition of serving teachers in Aminu Saleh College of Education, Azare, Bauchi State.

Experience (Years)	Respondents' Responses				df	α	χ^2cal.	χ^2crit.	p-value	Remark
	Low	Moderate	High	Total						
1-5	0	27	27	54						
	-	(14.4)	(14.4)	(28.7)						
6-10	0	36	19	55						
	-	(19.1)	(10.1)	(29.3)						
11-15	1	19	28	48	6	0.05	66.08	12.59	0.00	Reject Ho₃
	(0.5)	(10.1)	(14.9)	(25.5)						
16+	12	12	7	31						
	(6.4)	(6.4)	(3.7)	(16.5)						
Total	13	94	81	188						
	(6.9)	(50.0)	(43.1)	(100.0)						

Key: df=degree of freedom, α=level of significance, χ^2cal. = calculated chi-square value, χ^2crit. = critical chi-square value, p-value = probability. Values in parenthesis are in percentage (% of observations).
Source: Fieldwork, 2019

Table 6 showed chi-square cross-tabulation of years of experience and ICT skills acquisition of serving teachers for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It was discovered that estimated chi-square value (66.08) is greater than critical chi-square value (12.59). Also, the probability value (0.00) is less than significance level (0.05). From these computations, the null hypothesis three which states that years of experience does not have significant influence on ICT skills acquisition of serving teachers of Aminu Saleh College of Education, Azare, Bauchi State was rejected. Therefore, years of experience has significant impact on serving teachers' level of ICT skills acquisition.

Ho₄: Serving teachers' educational qualification does not have significant influence on their ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State.

Table 7: Chi-square Cross-tabulation of serving teachers' educational qualification and their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State.

| Qualification | Respondents' Responses | | | | df | α | χ^2cal. | χ^2crit. | p-value | Remark |
	Low	Moderate	High	Total						
B.Sc/HND	5	53	59	117						
	(2.7)	(28.2)	(31.4)	(62.2)						
M.Sc/M.Ed./M.Sc(Ed)	7	38	20	65						
	(3.7)	(20.2)	(10.6)	(34.6)	4	0.05	8.74	9.49	0.07	Accept Ho₄
Ph.D.	1	3	2	6						
	(0.5)	(1.6)	(1.1)	(3.2)						
Total	13	94	81	188						
	(6.9)	(50.0)	(43.1)	(100.0)						

Key: df=degree of freedom, α=level of significance, χ^2cal. = calculated chi-square value, χ^2crit. = critical chi-square value, p-value = probability. *Values in parenthesis are in percentage (% of observations).*
Source: Fieldwork, 2019

Table 7 depicted chi-square cross-tabulation of serving teachers' educational qualification and their level of ICT skills acquisition for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It was evident that estimated chi-square value (8.74) is less than critical chi-square value (9.49). Besides, the probability value (0.07) is greater than significance level (0.05). From these estimates, the null hypothesis four which states that serving teachers' educational qualification does not have significant influence on their level of ICT skills acquisition in Aminu Saleh College of Education, Azare, Bauchi State was accepted. In essence, serving teachers' qualification has no significant influence on their level of ICT skills acquisition.

Summary of Findings
The research found out that:
(1) Academic staff (serving teachers) of Aminu Saleh College of Education, Azare, Bauchi State possess Microsoft PowerPoint presentation competency which can be combined with other pedagogies for quality instructional service delivery;
(2) Serving teachers of Aminu Saleh College of Education, Azare, Bauchi State possess competency in Internet usage for quality instructional service delivery;
(3) Academics of Aminu Saleh College of Education, Azare, Bauchi State lack technical-know-how on operation of projector/interactive multimedia board;
(4) Age, gender, years of experience of academics have significant influence on the level of their ICT skills acquisition; and
(5) Educational qualification of serving teachers has no association with their level of ICT skills acquisition.

Discussion of Findings
This study revealed that academic staff of Aminu Saleh College of Education Azare, Bauchi State, possessed skills in Microsoft PowerPoint presentation and Internet usage and lack operation skills in projector as well as interactive multimedia board. This is in agreement with

the study of Akinnagbe and Baiyeri (2011) that found out that lecturers in Faculty of Agriculture, University of Nigeria, Nsukka possessed skills in general windows operation, word processing and internet/online activities, but lacked skills in slides preparation/presentation and spreadsheets preparation.

This study asserted that age has significant influence on ICT skills acquisition which is in agreement with the findings of Aramide, Ladipo and Adebayo (2015) that concluded that younger science teachers teach less difficult subjects and tend to use ICT more than older teachers. This finding is in line with theoreticians like Schiffman and Kanuk (2004), who observed that age is an important correlate of innovation adoption.

The study also affirmed that gender has influence on the ICT skills acquisition among academic staff, which conforms with the study conducted by Sefyrin (2005), that asserted competence in ICT could be seen as a question of interest in ICT, where men are more interested in ICT then women. Also, Danner and Pessu (2013) established that girls are less confident than boys in their computer skills, and that boys scored better than girls in computer related knowledge and skills.

This work ascertained that years of experience of academics has significant influence on their level of ICT acquisition which is in disagreement with the study conducted by Abu-Obaideh, AbRahim, Ramlah and Asimiran (2012) that revealed no significant relationship between teachers' years of experience and ICT use in teaching process. However, the results of the study conducted by Inan and Lowther (2009), revealed that years of teaching experiences affect teachers' use of computer in a negative manner.

Conclusion
This study investigated ICT competency of serving teachers for quality instructional service delivery in Aminu Saleh College of Education, Azare, Bauchi State. It was found that the academics of the institution possessed Microsoft PowerPoint presentation competency, internet usage skills, but lack competency in handling projector and interactive multimedia board. It was also revealed that age, gender, years of experience of academic have significant influence on the level of their ICT skills acquisition. Finally, it was uncovered that educational qualification of serving teachers has no association with their level of ICT skills acquisition.

Recommendations
Based on the findings in this study, the following recommendations are made:
(i)   Bauchi state government, in conjunction with College authority, should organize seminar on how to use and operate projector as well as interactive multimedia board for quality instructional delivery by the lecturers.
(ii) There should be provision of requisite ICT hardware facilities, such as adequate projectors and interactive multimedia board in the classrooms by the state government for effective instructional service delivery.

(iii)   The state government should procure related educational software to promote the use of ICT gadgets for effective and efficient instructional service delivery in our various classes.

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