

Gender Differences in ICT Competence and Usage Among Lecturers in Tertiary Institutions in Oyo State, Nigeria

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ABSTRACT

This study examined gender differences in ICT competences and usage among lecturers in tertiary institutions in Oyo State. A descriptive survey design was employed and population of the study consists of all lecturers in the selected tertiary institutions in Oyo State, Nigeria. Incidental and proportional random sampling techniques was used to select one Thousand (1000) respondents from the population of the study. Two research questions and hypotheses were formulated for the study. An adapted self-designed questionnaire was used to collect data from the respondents. Out of the 1000 questionnaires administered on the sample of the study, only 950 were returned (i.e. 430 are male and 520 are female). Data collected were analysed using simple percentage, frequency count, pearson product moment correlation and T-test analysis. The results of the study showed that male lecturers have high ICT competences than female lecturers and also the frequency of ICT usage of male lecturers is greater than female lecturers. The results also indicated that there is significant difference between the ICT competences of male and female lecturers in tertiary institutions in Oyo State, Nigeria ($t=2.64$, $df=948$, $\alpha=0.05$). Finally, the results revealed that there is significant difference in the frequency of ICT usage between male and female lecturers in tertiary institutions in Oyo State, Nigeria ($t=14.57$, $df=948$, $\alpha=0.05$). The study recommends that managements of the tertiary institutions in Oyo State should encourage both male and female lecturers to participate in ICT training programs. Management of tertiary institutions in Oyo State should equip the academic staff offices with adequate ICT facilities. Finally, managements of the tertiary institutions in Oyo State should enforce that lecturers use the technology in teaching and learning process so as to increase their competences in the ICT usage.

Keywords: Competence, Gender, ICT, Oyo State, Tertiary Institution

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1. INTRODUCTION

Today's fast-paced world is becoming increasingly characterized by technology-driven communication, which has transformed the world into a large global connected community with ever-increasing outreach of information and communication technology (ICT) (Danner and Pessu, 2013). ICT refers to the range of technologies that are applied in the process of collecting, storing, editing, retrieving, and transfer of information in various forms (Olakulehin, 2007). The Federal Ministry of Education, Nigeria (2010) defines ICT as encompassing all equipment and tools (inclusive of traditional technologies of radio, video, and television to the newer technologies of computers, hardware, firmware,

etc.), as well as the methods, practices, processes, procedures, concepts, and principles that come into play in the conduct of the information and communication activities. According to Akpan (2008), ICT involves a process of creating, processing, storage, retrieval and dissemination of information and data using computers and telecommunications. In education, ICT encompasses a combination of technologies for collecting, storing, processing, communicating and delivering of information related to teaching and learning processes (Johnson, 2007).

The importance of technology in people's lives is unimaginable and it is envisaged that technological literacy will soon become a functional requirement for people's work, social, and even personal lives (Danner and Pessu, 2013). Onuma (2007) reports that ICT can be used to enhance teaching effectiveness, prepare lesson plan, collect and analyze students' achievement.. Akpan (2008) observed that ICT can improve the quality of researches and publications in our universities through the use of information and quality materials from the internet and can also facilitate record-keeping by teachers. Thus, curriculum contents could be enriched through search in the internet.

Competency has been defined in the literature as the state or quality of being adequately or well qualified to perform a task (Macqual and Ichakpa, 2014). For example, Yildirim and Yildirim, (2009) defined competence as a system of prerequisites for successful action in certain domains that can be influenced by practice and learning. Furthermore, Clark (2008) opined that a person gains competency through education, training, experience or natural ability. The competencies are observable or measurable attributes of knowledge, skills and abilities, these knowledge, skills and abilities must distinguish between superior and other performer.

ICT competence has been used by scholars in different dimension. Poelmeans, Truyen and Stockman (2012) noted that the research domain is characterised by the scattered and overlapping use of these terms, such as ICT skills, computer skills, computer ability, computer knowledge, computer or web fluency to mention a few. Kim and Lee (2013) described ICT competency as ICT skills necessary for living in a modern society; while Seungeun, Soojin, Daiyong, Hansung, Seungbum and Jamee (2011) stated that the term is a mastery of application software and being able to use information well. Akpan (2014) refers to ICT competence as the ability of a university teacher to make use of the various ICT tools such as e-mail, facsimile, internet, World Wide Web, intranets, extranets, online databases and other networking technologies in the performance of their job.

ICT usage can be measured in terms of variety of systems used, number of job tasks where computer technology is used, frequency of system usage and amount of time spent each time using a computer for job related work (Adegun, Akomolafe and Adesua, 2012). ICT usage can be further refers to all the manifestations of communication technologies such as computers, videos and the associated hardware, networks and software that have the potentials to be employed for educational research purposes and administrative process among others (Adegun, Akomolafe and Adesua, 2012).

Gender is a socio-economic variable for analyzing roles, responsibilities, constraints, and needs of men and women in a given context (Sanda and Kurfi, 2013). It refers to the social and cultural constructs that each society assigns to behaviours, characteristics and values attributed to men and women (Sanda and Kurfi, 2013). According to Civil Resource Development and Documentation Centre (CIRDDOC, 2001), gender could be described as "a system of roles and relationships between men and women that are determined not biologically but by social, political and economic context". Gender also involves the process by which individuals who are born into social categories of male and female become the social categories of men and women through the acquisition of locally defined attributes of masculinity and femininity which is beyond biological differences, all other differences between men and women are socially constructed and have no logical relationships with their biological composition (Sanda and Kurfi, 2013).

The vast amount of research that has been done since the 1960s on access to and use of Information and Communication Technologies (ICT) has shown significant differences in men's and women's attitudes, skills, and practices connected with using computers and the new media (Bujala, 2012). Studies on computer usage indicate that women on average have less positive attitudes towards computer technology than men, are less willing to use computers, and even given equal access will use them less, express more anxiety than men towards using computers, possess fewer computer skills, and perform jobs connected with ICT much less frequently than men (Batorski 2011; Seybert 2007).

In addition, studies have 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 (Danner and Pessu, 2013). Also, the three computer related occupations (computer scientists, computer engineers and system analysts, and computer science and engineering) are the top career choices for boys (Derbyshire, 2003). Bebetos and Antoniou's (2008) and Kadel's (2005) studies also found that females have negative attitudes towards computers; as a result they are often less computer literate than males. Sefyrin (2005) asserted that competence in ICT could be seen as a question of interest in ICT, where men are more interested in ICT than women.

Based on the results of the previous studies on gender differences in ICT competency and usage, it seems as women have little knowledge of the ICT tools; some are not able to access the internet on their own and sometimes they show no interest in learning how to use it. This view was shared by Okorie, Agabi and Uche (2005) who stressed that academic staffs in universities have moderate knowledge in the use of computer and ICT and that there was low periodic training for the academic staff on the use of ICT. They were also of the view that there was low level of application of ICT in teaching but there was moderate application of ICT in research and publication.

Consequently, it appears that the evidence for specific gender differences in ICT competency is inconclusive although there is a wide-spread belief that computers and the Internet are male-dominated technologies. It would, therefore, be interesting to find out gender differences in ICT competence and usage among lecturers in tertiary institutions in Oyo State.

2. REVIEW OF LITERATURE

Ford, Miller and Moss (2001) in their study found that females tended to experience more difficulty finding information online, feel less competent and uncomfortable using the internet, use internet less frequently than males and make use of a less varied set of internet applications. Ono and Zovadry (2003) also found women to be less frequent and less intense users of the internet. Enochsson (2005) has shown that the socio-cultural background of gender still leaves women with more computer anxiety and feelings of lower self-efficiency.

In a study on gender analysis of electronic information resources use, Manda and Mukangara (2007) used a sample of 100 postgraduate students using stratified proportionate random sampling to select the sample. Data were analysed using cross-tabulation and qualitative descriptions and they reported that gender is associated with the use of electronic information resources and male postgraduates' students were more likely to use electronic information resources than female students. The findings further showed that even when their attitude towards the use of electronic information resources or training in the use of resources, the relationship between gender and electronic information resources use was maintained.

Similarly, Amkpa's (2007) study on gender and age difference in computer use and attitude among students of University of Maiduguri used 350 part IV students from five faculties. Data generated were analysed using chi-square. He reported that male and female students differ significantly in their attitude toward computer applications which has implications in their job acquisition and educational pursue.

Alshankity and Aishawi (2008) examined the gender differences in internet usage among faculty members in Saudi Arabia and did not see a significant gender differences in the overall internet usage. However, a study by Obaje, Sani and Lawal (2008) on internet access and usage by staff and students university of Jos revealed that there exits difference in the usage of internet by gender between January-December, 2006, were males 6520 (88%) and 925 (12%) were females only.

Ikolo's (2010) study on gender difference based on use of electronic resources revealed that the gender digital divide is manifested in the low number of female users of ICTS compared to men. Bassi and Camble (2011) reported that there exists a statistical difference between males and females in using electronic resources as females have more difficulty in finding information online than males.

Mudasiru and Modupe (2011) investigated Student-Teachers' Competence and Attitude towards Information and Communication Technology: A Case Study in a Nigerian University. Participants were 382 student-teachers (181 males and 201 females) from the Faculty of Education, University of Ilorin, Nigeria. The data collected through a questionnaire were analysed using percentages, means, and chi-square statistics. Findings revealed that majority of the student-teachers have positive attitude towards the use of ICT and they are competent in the use of few basic ICT tools. Overall, no significant difference was established between male and female student-teachers' attitudes and use of ICT. The implication is that the student-teachers lacked the necessary competence in the full integration of ICT in the curriculum.

Ikolo and Okiy (2012) found that females use internet more than males in their study on gender differences in computer literacy among medical students in selected southern Nigerian Universities.

Mahmood and Bokhari (2012) carried study on gender differences in the male and female students at tertiary level in term of information and communication technology use. The research was a descriptive in its nature. The objective of the study was to analyze the opportunities of access to Information and communication Technology (ICT) for male and female students at the university level. The population was the male and female students of the public sector universities of Pakistan. The purposive sampling technique was used to gather data from the faculty of social sciences of two public sector universities. Data were collected by administering a questionnaire based on a Likert- five point scale. The data were tabulated, analyzed and interpreted. The percentage, Chi Square and mean were applied to analyze the data. The results of the analyzed data revealed that gender differences existed regarding access to ICT among university students.

Kelvin and William (2013) investigated Gender Differences in ICT Competency for University Students of Different Disciplines. The results revealed that females' scores were higher than males' scores on five assessment components out of seven with statistical significance. Oyeniyi (2013) examined gender differences in information retrieval skills and use of electronic resources based on a sample of 175 information professionals surveyed in academic libraries in South - western Nigeria. The findings did not reveal that gender differences exist between male and female information professionals on the basis of acquisition of information retrieval skills. Similarly, there was no statistically significant difference in respondents' use of electronic resources. However, the study showed that male professionals revealed a slightly higher mean score on their use of electronic resources.

Danner and Pessu (2013) examined ICT Competencies among Students in Teacher Preparation Programmes at the University of Benin, Benin City, Nigeria. A descriptive survey was adopted and the target population was all students in levels 200, 300, and 400 of the faculty of education, University of Benin. The instrument for data collection was a questionnaire adapted from Bassey, Akuegwu, Udida, Ntukidem, and Ekabua (2007). The results shows that Students' ICT usage was low, particularly the use of internet and email. The respondents perceived themselves to be good in word processing and file navigation, moderate in Internet browsing and emailing. Only two percent (2%) of the respondents perceived themselves to be competent in PowerPoint with about seventy percent (70%) having no capability at all. There was no significant difference in the perceived competency among students according to gender and academic year/level. However, there was significant difference in the perceived competency among students according to the type of computer training, with those with formal computer training perceiving themselves to be most competent in ICT skills. From the findings, the lack of access to computers and Internet connectivity within the faculty present a serious issue affecting staff and students' use of ICT applications.

Akpan (2014) investigated the influence of ICT competence on lecturers' Job Efficacy in two Nigerian universities. Two hypotheses were formulated to guide the study. The sample of the study consisted of 500 university teachers randomly sampled from a population of 1,795 teachers. Data for the study were collected using ICT Competence and Job Efficacy Questionnaire (ICTCJEQ). The data were analyzed using Chi-square and One-way Analysis of variance (ANOVA) statistical techniques. The results of the study revealed that male and female lecturers did not differ significantly in their level of ICT competence. Lecturers with high ICT competence were found to be more efficacious in classroom instruction, research/publication, communication and recordkeeping than those with moderate and low ICT competence. The findings of this study revealed that the level of ICT competence of lecturers significantly enhanced their job efficacy.

Macqual and Ichakpa (2014) carried study on Federal College of Education Pankshin Lecturers Information and Communication Technology (ICT) competences: Implications for Quality Teacher Education. The data were collected from 49 lecturers by means of closed ended questionnaire titled "Questionnaire for FCE Pankshin Lecturers on ICT Competency". The reliability coefficient of the instrument was 0.9 established through Cronbach Alpha. The collected data was analyzed using statistical package of social science (SPSS) version 20.0. Decisions were made based on the mean score of 3.0. Any mean that was 3.0 and above was sufficient while below 3.0 was considered insufficient. The findings of the study indicated that majority of lecturers perceived themselves as competent in both basic and advanced use of ICT. Computer ownership, pre-service training as well as in-services training are significantly related to the perceived ICT competence. The lecturers' competence does not differ according to gender as well as according to basic and advanced ICT usage.

Hadiza (2015) study on gender differences among students in the utilization of electronic information resources in Ramat Library, University of Maiduguri. Results of the study showed significant difference in students' accessibility and utilization while no significant difference in challenges of electronic information resources according to gender. Based on the findings and within the limitation of this study, it was concluded that gender was not a barrier in the utilization of electronic information resources in Ramat Library, University of Maiduguri.

Egunjobi and Fabunmi (2017) examined gender influence of ICT competence of undergraduates in State –owned universities in the South-West Nigeria. The descriptive research design was adopted for this study. The stratified sampling technique was used to select 1798 respondents among 200 level to 400 level students from the selected departments. The respondents were 1529 undergraduates; 50.9% and 49.1% females with mean age of 26.5 ± 5.62 years. The results revealed that gender did not have significant relationship with ICT competence; telephone were highly and frequently used by university undergraduates; internet centres were mostly accessible for teaching

and learning; purpose for using ICT facilities centred majorly on learning, leisure and entertainment. Undergraduates' ICT was mostly constrained by irregular power supply, exorbitant users' fees, and inadequate internet services.

2.1 Statement of the problem

Studies reported in the literature over 20 years ago suggested that gender has had a mediating effect on the ICT competency and usage. Although the literature shows that extensive research related to gender differences in ICT competency and usage have been carried out over the years; such findings revealed either in favour of male having high ICT competency and usage than female or female having high ICT competency and usage than male. Even some findings showed that there are no differences between the ICT competency and usage of male and female. Though, the debate over the gender gap that started since the 1980s still persists in the new millennium. Many researchers have revisited this issue and many are continuing to do so. For example, a study carried out recently found significant gender differences in the way females and males rated themselves in their ability to master technology skills.

Even though both genders were positive about their technological ability, males rated themselves higher than females. Another study reported that female undergraduate students had significantly lower confidence than males when it came to their ability to use computers. Females also reported feeling helpless, nervous and uncomfortable around computers. So this study was to analyze the opportunities of access to Information and communication Technology (ICT) for male and female students at university level. Therefore, this study is carried out to examine gender differences in ICT competence and usage among lecturers in tertiary institutions in Oyo State, Nigeria. Specifically, the study provides answer to the following questions:

- (i) what are the gender differences in the ICT competences of lecturers in tertiary institutions in Oyo State, Nigeria?
- (ii) what are the frequency of ICT usage of lecturers in tertiary institutions in Oyo State, Nigeria?

2.2 Objectives of the study

The main objective of the study is to investigate gender differences in ICT competence and usage among lecturers in tertiary institutions in Oyo State, Nigeria. The specific objectives include:

- (i) to ascertain whether there is differences between the ICT competences of male and female lecturers in tertiary institutions in Oyo State, Nigeria.
- (ii) to ascertain whether there is differences in the frequency of ICT usage between male and female lecturers in tertiary institutions in Oyo State, Nigeria.

2.3 Research Questions

- (i) What is the level of competence of lecturers in the use of information and communication technology (ICT)?
- (ii) What is the frequency of usage of different ICT tools by the lecturers?

2.4 Research Hypotheses

- (i) There is no significant difference between the ICT competences of male and female lecturers in tertiary institutions in Oyo State, Nigeria.
- (ii) There is no significant difference in the frequency of ICT usage between male and female lecturers in tertiary institutions in Oyo State, Nigeria.

3. METHODOLOGY

3.1 Research Design

The descriptive research design of the survey type was employed in the study.,

3.2 Population of the study

The population of the study consists of all lecturers in the following tertiary institutions in Oyo State, Nigeria (i.e. Emmanuel Alayande College of Education, Oyo, Federal College of Education (Special), Oyo, The Polytechnic Ibadan, Ibadan and Federal School of Surveying, Oyo).

3.3 Sample and Sampling Techniques

An incidental and proportional random sampling technique was utilized to select 250 lecturers from each institution making a total sample of 1000 respondents.

3.4 Research Instrument

A self-designed questionnaire tagged “Gender Differences in ICT Competence and Usage of Lecturers in Tertiary Institutions in Oyo State (GDICTCULTIO) were used for data collection. The instrument was developed by the researcher based on established procedures in literature. The instrument contained three sections. Section A contained only one item which focuses on gender information of the lecturers. Section B focused on level of ICT competence of the lecturers. This section contained 20 items and the response modes were “Very Great Extent” (VG coded 4); “Great Extent” (G coded 3); “Low Extent” (L coded 2) and “Very Low Extent” (VL coded 1). Section C contained 20 items on frequency of usage of ICT tools by the lecturers and the response modes were “Very Great Extent” (VG coded 4); “Great Extent” (G coded 3); “Low Extent” (L coded 2) and “Very Low Extent” (VL coded 1).

3.5 Validity and Reliability of the Instrument

The face and content validity of the questionnaire was ascertained through the consultation of experts in Test and Measurement. A sample of twenty respondents was selected apart from the selected sample and the questionnaire was administered on them to carry out test-retest analysis. The reliability coefficient was calculated to be 0.75 using pearson product moment correlation on the data collected.

3.6 Method of Administration of the Instrument

The instrument was administered personally by the researcher on the sample respondents through the help of head of departments in each of the institution. Only 950 copies of the completed questionnaire were retrieved from the sample respondents to give 95% return rate. Therefore, Nine hundred and fifty (950) questionnaires were used for the study. A breakdown showed that 520 (54.7%) were females and 430 (45.3%) were males.

3.7 Method of Analysis of the Data

Statistical Package for Social Sciences (SPSS) package 17.0 was used to analyze the data collected from the respondents. The statistical techniques adopted are simple percentage, frequency count and t-test at 0.05 level of significant.

4. RESULTS

Research Question One: What is the level of competence of lecturers in the use of Information and Communication Technology (ICT)?

Table 1: Analysis of the level of ICT competence of Male and Female Lecturers in Tertiary Institutions in Oyo State

S/N	ICT TOOLS	SEX	RESPONSES			
			VG	G	L	VL
1	CD ROM	M	172(40.0%)	114(26.5%)	105(24.4%)	39(9.1%)
		F	114(21.9%)	239(46.0%)	118(22.7%)	49(9.4%)
2	Computers	M	156(36.3%)	135(31.4%)	123(28.6%)	16(3.7%)
		F	181(34.8%)	170(32.7%)	153(29.4%)	16(3.1%)
3	Internet	M	228(53.0%)	96(22.3%)	79(18.4%)	27(6.3%)
		F	255(49.0%)	130(25.0%)	108(20.8%)	27(5.2%)
4	Printer	M	231(53.7%)	96(22.3%)	79(18.4%)	27(6.3%)
		F	258(49.6%)	114(21.9%)	130(25.0%)	18(3.5%)
5	Digital Camera	M	153(35.6%)	128(29.8%)	124(28.8%)	25(5.8%)
		F	25(4.8%)	146(28.1%)	186(35.8%)	163(31.3%)
6	Scanner	M	154(35.8%)	32(7.4%)	226(52.6%)	18(4.2%)
		F	72(13.8%)	32(6.2%)	175(33.7%)	241(46.3%)
7	Projector	M	135(31.4%)	51(11.9%)	234(54.4%)	10(2.3%)
		F	64(12.3%)	51(9.8%)	156(30.0%)	249(47.9%)
8	Mobile Phone	M	246(57.2%)	75(17.4%)	54(12.6%)	55(12.8%)
		F	298(57.3%)	83(16.0%)	74(14.2%)	65(12.5%)
9	Facsimile	M	40(9.3%)	44(10.2%)	199(46.3%)	147(34.2%)
		F	73(14.0%)	49(9.4%)	236(45.4%)	162(31.2%)
10	Radio	M	199(46.3%)	138(32.1%)	68(15.8%)	25(5.8%)
		F	128(24.6%)	148(28.5%)	219(42.1%)	25(4.8%)
11	Television	M	160(37.3%)	125(29.1%)	88(20.5%)	57(13.3%)
		F	3132(25.4%)	180(34.6%)	148(28.5%)	60(11.5%)
12	E-mail	M	170(39.5%)	107(24.9%)	105(24.4%)	48(11.2%)
		F	225(43.3%)	127(24.4%)	115(22.1%)	53(10.2%)
13	Whats App	M	139(32.3%)	126(29.3%)	116(27.0%)	49(11.4%)

S/N	ICT TOOLS	SEX	RESPONSES			
			VG	G	L	VL
14	Instagram	F	182(35.0%)	109(30.6%)	127(24.4%)	52(10.0%)
		M	16(3.7%)	80(18.6%)	178(41.4%)	156(36.3%)
15	YouTube	F	85(16.3%)	50(9.6%)	210(40.4%)	175(33.7%)
		M	170(39.5%)	138(32.1%)	92(21.4%)	30(7.0%)
16	Gmail	F	135(26.0%)	144(27.7%)	207(39.8%)	34(6.5%)
		M	174(40.5%)	91(21.2%)	138(32.1%)	27(6.3%)
17	Twiter	F	218(41.9%)	172(33.1%)	98(18.8%)	32(6.2%)
		M	125(29.1%)	134(31.2%)	96(22.3%)	75(17.4%)
18	2Go	M	68(15.8%)	50(11.6%)	135(31.4%)	177(41.2%)
		F	86(16.5%)	50(9.6%)	185(35.6%)	199(38.3%)
19	Facebook	M	225(52.4%)	90(20.9%)	86(20.0%)	29(6.7%)
		F	225(43.3%)	142(27.3%)	124(23.8%)	29(5.6%)
20	Google Plus	M	112(26.0%)	138(32.2%)	161(37.4%)	19(4.4%)
		F	19(3.7%)	112(21.5%)	213(41.0%)	176(33.8%)

Source: Survey, 2017

The results in Table 1 shows that the female lecturers indicated that they were highly competent in items 1, 2, 4, 5, 6, 8, 10, 11, 12, 13, 15 and 17, over 50 percent are fully competent or very great or great extent user of these applications/operations. Even for items 7 and 9 over 40 percent are fully competent or very great or great extent user of these applications/operations. While they shows low competence to items 3, 14, 16, 18, 19 and 20 which they need further training to be conversant to these applications/operations.

Also male lecturers indicated that they were highly competent in items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 19 and 20, over 50 percent are fully competent or very great or great extent user of these applications/operations. Even for items 17 and 18 over 40 percent are fully competent or very great or great extent user of these applications/operations. While they shows low competence to items 14 and 16 which they need further training to be acquainted to these applications/operations. Conclusively, the ICT competence of male lecturers is greater than their female counterpart.

Research Question Two: What is the frequency of usage of different ICT tools by the lecturers?

Table 2: Analysis of Frequency of usage of different ICT tools by the Lecturers in Tertiary Institutions in Oyo State

S/N	ICT TOOLS	SEX	RESPONSES			
			VG	G	L	VL
1	CD ROM	M	172(40.0%)	114(26.5%)	105(24.4%)	39(9.1%)
		F	114(21.9%)	239(46.0%)	118(22.7%)	49(9.4%)
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		F	85(16.3%)	50(9.6%)	210(40.4%)	175(33.7%)
15	YouTube	M	170(39.5%)	138(32.1%)	92(21.4%)	30(7.0%)
		F	135(26.0%)	144(27.7%)	207(39.8%)	34(6.5%)
16	Gmail	M	174(40.5%)	91(21.2%)	138(32.1%)	27(6.3%)
		F	218(41.9%)	172(33.1%)	98(18.8%)	32(6.2%)
17	Twitter	M	125(29.1%)	134(31.2%)	96(22.3%)	75(17.4%)
		F	147(28.3%)	184(35.4%)	114(21.9%)	75(14.4%)
18	2Go	M	68(15.8%)	50(11.6%)	135(31.4%)	177(41.2%)
		F	86(16.5%)	50(9.6%)	185(35.6%)	199(38.3%)
19	Facebook	M	225(52.4%)	90(20.9%)	86(20.0%)	29(6.7%)
		F	225(43.3%)	142(27.3%)	124(23.8%)	29(5.6%)
20	Google Plus	M	112(26.0%)	138(32.2%)	161(37.4%)	19(4.4%)
		F	19(3.7%)	112(21.5%)	213(41.0%)	176(33.8%)

Source: Survey, 2017

The results in Table 2 shows that the female lecturers showed low frequency of usage in the following ICT tools (i.e. Digital Camera, Scanner, Projector, Facsimile, Instagram, 2go and google plus). Their responses indicated a below 30 percent which shows that they need further training to be conversant to the usage of these ICT tools. Though, they show high frequency of usage in those ICT tools that are very applicable to their academic programmes (such as Internet (74.0%), Mobile Phone (73.0%), Email (67.7%), Whats app (65.6%), Gmail (75.0%) and Facebook (70.6%)). Also male lecturers showed low frequency of usage in the following ICT tools (i.e. Scanner, Projector, Facsimile, Instagram and 2go).

Their responses indicated a below 30 percent for facsimile, instagram and 2go which shows that they need further training to be conversant to the usage of these ICT tools. But for both scanner and projector their frequency of usage is above 40 percent which indicated fairly usage. Male lecturers show high frequency of usage in those ICT tools that are very applicable to their academic programmes (such as Internet (75.3%), Mobile Phone (74.6%), Email (64.4%), Whats app (61.6%), Gmail (61.7%) and Facebook (73.3%)). Moreover, female lecturers shows high frequency of usage in the following ICT tools (i.e. CD ROM, Facsimile, Email, Whats app, Instagram, Gmail and Twitter) than male lecturers, but above all, male lecturers indicated high frequency of usage to ICT tools than their female counterpart.

Hypothesis 1: There is no significant difference between the ICT competences of male and female lecturers in tertiary institutions in Oyo State, Nigeria.

Table 3: T-test Analysis of ICT Competence of Male and Female Lecturers in Tertiary Institutions in Oyo State

Variables	N	Mean	SD	Df	t	Sig 2- tailed (0.05)
Male	430	51.98	15.73	948	2.64	.009
Female	520	52.04	15.70			
TOTAL	950					

Source: Survey, 2017

The result in Table 3 shows that the mean score of female lecturers is greater than male lecturers. The calculated t-test is 2.64 at a degree of freedom 948 and it is significant at 0.05. This result indicated that there is a significant difference between ICT competences of male and female lecturers in tertiary institutions in Oyo State, Nigeria. Therefore, the hypothesis which stated that there is no significant difference between the ICT competences of male and female lecturers in tertiary institutions in Oyo State, Nigeria is not accepted.

Hypothesis 2: There is no significant difference in the frequency of ICT usage between male and female lecturers in tertiary institutions in Oyo State, Nigeria.

Table 4: T-test Analysis of Frequency of ICT usage of Male and Female Lecturers in Tertiary Institutions in Oyo State

Variables	N	Mean	SD	Df	t	Sig 2- tailed (0.05)
Male	430	39.97	12.05	948	14.57	.000
Female	520	42.80	11.18			
TOTAL	950					

Source: Survey, 2017

The result in Table 4 shows that the mean score of female lecturers is greater than male lecturers. The calculated t-test is 14.57 at a degree of freedom 948 and it is significant at 0.05. This result indicated that there is a significant difference in the frequency of ICT usage between male and female lecturers in tertiary institutions in Oyo State, Nigeria. Therefore, the hypothesis which stated that there is no significant difference in the frequency of ICT usage between male and female lecturers in tertiary institutions in Oyo State, Nigeria is not accepted.

5. DISCUSSION OF FINDINGS

The results in table 1 indicated that the ICT competences of male lecturers are greater than that of the female lecturers. This result is in line with the findings of Ford, Miller and Moss (2001), Ono and Zovadry (2003) and Enochsson (2005) which found that females tended to experience more difficulty finding information online, feel less competent and uncomfortable using the internet, use internet less frequently than males and make use of a less varied set of internet applications. Also, the findings is in line with the findings Amkpa (2007) which reported that male and female students differ significantly in their attitude toward computer applications which has implications in their job acquisition and educational pursue. However, the finding of this study is at variance with the work of Akpan (2014) which indicated that male and female lecturers do not differ significantly in their level of ICT proficiency.

Also, the result in table 2 indicated that the frequency of ICT tools usage of male lecturers is greater than that of the female lecturers. This result corroborate the findings of Ikolo (2010) which revealed that gender digital divide is manifested in the low number of female users of ICTs compared to men. But on the contrary, Ikolo and Okiy (2012) found that females use Internet more than males in their study on gender differences in computer literacy among medical students in selected Southern Nigerian universities. Also, Bassi and Camble (2011) reported that there exists a statistical difference between males and females in using electronic resources as females have more difficulty in finding information online than males. But in contrast, the findings contradict the findings of Oyeniyi (2013) and that of Alshankity and Alshowi (2008) that revealed that the ICT usage of male is not different from that of female.

More over, the result in table 3 indicated that there is significant difference between the ICT competences of male and female lecturers in tertiary institutions in Oyo State, Nigeria. This finding is in consonant with the findings Kelvin and William (2013) who reported a significant difference in ICT competence between male and female students. But the findings contradict the findings of (Akpan, 2014; Danner and Pessu, 2013; Mudasiru and Modupe, 2011; Macqual and Ichakpa, 2014; Egunjobi and Fabunmi, 2017) that revealed that gender does not significantly influence lecturers' level of ICT competence. In other words, male and female lecturers do not differ significantly in their level of ICT proficiency.

Finally, the result in table 4 showed that there a significant difference in the frequency of ICT usage between male and female lecturers in tertiary institutions in Oyo State, Nigeria. This findings corroborate the findings of (Ikolo, 2010; Ikolo and Okiy, 2012; Bassi and Camble, 2011; Mahmood and Bokhari, 2012) which also revealed that there is gender difference in the frequency of ICT usage between male and female. But this finding contradicts the findings of (Oyeniyi, 2013; Alshankity and Alshowi, 2008; Hadiza, 2015) that revealed no gender differences in the frequency of ICT usage of male and female.

6. CONCLUSION

This study examines the gender differences in ICT competences and usage among lecturers in tertiary institutions in Oyo State, Nigeria. The results of the study has shown that there is gap between male and female lecturers in terms of their ICT skills and usage in certain applications and both the competences and usage of male lecturers surpassed those possessed by female lecturers. However, female lecturers indicated that they were unable to connect computer and it's peripheral, unable to use web authouring tools, unable to use scanner to copies images, unable to use digital camera to captures images, unable to burn information on CD and unable to use SPSS to analyse data. While male lecturers indicated that they were unable to use web authouring tools and scanners only.

Also the results of the study showed that female lecturers have low frequency of usage in the following ICT tools (i.e. Digital Camera, Scanner, Projector, Facsmile, Instagram, 2go and google plus). While male lecturers have low frequency of usage in the following ICT tools (Facsmile, Instagram and 2go) but having fair frequency of usage in both scanner and projector. Moreover, female lecturers show high frequency of usage in the following ICT tools (i.e. CD ROM, Facsmile, Email, Whats app, Instagram, Gmail and Twitter) than male lecturers.

Conclusively, as it stands now, lecturers in the tertiary institutions in Oyo State, Nigeria do not regard ICT use as a male dominated ritual as can be seen from the percentage scores achieved by both genders in the ICT competences in some ICT applications/operations. The results of this study also indicate that the majority of lecturers who participated were competent only in certain applications that could enhance their efficiency and were relevant to them as academicians.

It should be noted that this study is preliminary and exploratory in nature. All data collected were based entirely on the honesty of answers from the participants and how they perceived their skills and usage toward ICT. It also must be noted that the lecturers involved participated voluntarily in this study. Therefore, the findings of this study may not be generalized for the entire tertiary institutions in Oyo State, Nigeria.

7. RECOMMENDATIONS

Based on the findings of this study, the study recommended the following suggestion:

- (i) Management of the tertiary institutions in Oyo State should encourage both male and female lecturers to participate in ICT training programs.
- (ii) The management of tertiary institutions in Oyo State should equip the academic staff offices with adequate ICT facilities.
- (iii) More ICT materials/facilities should be available and accessible for use to both lecturers and students in the tertiary institutions in Oyo State.
- (iv) Management of the tertiary institutions in Oyo State should enforce that lecturers use the technology in teaching and learning process so as to increase their competence in the ICT usage.
- (v) Management of the tertiary institutions in Oyo State should implement a digital library that interlinks all the libraries of the world electronically in order to promote online access to electronic information.

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