AGE, GENDER AND INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS ACQUISITION AMONG SECONDARY SCHOOL STUDENTS IN CALABAR EDUCATION ZONE OF CROSS RIVER STATE, NIGERIA.

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ABSTRACT

The purpose of this study was to investigate the influence of age and gender on Information and Communication Technology skills acquisition among secondary school students in Calabar Education Zone of Cross River State. Nigeria. To achieve the purpose of this study, two null hypotheses were generated to direct the study. The literature review was done according to the variables under study. Survey research design was adopted for the study. A sample of four hundred and eighty (480) respondents was randomly selected for the study. The questionnaire was the instrument used for data collection. The instrument was subjected to face and content validity by the supervisor and experts in measurement and evaluation in the Faculty of Education, University of Calabar. The reliability estimate of the instrument was established through the Cronbach Alfa reliability method. One-way analysis of variance (ANOVA) and independent t-test analysis were the statistical analysis techniques adopted to test the hypotheses under study. All hypotheses were subjected to testing at .05 level of significance with relative degrees of freedom. The results of the analysis revealed that age and gender significantly influence to Information and Communication Technology skills acquisition. Based on the findings of the study it was recommended that Government and professional bodies like Nigerian Association of Teachers of Technology (NATT) should organize workshops, conferences and seminars as to train and encourage young teachers on the use of the ICT as an innovative technique. Government at all levels through the ministry of education should raise gender based

awareness workshops and seminars on the need to allow female students actively participate in ICT skills acquisition.

Keywords: *Age, Gender, ICT and Skills Acquisition*

INTRODUCTION

The education system in Nigeria is challenged by low level of students' ICT skills acquisition. The problems may be as a result of teachers' ineffectiveness in the use of ICT in lesson delivery among secondary schools in Nigeria. The problem has been observed in secondary schools in Calabar Education Zone of Cross River State, Nigeria. The secondary schools in the study area have been affected by this situation as teachers do not frequently use ICT facilities for instructional delivery. Many of the teachers still depend on the traditional classroom strategy where the teacher dominates the teaching process which in turn affect students' ICT skills acquisition in the knowledge-based world of today. Studies conducted to find lasting solution to this disheartening situation had attributed this to poor remuneration system from the government for teachers to procure ICT gadgets that can enable them acquire the skills and adopt the ICTs as instructional strategies, while others trace the problem to non-interest in ICT skill acquisition on the side of students, poor maintenance culture among school management and poor power supply. Government in response to various recommendations made, had in recent times made effort to provide teachers with laptops, encouraged in-service programmes such as seminars, workshops, conferences among others for teachers to update their skills that will enable them adopt ICT in lesson delivery to enhance skills acquisition. Despite the government effort, the problem still persists in secondary schools in Calabar Education Zone of Cross River State. It is against this backdrop that the researcher is interested in investigating the influence of age and gender variables on Information and Communication Technology skills acquisition among secondary school students in Calabar Education Zone of Cross River State. Nigeria.

The need to acquire and maintain skills in multiple technologies may be unproblematic for confident ICT users but can prove daunting and frustrating for those with lower levels of media literacy. In Nigeria, a multiplicity of ICT skills training is available. However, much of this is targeted at people who need to acquire ICT skills in order to find employment or is for people seeking IT professional qualifications (Otu, Ojini & Ita, 2021). With the exception of organizations oriented explicitly

towards older people, most ICT training for beginners caters for all age groups and this may be problematic for older learners. The most common providers of ICT learning support to the 50+ age cohort, through face-to-face provision (classes and/or drop-in centres) are libraries and local and community organizations (Czaja, 2017). On-line resources for ICT learning and support are also freely available to help older adults acquire ICT skills e.g. on websites such as Digital Unite, BBC Webwise, Learn my way, Firstclick and Alison. Resources and guides are provided on a range of topics including 'computer basics', 'internet basics' and 'shopping online' (Echt, 2012).

Age could be another factor that affects skills acquisition/utilisation of ICT in Southwest Nigerian universities. Age is the length of time that a person or thing that lived or existed. Age has been found to correlate with the use of ICT facilities. It is a known fact that younger generations are brought up with computer, especially with the introduction of mobile phones. Studies have been carried out on how age affects skills acquisition/utilisation of ICT in the education system. White (2015) carried out a study on internet use by a Faculty of Mass Communication and other related disciplines in USA and reported that about three quarters of the respondents used computer-mediated communication, and that younger faculty members showed higher use of electronic information than the general population. Laguna and Babcock (2017) discovered that there were significant age differences on computer task, as measured by older adults making fewer correct decisions than the younger adults.

Although the impact of ICT is now being felt in Nigeria, it is mainly in libraries and higher institutions where computer and internet facilities are on the increase, but with problems of funding and technical support (Otu, Ojini, Ita, & Ngwanya, 2022). It is common to see young people and students patronizing cybercafés to use internet facilities on campuses and in the cities of Nigeria. Elderly people including academics are rarely found in such places. It can be argued that the elders remain in their homes or offices to use ICT, because of the availability of cell phones and lap top computers with internet facility. The Government of Nigeria acknowledged that with a population of 160 million people and many schools, serious attention needs to be given to training in ICT (FGN, 2012). Apart from inadequate training, the elderly lecturers tend to be reluctant to acquire ICT skills at their age. For example, one of the respondents said I can't learn how to use left hand at old age while another retorted "I don't even

remember I have a lap top". A 65-year-old lecturer questioned: "why do I have to bother myself doing statistical analyses, prepare power point presentation or draw graphs with the computer when my children can do it or I pay someone to do it if they are not available?" Lack of confidence in the use of ICT applications has been reported to be one of the barriers to the use of ICT tools by older people (Russell & Bradley, 2017).

The older and longer serving lecturers tend to use the ICT tools less frequently than the younger colleagues. This is in contrast with the report of Becta (2014) which found little evidence to support the view that age affects levels of teachers' use of ICT and the report of Bradley and Russell (2017) that the younger lecturers are no more likely to use ICT better than their older and more experienced colleagues. The investigation by Bradley and Russell (2017) was conducted in the developed part of the world where ICT is popularly used unlike developing countries like Nigeria that is just starting. However, discussion with some of the young students and lecturers revealed that the need to "publish or perish" made it important for them to learn how to use ICT in order to advance in their academic career. They pointed out that the internet is now a major source of information for research and even sending manuscripts through the online system for publication. They also pointed out that their senior and elderly colleagues may have reached the peak of their academic career and do not need to "publish or perish" (Bradley & Russell, 2017). The adults have special responsibility to children, hence they have less time for many issues outside their household including ICT.

In a study on Internet use among people aged sixteen (16) years and above in the United State of America, they postulated that people within 16 and 24 years were characterized as using the Internet at a high rate than the older ones (Hunley, Evans, Delgado-Hachey, Krise, Rich, and Schell, 2015). Similarly, Hoskins and Hoof (2015) in their study on some factors that affect the utilization of learning and their influence on the achievements of second year undergraduates of psychology in a university in the United Kingdom reported that the number of hits, length of access, and use of the bulletin board was related to age, with older students using Web CT more than others. Adomi and Emperor (2010) also discovered a negative relationship between age and the use of e-mail. Colley and Camber (2013) also carried out research on gender and age difference in computer use and attitudes among students of ages11-12 and 15-16 in five secondary schools in Midlands of the United Kingdom and reported that the older

girls of ages between 15-16 years used CD-ROM less than the younger ones of ages 11-12 years.

STATEMENT OF PROBLEM

ICT skills acquisition is observed to be influenced by several factors such as age and gender. Okiki and Asiru (2011) were of the opinion that the factors that influence the use of electronic information sources among students varied according to the age, gender and program of their study and recognized the need for the students to carry out researches in order to excel academically. However, demographic variables such as age and gender were variables that relates to interest and ability levels of students towards computers skills acquisition. Despite government efforts to inculcate digital literacy skills, there are still lukewarm attitude of students towards information and communication technology. It is equally observed that many of the public secondary schools in Cross Tiver State had no information communication technology. Is against this background that the researcher is interested in investigating the influence of age and gender variables on information communication technology skills acquisition among secondary school students in Calabar Education Zone of Cross River State, Nigeria.

Purpose of the study

The main purpose of the study was to assess the impact of age, gender and information technology skills acquisition among secondary school students in Calabar Education Zone of Cross River State, Nigeria.

Accordingly, the following specific purposes were formulated to guide the study:

i) To determine if age categories of students influenced information and communication technology skill acquisition among secondary schools in Calabar Education Zone

ii) To determine if gender difference influenced information and communication technology skill acquisition among secondary schools in Calabar Education Zone.

Research questions

The following research questions were raised to direct the study:

i) What is the mean influence of age categories on ICT skills acquisition among secondary schools in Calabar Education Zone

ii) What is the difference between genders on ICT skills acquisition among secondary schools in Calabar Education Zone

Statement of hypotheses

The following null hypotheses were formulated to guide verification and generalization of findings. All the null hypothesis were formulated and tested on 0,05 alpa level of significance.

i) There is no significant mean difference of age categories on ICT skills acquisition among secondary schools in Calabar Education Zone

iii) There is no significant difference of the influence of gender on ICT skills acquisition among secondary schools in Calabar Education Zone.

Conceptual frame work and review of empirical related studies
Concept of Age

Age is the length of time that a person or thing that lived or existed. Age has been found to correlate with the use of ICT facilities. It is a known fact that younger generations are brought up with computer, especially with the introduction of mobile phones. Studies have been carried out on how age affects skills acquisition/utilization of ICT in the education system. White (2015) carried out a study on internet use by a Faculty of Mass Communication and other related disciplines in USA and reported that about three quarters of the respondents used computer-mediated communication, and that younger faculty members showed higher use of electronic information than the general population. Laguna and Babcock (2017) discovered that there were significant age differences on computer task, as measured by older adults making fewer correct decisions than the younger adults. Also, Adepoju (2017) carried out a study that investigated the demographic factors affecting utilization of Information and Communication Technologies by undergraduate students in Nigeria and found out that students below age 20 use ICT more than those between ages 20 and 30 years.

Concept of gender

The concept of gender is used to understand the social and political relations between men and women as well as how the concepts of femininity and masculinity are constructed. Gender attributions are therefore often justified on the basis of sexual or biological differences. Encapsulating the above situation, Okunna (2010) argues that the Nigerian woman was characterized by low self-esteem because the society has continued to regard her as unimportant and inferior to her male counterpart. Right from the time immemorial, society prefers the boy child to the girl child. All through her growing-up years, the girl child is socialized to accept her subordinate position even when it is well known that Liberal

Feminist theory is correct in its argument that boys and girls are born with equivalent potentials that could be fully realized, given the proper and conducive environment. Consequently, men are assumed to be better equipped to pursue science and technology compared to women, creating greater obstacles for women from entering the field (George, 2015).

White (2015) in his study on the use of the Internet by the faculty staff in a university reported that female members showed significantly higher use of electronic information than males. It is worthy to note that in Yusuf's (2015) study on the utilization of Internet by undergraduates stated that females and males spent almost the same time on the Internet but the information source by females were quite different from males. It has been found that there was no significant difference in the attitudes of male and female administrators in secondary schools in Taiwan towards ICT skills acquisition and computerization (Ford, Miller & Moss, 2019). Similarly, Birisci, Metin and Karakas (2019) also found that among 191 prospective elementary school students in Turkey, there was no significant difference in their attitude towards computers based on gender, but female participants in the study were more positively disposed to using Internet than men

Empirical studies on gender and information technology skills acquisition were gaining the attention of scholars of educational research. Kwetishe, Bayo and Ochedikwu (2015) identified and evaluated gender issues and information communication technology skills acquisition in Nigeria. The study critically examined research literatures and conducted research survey on the prospects and challenges of promoting gender equality and female ICT skills in Nigeria. The research survey used a random sampling technique with a target sample size of eighty (80) respondents. Data gathered from the questionnaire was analyzed using Statistical Package for Social Science version 19, and the result was presented using ANOVA, and descriptive analysis. The study revealed gender inclusiveness in policy drafting as a key driver for female ICT skills acquisition. The researchers recommend a deliberate ICT policy that attract and encourages women participation in ICT developmental framework.

Fomsi and Orduah (2017) sought to determine gender differences in the use of ICT among Teachers in Model Primary Schools in Rivers State, Nigeria. It was a descriptive study with a sample of 200 teachers drawn from 25 functional model primary schools in two local government areas (LGA) of Rivers State namely Port Harcourt City Council and Obio-Akpor. The

findings showed that there was no significant difference between the mean scores of the male and female model primary school teachers in the use of ICT and no significant difference between the mean scores of female model primary school teachers in Port Harcourt City Council and Obio-Akpor Local Government Areas in the use of ICT.

Similarly, Empirical studies on age and information technology skills acquisition have revealed that age could relate with ICT skill acquisition. Scholars such as Adepoju, Olayinka Eunice (2017) carried out a study that investigated the demographic factors affecting utilization of Information and Communication Technologies by undergraduate students in Nigeria. The factors examined include gender, age, religion, marital status and type of university. The study adopted a survey design approach and the questionnaire was administered on 1000 students across various Nigerian universities. 500 students were from two federal universities while 500 were from two state universities. Data were analysed using descriptive (frequency distribution) and inferential (Chi-square, PPMC and t-test analysis) statistical tool. Findings showed that the male gender utilizes ICTs more than the female gender, students below age 20 use ICT more than those between ages 20 and 30 years, single students utilize ICT more than the married and traditional worshippers use ICT more than Muslims while the Christian use of ICT is the lowest. The groups that use ICT more consequently experience greater benefits in terms of productivity and profit.

Adepoju (2017) investigated the demographic factors affecting Information and Communication Technologies skills acquisition by undergraduate students in Nigeria. The factors examined include gender, age, religion, marital status and type of university. The study adopted a survey design approach and the questionnaire was administered on 1000 students across various Nigerian universities. 500 students were from two federal universities while 500 were from two state universities. Data were analysed using descriptive (frequency distribution) and inferential (Chi-square, PPMC and t-test analysis) statistical tool. Findings showed that the male gender utilizes ICTs more than the female gender, students below age 20 use ICT more than those between ages 20 and 30 years.

RESEARCH METHODOLOGY
The research design used for this study was descriptive Survey design. The study area was the Calabar Education Zone of Cross River state.   The

Calabar Education zone is located between latitude $4^o28''$ and 6^o31 north of the Equator and longitude $7^o50''$ and $9^o28''$ east of the Greenwich meridian. The target population of the study comprised all the 4,958 *students (*State Secondary Education Board, 2020). The stratified random sampling technique was used for the study. The stratification was based on the seven Local government areas in the Education Zone. In each of the local government areas the simple random technique was used to select the sample for the study. 10% of the schools in each Local Education Authority were used for the study. The sample consists of 497 secondary school adolescents which comprised of 10% of the estimated population from the seven local Government Areas in Calabar Education Zone of Cross River State. 10% of the estimated population was considered appropriate because it can be used to make inference and generalization of the population.

The instrument for data collection is a questionnaire tagged "Age, Gender and Information and Communication Technology Skills Acquisition Questionnaire (AGVICTSAQ). The instrument consists of two sections. Section *A* consist of the two items, which measure Age and Gender. Section B consists of 15 items to measure Information and Communication Technology skills acquisition. The questionnaire was a 4–point modified likert scale type, ranging from Strongly Agree (SA, 4points), Agree (A, 3 points), Disagree D, 2 points) and Strongly Disagree (SD, 1 point) and the reverse for negatively worded items.

Face and content validity was established for the instrument of this study. The face validity was established by using two from Measurement and Evaluation in the Faculty of Education who vetted the items developed. There were initially 20 items in the questionnaire, after vetting some of the items were dropped while some of them were modified. The experts certified that, the instrument is face and content valid and could then be used for the study. The reliability of the instrument was established using Cronbach Alpha reliability co-efficient method. Fifty copies of the instrument were administered to 50 JSS3 students who were not part of the main study.
. The questionnaires were administered in each of the sampled schools. The respondents were informed of the exercise and essence of giving objective responses to the items. Out of 497 copies ofquestionnaires that were administered, only 480 were successfully retrieved and were used as the sample for the study.

RESULTS AND DISCUSSION OF FINDINGS

Hypothesis one

There is no significant influence of the Age on Information and Communication Technology skills acquisition. The independent variable in this hypothesis is the Age (Below 12 years, 12-14years and 15years above), while the dependent variable is Information and Communication Technology skills acquisition. The dependent variable had four components in this study, namely, On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition. The statistical analysis technique deployed to test this hypothesis was a one-way analysis of variance (ANOVA). The results of the analysis are presented in Tables 1 and 2.

TABLE 1

Descriptive statistics of the influence of Age on Information and Communication Technology skills acquisition
(N=480)

		N	Mean	Std. Deviation
On-line research	Below 12 years	43	19.3953	.47771
	12-14years	91	18.0440	2.32815
	15years above	18	18.6667	3.44708
	Total	480	18.5000	2.23459
Social media management	Below 12 years	43	17.8372	.99834
	12-14years	91	18.1429	1.50976
	15years above	18	19.5000	.51450
	Total	480	18.2171	1.38065
Word processing	Below 12 years	43	15.4186	2.73629
	12-14years	91	15.5385	2.40050
	15years above	18	18.0000	2.05798
	Total	480	15.7961	2.57944
Total Information and Communication Technology skills acquisition	Below 12 years	43	52.6512	2.79356
	12-14years	91	51.9670	3.77845
	15years above	18	57.0000	3.08697
	Total	480	52.7566	3.77864

TABLE 2
Analysis of variance of influence of Age on Information and Communication Technology skills acquisition (N=480)

		Sum of Squares	Df	Mean Square	F	Sig.
On-line research	Between Groups	53.897	2	26.948	5.735	.004
	Within Groups	700.103	477	4.699		
	Total	754.000	479			
Social media management	Between Groups	36.332	2	18.166	10.762	.000
	Within Groups	251.503	477	1.688		
	Total	287.836	479			
Word processing	Between Groups	99.597	2	49.799	8.198	.000
	Within Groups	905.081	477	6.074		
	Total	1004.678	479			
Total Information and Communication Technology skills acquisition	Between Groups	381.325	2	190.662	16.008	.000
	Within Groups	1774.669	477	11.911		
	Total	2155.993	479			

* Significant at P<.05

Table 1 shows the sizes, means and SD for the three groups of respondents based on the levels of the Age. The actual results of ANOVA that compared the three group mean values are shown in Table 2. The comparison yielded F-ratios of 5.735, 10.762, 8.198 and 16.008 for On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition respectively. Three of the F-ratios (for On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition) are each higher than the P-value at .05 level of significant, with 2 and 477 degrees of freedom. With these results, the null hypothesis is rejected in each of the four instances of On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition. This implies that there is a significant influence of Age on Information and Communication Technology skills acquisition in the four aspects of On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition.

In order to understand the pattern of the significant influence of Age on Information and Communication Technology skills acquisition of On-line

research, Social media management, Word processing and total Information and Communication Technology skills acquisition, a post hoc multiple comparison analysis was carried out using Fisher's least significant difference (LSD) test. The results of these analyses are presented in Table 3.

TABLE 3
Results of Fisher's least significant difference (LSD) multiple comparison analysis of the significant influence of Age on Information and Communication Technology skills acquisition (On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition). Multiple Comparisons

Dependent Variable	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
On-line research	Below 12 years	12-14years	1.35139(*)	.40113	.001
		15years above	.72868	.60853	.233
	12-14years	Below 12 years	-1.35139(*)	.40113	.001
		15years above	-.62271	.55917	.267
	15years above	Below 12 years	-.72868	.60853	.233
		12-14years	.62271	.55917	.267
Social media management	Low	12-14years	-.30565	.24042	.206
		15years above	-1.66279(*)	.36473	.000
	12-14years	Below 12 years	.30565	.24042	.206
		15years above	-1.35714(*)	.33515	.000
	15years above	Below 12 years	1.66279(*)	.36473	.000
		12-14years	1.35714(*)	.33515	.000
Word processing	Below 12 years	12-14years	-.11986	.45609	.793
		15years above	-2.58140(*)	.69190	.000
	12-14years	Below 12 years	.11986	.45609	.793
		15years above	-2.46154(*)	.63578	.000
	15years above	Below 12 years	2.58140(*)	.69190	.000
		12-14years	2.46154(*)	.63578	.000
Total Information and Communication Technology skills acquisition	Low	12-14years	.68413	.63865	.286
		15years above	-4.34884(*)	.96886	.000
	12-14years	Below 12 years	-.68413	.63865	.286

15years above	15years above	-5.03297(*)	.89027	.000
	Below 12 years	4.34884(*)	.96886	.000
	12-14years	5.03297(*)	.89027	.000

* The mean difference is significant at the .05 level.

The Post Hoc test result presented in Table 3 show that Students whose level of age is Below 12 years are significantly different in their acquisition Information and Communication Technology skills in terms of On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition from those whose level of age is either 12-14years or 15years above. Also, Students whose age is 12-14years are significantly different in their acquisition Information and Communication Technology skills from those whose age is 15years above.

Hypothesis two
There is no significant mean difference of gender on Information and Communication Technology skills acquisition. The independent variables in this hypothesis is gender (male and female). The dependent variable is the Information and Communication Technology skills acquisition. Independent t-test analysis was employed to test this hypothesis. The result of the analysis is presented in Table 4.

TABLE 4
Independent t-test analysis of gender on Information and Communication Technology skills acquisition ((N=480)

Skills acquisition	Gender	N	Mean	Std. Deviation	t-value	Sig.
On-line research	Male	231	14.2121	3.02210	.	
	Female	249	13.7871	3.23147	9.85	.000
Social media management	Male	231	14.0866	3.46301		
	Female	249	13.4378	3.58384	4.42	.000
Word processing	Male	231	12.9524	3.36250		
	Female	249	12.6506	3.17539	7.11	.000
Total Information and Communication Technology skills acquisition	Male	231	41.2511	7.36957		
	Female	249	39.8755	7.20918	5.66	.000

* Significant at P<.05

Table 4 shows the calculated t-values of 9.85, 4.22, 7.11 and 5.66 for On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition respectively. Three of the F-ratios (for On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition) are each higher than the P-value at .05 level of significant, with 478 degrees of freedom. With these results, the null hypothesis is rejected in each of the four instances of On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition. This implies that there is a significant influence of gender on Information and Communication Technology skills acquisition in the four aspects of On-line research, Social media management, Word processing and total Information and Communication Technology skills acquisition.

DISCUSSION OF FINDINGS

From the result of hypothesis, it was revealed that Ho_1 which says there is no mean difference of Age on information and communication technology skill acquisition was rejected. The actual result of ANOVA that compared the three group mean and values yielded F ratios of 5,735, 10.762, 8.198 and 16.008 for on-line research, social media management, word processing and total information and communication skills acquisition

respectively. Three of the F-ratios (on-line research, social media management, word processing and total information and communication skills acquisition) are each higher than the P- value at 0.5 level of significance with 2 and 477 degree of freedom. With this result, the null hypothesis was rejected. This implies that there is a significance impact of age on information and communication Technology skills acquisition in the four aspects of on-line research, social media management, word processing and total information and communication skills acquisition. To understand better the pattern of significant impact of Age on information communication technology skills acquisition of on-line research, social media management, word processing and total information and communication technology skill acquisition, a post hoc multiple comparison was carried out through the use of Fisher's Least Significant Difference (LSD) test.

The result of the LSD test shows that students whose Age range is below is below 12 years are significantly different in that acquisition of ICT acquisition skills in terms of on-line research, social media management, word processing and total information and communication technology skill acquisition from this students whose level of Age is either 12-14 years or 15 years and above. The findings of the present study correlated with the findings of Emesini (2017) who examined pattern of acquisition of ICT based skills by students- teachers and found out that acquisition of ICT-based skills is directly related to age, gender and course of study. The present findings also confirmed the findings of Adepoju (2017) who investigated the demographic factors affecting information and communication technology skills acquisition by undergraduate students as the result showed that students below age 20 use ICT more than those between ages 20 and 30 years.

The findings of hypothesis 2, (H0$_2$) showed that there is significant influence of gender on information and communication acquisition. The result showed that calculated t-values of 9.85, 4.42, 7.11 and 5.66 for on-line research, social media management, word processing and total information and communication technology skill acquisition skills acquisition respectively. The t-values for on-line research, social media management, word processing and total information and communication technology skill acquisition skills acquisition are each higher than the p-value at 0.05 level of significance with 478 degree of freedom. With these results, the null hypothesis was rejected in each of the four instances of on-

line research, social media management, word processing and total information and communication technology skills acquisition. This implied that there was a significant influence of gender on ICT skills acquisition in the four aspects of on-line line research, social media management, word processing and total information and communication technology skills acquisition. This result confirmed the findings of Adepoju (2017) who investigated demographic factors affecting information and communication technology skills acquisition by undergraduate students in Nigeria. Findings reveals that the male gender uses ICT more than the female gender.

CONCLUSION

Based on the results and findings of the study, the following conclusions were reached; age and gender significantly influenced Information and Communication Technology skills acquisition among secondary school students.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. Government and professional bodies like Nigerian Association of Teachers of Technology (NATT) should organize workshops, conferences and seminars as to train and encourage young teachers on the use of the ICT as an innovative technique.
2. Government at all levels through the ministry of education should raise gender based awareness workshops and seminars on the need to allow female students actively participate in ICT skills acquisition.

REFERENCES

Adepoju, O. E. (2017). Demographic factors affecting ICT skills acquisition by undergraduate students in some selected universities in Nigeria. *International Journal of Library and Information Science Studies*, 3 (2), 20-33.

Adomi E. E & Emperor K (2010). Application of ICT in Nigeria secondary schools: *Library philosophy & practice*, Delta State University, Abraka.

Becta. (2014). A review of the research literature on barriers to the uptake of ICT by teachers. London: Jones, A. Retrieved from http://www.becta.org.uk.

Birisci, S., Metin, M., Karakas, M. (2019). "Prospective elementary teachers' attitude towards computer and Internet use: A sample from turkey". *World Applied Sciences Journal*, 6(10),1433-1440.

Colley, A. and Comber, C. (2013). Age and Gender Difference in Computer Use and Attitudes among Secondary School Students: What has changed? *Educational Research*, 45 (2), 155-165

Czaja, S. (2017) Computer technology and the older adult. In Heldander, M., Landauer, T. and Prabhu,P. (Eds), *Handbook of Human-Computer Interaction.* Amsterdam: Elsevier.

Echt, K. V. (2012) Designing web-based health information for older adults: visual considerations and design directives. In Morrell, R. W. (eds) *Older Adults, Health Information and the World Wide Web.* Lawrence Erlbaum Associates, pp 61-87.

Ford, N., Miller, D. and Moss, N. (2019). "The role of individual differences in Internet searching: *Librarianship,* 23, 5-16.

Federal Government of Nigeria (FGN). (2012). *National information communication technology policy.* Abuja, Nigeria: Ministerial Committee. Retrieved from http://www.commtech.gov.ng/downloads/National_ICT_Policy_DRAFT_090112.pdf

Fomsi, E. F. & Orduah, S. E. (2017).Gender differences in the use of ict among teachers in model primary schools in Rivers State, Nigeria. British Journal of Education, 5 (4), 88-94.

Hoskins, A. & Hoof, M. (2015). Challenge point: a framework for conceptualizing the effects of various practice conditions in motor learning. *Journal of Motor Behaviour, 36,* 212-224.

Kwetishe, J. D., Bayo, M. O. & Ochedikwu, J. O. (2015). Gender Issues & Information Communication Technology for Development (ICT4D): Prospects and Challenges for Women in Nigeria. https://www.researchgate.net/publication/275279986

Otu, B. D., Ojini R. A. & Ita, C. I. (2021). Moral values, religious affiliation and academic use of social media among secondary school students in Calabar Education Zone, Cross River State, Nigeria. Nigeria. *Special Needs Education.*6, 112-124.

Otu, B. D., Ojini R. A. Ita, C. I., & Ngwanya N. (2022). Interest, attitude and communication technology skills acquisition among secondary school students in Calabar Education Zone of Cross River State, Nigeria. *Special Needs Education.*7, 23-46

Okiki, C. O. and Asiru, S. M. (2011). Use of Electronic Information Sources by Post Graduate Students in Nigeria: Influencing Factors *Library Philosophy and Practice 2011. http://unllib.unl.edu /LPP/okiki - asiru.htm*

Russell, G., & Bradley, G. (2017). Teachers' computer anxiety: implications for professional development. *Education and Information Technologies, 2 (1),* 17-30.

White, C. (2015). Uses and Impacts of Computer Mediated Communication: A Survey of Faculty in mass Communication and Related Disciplines. Unpublished Doctoral Dissertation, University of Georgia, Athens

Yusuf, M. O. (2015). Information and Communication Technology and Education. Analysing the Nigerian National Policy for Information Technology. *International Evaluation Journal*: 6(3), 316 – 332.