



Relationship Among Undergraduates' Motivation, Self-Efficacy And Use Of Information And Communication Technology For Learning In Kwara State

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ABSTRACT

Information and communication technology (ICT) facilitates quick and easy access to a wide range of information and information resources worldwide for students and teachers. Due to the importance of ICT in learning, it is necessary to identify factors that might influence its integration into the educational environment. This study examined the relationship between motivation, self-efficacy and the use of information and communication technology for learning among college students in Kwara State. This study also examined the influence of gender on motivation, self-efficacy and the use of ICT for learning. This research is a descriptive design using the cross sectional survey method. The study samples were taken from one federal, one state and one private university (three universities) in Kwara state. The respondents were 296 students (170 boys and 126 girls and 54 arts, 104 social studies and 138 students. As a result it can be recommended that adequate support should be provided to students to obtain ICT resources and applications for the improvement of their studies, also teachers should integrate the use of ICT in their lessons regularly to encourage students to use it.

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1. INTRODUCTION

The use of information and communication technology has become so prevalent in our society that even toddlers are able to perform certain tasks on technological devices. However, as with all important innovations, there are several factors that are beneficial or detrimental to its utilization. Information and Communication Technology plays a vital role in the development of any nation. It has been an instrument for achieving social, economic, educational, scientific and technological development (Adedeji, 2010).

Iloanusi and Osuagwu (2010) defined Information and Communication Technology (ICT) as the processing and maintenance of information, and the use of all forms of computer, communication, network and mobile technologies to mediate information. Communication technologies include all media employed in transmitting audio, video, data or multimedia such as cable, satellite, fiber optics, wireless (radio, infra-red, bluetooth, wifi). Network technologies include Personal Area Networks (PAN), Campus Area Network (CAN), Intranets, Extranets, Local Area Networks (LAN), Wide Area Networks (WAN) and the Internet.

Computer technologies include all removable media such as optical discs, disks, flash memories, video books, multimedia projectors, interactive electronic boards, and continuously emerging state-of-the-art personal computers while mobile technologies comprises mobile phones, personal digital assistants, palmtops, and many others. ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form, for example, personal computers, digital television, email and robots (Riley, 2012).

Information and Communication Technology (ICT) primarily involves not only the technology *per se*, but also the processes of storing, retrieving, manipulating and transmitting or receiving of digital data. Importantly, It is also concerned with the way these different processes can work with each other. Furthermore, ICT includes a variety of computing hardware (PCs, servers, mainframes, networked storage); the rapidly developing personal hardware market comprising mobile phones, personal devices, MP3 players; the collection of application software from the simple home developed spreadsheet to the complex enterprise packages; and, online software services. In addition, it includes the hardware and software needed to operate networks for transmission of information as well as the internet which stands out as the major driver of most of the ICT (Adamkolo, 2014).

As a matter of fact, ICTs are becoming natural part of man's daily life; thus their use in education by staff (academic and non-academic) and students has become a necessity. Certainly, the present and future academic global community will utilise ICTs to a high degree. Hence, it is imperative that learners not only need to use ICTs, but they need to become comfortable with using ICTs. This is to ensure that learners participate fully in the life of the contemporary university and to accomplish their everyday task.

ICT has greatly influenced the educational sectors especially in teaching, learning and research. The integration of ICT in tertiary institutions is critically important, if Nigeria is to produce graduates equipped with knowledge and technological based economy and also to bridge the gaps between itself and the rest of the world. Therefore, the use of ICT cannot be ignored either by teachers or by students. This is stressed by Van der Westhuizen (2004) who points out that, in relation to the use of ICT for learning, technology holds promise of improved access to information and increased interactivity and communication between teachers and their students. ICT facilitates quick and easy access to a wide range of information and information resources worldwide for students, therefore, tertiary institutions strive to be up-to-date in their curricula and the provision and use of ICT by both undergraduates and postgraduates students and staff is non-negotiable.

For ICT to be used effectively they must be available, users must be aware of their availability, users must be able to access ICT to develop information literacy and technical skills required for their effective use. Access to information through ICT increases the information accessible to individuals to support them in trying new strategies, thinking and creativity that are reflective in practice aimed at engaging them to new innovations through the use of ICT (Ololube, 2006). ICT proficiency is the ability to use digital technology, communication tools, and networks appropriately to solve information problems in order to function in an information society. This includes the ability to use technology as a tool to carry out research, organize, evaluate, and communicate information. ICTs have the potential for increasing access to and improving the relevance and quality of education (Oye, Iahad, & Rabin, 2012).

The application of ICT into education has greatly improved the quality of teaching and learning at every level. It is widely acknowledged that ICT can be used to improve the quality of teaching and learning in any tertiary institution. The prevalence and rapid development of information and communication technologies (ICTs) has transformed human society from the information technology age to the knowledge age (Galbreath, 2000). Students have to cope with the demands of emerging information and communication technologies which have moved them away from analogue to digital technology (Nkokelonye, 2008).

Information and Communication Technology has introduced new approaches towards teaching, learning and conducting researches and have been brought into education facilities for online learning, teaching and research collaboration. University administration in many Nigerian universities sees information and communication technologies as necessary in the process of learning and teaching. Information and communication technology has given rise to new modes of organizing the educational environment in schools and new concepts in the teaching process as well as remodelling the roles played by the participants in the educational process. Internet's seemingly infinite information offers access to up-to-date research reports and global knowledge (Nwokedi, 2007).

ICT greatly facilitates the acquisition and absorption of knowledge, offering developing countries unprecedented opportunity to enhance educational systems and improve policy formulation. One of the greatest hardships endured by the poor, and by many others who live in the developing countries is their sense of isolation. The new communication technologies promise to reduce that sense of isolation and also open access to knowledge in such an unimaginable way in a short period (Efe, 2010).

The incorporation of technology into the teaching and learning process has become an important component at all levels of education (Suleiman, 2012). Information and computer technology, especially the Internet, have changed the socio-economic contexts of the world and the way businesses are conducted in the world (Rayman-Bacchus & Molina, 2001). Researchers are of the opinion that ICT will stimulate further changes (Visuvalingam, 2007; Aristovnik, 2012). According to Attama and Owolabi (2008), the primary ICT resources available to Nigerians include computers, the internet, electronic mail (E-mail) and the world Wide Web (www). Studies revealed that undergraduates are aware of the importance of ICT to achieve their academic goals and therefore use them (Nwezeh, 2010; Adetimirin, 2012; Fabunmi, 2012; Emwanta & Nwalo, 2013).

The availability of education online has greatly improved the quality and access students have to education and invariably reduced the cost of getting education. Also, access to a vast body of information via the internet helps improve the quality of education dispensed and received between the lecturers and the students. Also, in the case of students who cannot participate in education due to several factors like time and space, ICT through the

intervention of e-Learning affords them the opportunity of being part of the education process. ICT facilitates independent study and teamwork, it supports and assist students for conventional classroom work, it plays a key role in administration, accounting and records keeping, it enhances teaching and learning and it improves inspection and supervision (Suleiman, Yunusa & Jacob, 2013).

Studies have been conducted on undergraduates of universities in developing and developed countries to examine factors that affect ICT's use and it was discovered that gender, age, accessibility, academic discipline, ICT skill and users' income affect ICT usage (Corbett & Williams, 2002; Salako & Tihamiyu, 2007). Yacob (2011) also noted that gender difference is an important factor in ICT use.

According to United Nations Economic and Social Commission for Asia and the Pacific (2004), a student is said to be information and communication technologically empowered when such a student has in-depth awareness, access to ICT resources, motivation, competence and knowledge to participate in ICT. Such ICTs include computer operating systems, internet, mailing lists, simulations, teleconferencing, search engines, web logs, online publishing systems, wikiweb techniques or common world wide web (www) publishing formats, cameras, cell-phones, digital technologies, satellites, television and interactive audio among others.

Hashim and Mustapha (2004) also asserted that optimal use of these facilities by the undergraduates could be affected by factors such as gender, inadequate facilities, access, costs and many others. Studies have indicated that there is persistent gender difference in computer attitude; girls are less enthusiastic than boys. Males are more engaged in entertainment related activities, while girls mostly use computer as information and communication tool (Papastergiou & Solomonidou, 2005). The issue of gender gap in technology usage is gaining ground and attracting the attention of academic-researchers. Mckenzie (2013) succinctly noted that gender difference towards ICT affects individual's interest, attitude towards ICT and its use. University students and professionals are the most informed and creative users of this technology. They search the web for information on academic topics, scholarship possibilities and job opportunities as well as pursue individual interests in news, music, and entertainment (Pertierra, 2007).

Smith (2001) opined that student's level of interaction with computers is sometimes dependent on variables like gender, self-efficacy, self-concept, computer anxiety, computer confidence, and computer experience. Self-efficacy (beliefs about one's ability to accomplish specific tasks) influences the tasks individuals choose to learn and the goals they set for themselves. Self-efficacy also affects individuals' level of effort and persistence when learning difficult tasks (Lunenborg, 2011). An individual's sense of capability influences his perception, motivation, and performance (Bandura, 1997). We rarely attempt to perform a task when we expect to be unsuccessful. According to Bandura (1982), Self-efficacy affects learning and performance in three ways. First of all, Self-efficacy influences the goals that individuals choose for themselves, secondly, self-efficacy influences learning as well as the effort that people exert on their learning and lastly, self-efficacy influences the persistence with which people attempt new and difficult tasks.

Bandura (1988) described self-efficacy as a construct used to explain ones' ability to judge how well he/she can execute a task to achieve a desired goal. This was initially defined by Bandura (1988) as an individuals' belief about his/her ability to successfully execute a behaviour required to produce a desired outcome. Self-efficacy influences choices of whether to engage in a task, the effort expended in performing it, and the persistence shown in

accomplishing it. [Bandura \(1982\)](#) stated characteristics of people with a strong sense of self-efficacy and also those with weak sense of self-efficacy. This is depicted in Table 1.

Table 1: Difference Between Strong and Weak Self-efficacy

Strong Self-efficacy	Weak Self-efficacy
View challenging problems as tasks to be mastered	Avoid challenging tasks
Develop deeper interest in the activities in which they participate	Believe that difficult tasks and situations are beyond their capabilities
Form a stronger sense of commitment to their interests and activities	Focus on personal failings and negative outcomes
Recover quickly from setbacks and disappointments	Quickly lose confidence in personal abilities.

Source: Bandura (1982)

Self-efficacy has powerful effects on learning, motivation, and performance because people try to learn and perform only those tasks that they believe they will be able to perform successfully ([Bandura, 1982](#)).

Webster and Martocchio (1992) posited the higher the computer self-efficacy, the better individuals are likely to be positively disposed to using the computers. [Garland and Noyes \(2004\)](#) indicated that self-efficacy, computer anxiety, and computer experience collectively have influence on how students approach the use of computers. [Cazares \(2010\)](#) noted that users with low level of confidence are less likely to use technology and will typically believe that technology is difficult to use. The greater people perceived their self-efficacy to be, the more active and longer they persist in their efforts. ICT self-efficacy is a subset of self-efficacy and has been described as an individual's judgment of their capability to use ICT ([Compeau & Higgins, 1995](#)). [Embi \(2007\)](#) posited that computer self-efficacy is the measure of a user's confidence to use, understand and apply their computer knowledge and skills. ICT self-efficacy is simply a broader view of computer self-efficacy that incorporates both computer and digital communication devices.

Higher levels of confidence, when using ICT, have been observed to be positively related to users having stronger feelings of competence (strong self-efficacy) when using a range of computing tools and low levels of confidence when using ICT, have also been positively related to users having weak feelings of competence (weak self-efficacy) when using a range of computing tools.

The findings of [Sze \(2005\)](#) also showed that the use of ICT in teaching and learning has a significant positive impact on students' motivation, such as increasing students' attitude to learn, improving classroom behaviour, and providing better performance of learning outcome. Motivation is the summation of person's behaviors and expectations. The state of being motivated covers behaviors stemming from desires. A motivated person is the one who integrates his/her knowledge and beliefs with successful behaviors. Albeit depending on expectations, motivation also includes a person's perception of self-competencies and control over efforts and it is considered that designing activities which improve the motivational and learning strategies of learners will be more effective in improving their information literacy levels rather than simply giving lectures ([Ebru, 2010](#)). Motivation in the use of ICT however,

refers to desire and interest to use ICT as essential element in all kinds of learning and development. Research evidence such as (Beal & Lee, 2005; David, 2005; Olasina, 2012) showed that ICT can stimulate, motivate and arouse students' appetites for learning and helps to create a culture of success. This can be demonstrated in their increased commitment to the learning task, their enhanced enjoyment, interest, self-esteem and sense of achievement in learning when using ICT.

Results of a survey done by Saddam, Gellie and Shelanee (2012) revealed that respondents want to learn more on how to use ICT; they prefer to use ICT in doing research, and like using ICT in preparing their assignments and requirements. These findings imply that the respondents believe that they need to learn more about ICT since it is a rapidly changing field and that there is a need to constantly update one's self. Furthermore, they want to learn more on how to use ICT because they want to exploit its advantages. However, they have least interest in using ICT in making course reflections, sharing work or output, and collaborating with classmates in exercises that make their works visible not only to their teacher but to their classmates as well. This makes them conscious of their works and might be afraid of being ridiculed for errors that might be found. Edozie, Olibie and Aghu (2010) explained that information and communication technology (ICT) empowerment enhance the abilities of people to use ICT to improve their life-skills and strengthen their study capabilities. Such empowerment could be facilitated through awareness and motivation for ICT.

Mateja and Mateja (2010) noted that a factor that is seen as strongly related to the use of ICT in education is the area of specialization. Due to specific differences of individual subject areas, the use of ICT strongly differs among different individual based on area of specialization because each field has its own peculiarities and requirements. The result of the study concluded that there is considerable difference in rate of use of ICT by learners with regards to their area of specialization. Adebowale, Adediwura, and Bada (2008) noted that the field of study the students pursue had a significant influence on their attitude towards the computer as well as on their computer self-efficacy. It however had no significant effect on their computer anxiety. Students in the vocational fields of study seemed to possess better attitude towards the computer than other students, even better than what students in the commercial field demonstrated. Commercial students also demonstrated better attitude than students in the science and arts field. Perhaps students in the sciences and arts possess erroneous belief that they are supposed to give more attention to their school subjects rather learning, using or attempting to take up vocation in computing and its related fields.

The use of ICT in learning by undergraduates from the perspective of several researchers can be said to almost always have a positive effect on learning and help improve learners' performances and their mind set towards learning. This is an important issue if there is to be an improvement in the educational sector. The mind set of learners towards learning can be greatly improved through the motivation of learners to use ICT in learning. The novelty of the use of ICT in learning environment might also help improve learners' performance. In addition, several researchers (Cazares, 2010; Lunenburg, 2011) claimed that a learner's self-efficacy is a factor that helps increase the likelihood of learners use of ICT in learning and other factors such as age, gender and area of specialization are important determinants of rate of ICT use in learning. This study therefore investigates the relationship that exists among self-efficacy, motivation and use of ICT for learning among undergraduates. The effect of gender and area of specialization on the use of ICT in education among undergraduates were also examined.

Research Questions

This study provided answers to the following research questions:

1. Are undergraduates motivated to use ICT in their learning?
2. What is the level of undergraduates' self-efficacy in the use of ICT for learning?
3. To what extent do undergraduates use ICT for learning?
4. What is the relationship among undergraduates' motivation, self-efficacy and their use of ICT for learning?
5. Is there any difference between male and female undergraduates' motivation to use ICT?
6. Does undergraduates' self-efficacy in the use of ICT vary based on their gender?
7. What influence does undergraduates' gender have on their use of ICT for learning?
8. How does undergraduates' area of specialization influence their motivation to ICT for learning?
9. How does undergraduates' area of specialization influence their self-efficacy in the use of ICT for learning?
10. Does undergraduates' area of specialization influence their use of ICT for learning?

Research Hypotheses

Based on the research questions 4-10, the following null hypotheses were formulated.

- H₀₁ There is no significant relationship among undergraduates' motivation, self-efficacy, and use of ICT for learning.
- H₀₂ There is no significant difference between male and female undergraduates' motivation in their use of ICT for learning.
- H₀₃ There is no significant difference between male and female undergraduates' self-efficacy in their use of ICT for learning.
- H₀₄ There is no significant difference between male and female undergraduates' use of ICT for learning.
- H₀₅ There is no significant difference among Arts, Social Sciences and Sciences undergraduates' motivation in their use of ICT for learning.
- H₀₆ There is no significant difference among Arts, Social Sciences and Sciences undergraduates' self-efficacy in their use of ICT for learning.
- H₀₇ There is no significant difference among Arts, Social Sciences and Sciences undergraduates' ICT use for learning.

2. METHODS

This chapter presents the methodology that was adopted in conducting this research and was discussed under the following sub-headings; Research Design, Sample and Sampling Techniques, Research Instruments, Validation of Research Instruments, Procedure for Data Collection and Data Analysis Techniques.

Research Design

The study is a descriptive research using the cross-sectional survey method. A questionnaire was used to obtain necessary information from the respondents. This was utilized to form a general opinion on the entire population of undergraduates in Kwara State, Nigeria. The study is as depicted in Figure 6 hypothesized research model.

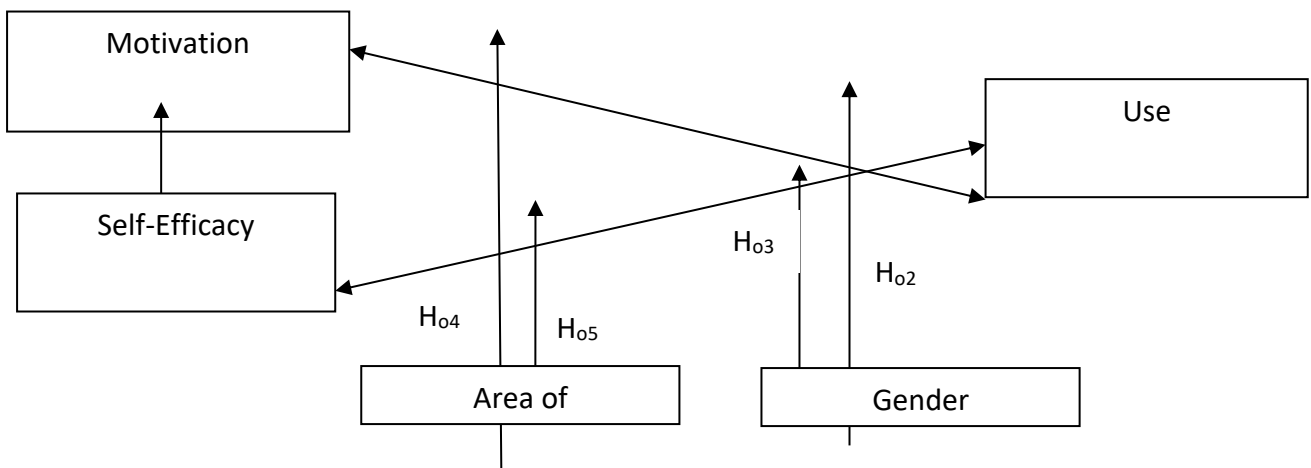


Figure 1: Hypothesized Research Model

Sample and Sampling Techniques

The target population for this study were the students at all levels in three universities in Kwara State (one federal university, one state university and one private university). Samples were selected from the three universities. The general sample size was determined based on the current number of students in the universities. The sample cuts across all faculties and colleges within the institutions. The sample size was determined using the Israel (2013) Sample Table. Stratified random sampling technique was used to divide the respondents along gender and area of specialization variables. This was done across all the institutions involved in the study. Table 2 shows the sample selected from each school with regards to the current population of students in each school based on a confidence level of 95% and confidence interval of 5%.

Table 2: Sample Sizes for the Study Based on Population of Students in the School as at November 2014.

University	Total Population	Sample Population
University of Ilorin, Ilorin	38,336	100
Al-Hikmah University, Ilorin	4,573	98
Kwara State University, Malete	3,857	98
Total	46,766	296

Research Instrument

An eclectic questionnaire was used for this study and it contains four sections. The items in the questionnaire were structured in clear and simple language to enable respondents to provide relevant answers to the questionnaire based on their personal perceptions. The questionnaire is as shown in Appendix 2.

Section A contains background information on the research respondent like respondents' gender, name of institution, faculty and department. Section B contains ten ICT resources and 10 ICT applications. Section B was rated on a Likert scale of Always, Sometimes and Never with a weighted value of 3 to 1 in terms of scoring. Section C contains 10 items adapted from Vankatesh and Bala (2008) seeking information on learners' motivation to use ICT for learning. And section D also contains 10 items sourcing information on the self-efficacy in the use of ICT in learning. Sections C and D were rated on a Likert Scale of Strongly Agree (SA), Agree (A),

Disagree (D) and Strongly Disagree (SD) with weighted value of 4 to 1 in terms of scoring. The scores were inverted for statements worded negatively.

Validation of the Research Instrument

The research instrument was validated by three Educational Technology experts from the Department of Educational Technology, University of Ilorin, Ilorin after which the corrections made were used to improve the instrument.

The reliability of the instrument was also determined through pilot testing among 30 undergraduates of Ladoké Akintola University of Technology, Ogbomosho (LAUTECH). The instrument was determined to have a reliability value of 0.78 using the Cronbach's alpha reliability coefficient.

Procedure for Data Collection

The researcher after taking permission from the appropriate authorities in the target institutions personally administered the copies of the questionnaire to the students who served as the respondents in the three institutions. The questionnaires were given to the respondents and two research assistants helped to collect the completed questionnaire. The instruments were collected immediately after they had been responded to.

Data Analysis Techniques

The analysis and interpretation of data obtained through the questionnaire was done using descriptive and inferential statistics. The frequencies were converted to means to answer the research questions. Regression analysis was used to test hypothesis 1, while hypotheses 2, 3 & 4 were tested using independent sample t-test and hypotheses 5, 6 & 7 were tested using Analysis of Variance (ANOVA).

3. RESULTS AND DISCUSSION

This chapter presents the analysis and results obtained from the data based on research questions and research hypotheses stated in chapter one. The results are preceded by the demographic information of the respondents. The respondents' demographic data are presented in the Tables 3-5.

Table 3: Percentage distribution of respondents based on institution

S/N	Name of Institution	No of Respondents	%
1.	University of Ilorin, Ilorin	100	33.8
2.	Al-Hikmah University, Ilorin	98	33.1
3.	Kwara State University, Malete	98	33.1
	Total	296	100

As indicated in Table 3, the total number of respondents that took part in the study was 296. 100 (33.8%) respondents from the university of Ilorin, 98 respondents each (33.1%) from Kwara State University and Al-Hikmah University.

Table 4: Percentage Distribution of Respondents Based on Area of Specialization

S/N	Area of Specialization	No of Respondents	%
1.	Science	138	46.6
2.	Social Science	104	35.1
3.	Arts	54	18.3
	Total	296	100

As indicated in Table 4, 138 respondents (46.6%) were science students, 104 respondents (35.1%) were social science students while 54 respondents (18.3%) were Arts students.

Table 5: Percentage Distribution of Respondents Based on Gender

S/N	Gender	No of Respondents	%
1.	Male	170	57.4
2.	Female	126	42.6
	Total	296	100

Table 5, indicated that 170 respondents (57.4%) were males and the remaining 126 respondents (42.6%) were females.

Research Question 1:

Are undergraduates motivated to use ICT in their learning?

Table 6: Undergraduates' Motivation in the Use of ICT for Learning

S/N	Motivation in the Use of ICT for Learning	Mean
1.	ICT improves my understanding of studies	3.73
2.	I find it easy to get ICT resources to do what I want	3.31
3.	Interacting with ICT resources requires a lot of my mental effort	2.01
4.	I find ICT tools too complicated to use in learning	2.42
5.	I find that it takes a lot of effort to become skilful at using ICT resources	2.25
6.	Using ICT improves the quality of my learning	3.29
7.	Using ICT gives me greater control over my learning	3.25
8.	Using ICT resources increases my academic productivity	3.28
9.	Using ICT improves my performance at school	3.28
10.	Using ICT resources allows me to accomplish more in my learning than will be otherwise possible	3.24
	Grand Mean (X)	3.01

Table 6 revealed that ICT improves understanding of studies was ranked highest with a mean score of 3.73 out of 4. This was followed by the ease of use of ICT in any learning situation which garnered a mean score of 3.31. ICT is also believed to improve quality of learning, increase productivity and thereby improve students' performance with means scores of 3.29, 3.28 and 3.28 respectively. The lowest mean score of 2.01 indicated that undergraduates do not believe that interacting with ICT resources required a lot of mental effort.

The grand mean score for undergraduates' motivation was found to be 3.01. Using a benchmark of 2.5, it can be deduced that undergraduates in Kwara state are well motivated to use ICT for learning.

Research Question 2:

What is the level of undergraduates' self-efficacy in the use of ICT for learning?

Table 7: Undergraduates Self-Efficacy in the Use of ICT for Learning

S/N	Self-Efficacy in the Use of ICT	Mean
1.	I can use any ICT resources if there is no one around to tell Me what to do as I go.	3.44
2.	I can use any ICT resources if I have just the built-in help facility for assistance.	3.29
3.	I can use any ICT resource if someone shows me how to do it in the first instance .	3.31
4.	I can use any ICT resource if I have never used a package like it before.	3.02
5.	I can use any ICT resource if I have only the software manuals for reference	3.19
6.	I can use any ICT resource if I had seen someone else using it before trying it myself.	3.20
7.	I can find solutions to any ICT related problems I may have.	3.17
8.	I can use any ICT resource if someone else helps me get started.	3.21
9.	I can use any ICT resource if I have a lot of time to complete the job for which the software was provided.	3.24
10.	I can use any ICT resource if I had used similar resource before it to perform a task. _	3.26
	Grand Mean (X)	3.23

Table 7 revealed that most undergraduates are of the opinion that they can use any ICT resources even if there is no one around to guide them. This item garners the highest mean score of 3.44 out of 4. Also they believe they can use ICT resources if they have been previously trained in its use or they have built-in facility for assistance with mean scores of 3.31 and 3.29 respectively. The lowest mean score is 3.02 which revealed that undergraduates believe they can use ICT resources even if they have never used a similar package before.

The grand mean score for self-efficacy is 3.23 out of 4. Using a benchmark of 2.5, it can be deduced that undergraduates have strong self-efficacy in the use of ICT for learning.

Research Question 3:

To what extent do undergraduates use ICT for learning?

Table 8: Undergraduates' Use of ICT for Learning

S/N	ICT Resources and Apps	Mean
1.	Microsoft Word	2.76
2.	Microsoft Excel	2.44
3.	Microsoft PowerPoint	2.43
4.	CorelDraw	2.16
5.	Adobe Photoshop	2.02
6.	Adobe Premiere	1.87
7.	Word Pad	1.99
8.	Adobe Acrobat	2.00
9.	Google	2.74

10.	Mozilla Firefox	2.51
11.	Personal Computer	2.78
12.	Mobile Phone	2.90
13.	Digital Television	2.43
14.	IPhones	2.22
15.	IPad	2.17
16.	IPod	2.05
17.	Tablet Phones	2.41
18.	Camera	2.44
19.	Video Games	2.26
20.	Cinema Glasses	1.62
	Grand Mean (X)	2.31

As indicated in Table 8, Google, Microsoft word, Firefox and Microsoft excel are the most widely used ICT applications with mean scores of 2.74, 2.76, 2.51 and 2.44 respectively while the least used applications are Adobe premiere and word pad with mean scores of 1.87 and 1.99. Mobile phones, personal computers, cameras and digital televisions with mean scores of 2.90, 2.78, 2.44 and 2.43 respectively are the most commonly used ICT resources among undergraduates and the least used resources are cinema glasses and IPods with mean scores of 1.62 and 2.05 respectively.

However, the grand mean score of ICT use among undergraduates is 2.31. Using a benchmark of 2.0, it can be concluded that the use of ICT for learning is quite prevalent among the undergraduates.

Hypotheses Testing

Based on research questions 4-10, research hypotheses 1-7 were developed. The results related to hypotheses one to seven formulated for the study in chapter one are as shown in subsequent tables. All hypotheses were tested at 0.05 level of significance.

Hypothesis One

H₀₁: There is no significant relationship among undergraduates' self-efficacy, motivation and use of ICT for learning.

To test for relationship between predictors variables of motivation, self-efficacy the criterion variable use, the multiple regression analysis was carried out. The results derived from the analysis are shown in Tables 9, 10 and 11.

Table 9: Adjusted R Square Value for the Model Summary on Use.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.26	0.07	0.06	0.32

a. Predicators: (Constant), Motivation, Self-efficacy and Use.

From the result in Table 9, the adjusted R square (0.06) has poor fit. This revealed that the constructed multiple regression model of the independent variables (motivation and self-efficacy) account for 0.06% variance in the dependent variable (use).

Table 10: ANOVA for Independent Variables on Use.

Model	Sum of squares	df	mean square	F	sig.
1 Regression	2.04	2	1.02	10.20	.00
Residual	29.22	293	0.10		
Total	31.26	295			

a. Dependent variable: Use

b. Predictors: (constant), Motivation and Self-efficacy

The result of the analysis of variance (ANOVA) which revealed that, $F(df\ 2, 293) = 10.20$, $p < .00$, indicated a statistically significant relationship between the independent variables (motivation and self-efficacy) and dependent variable (use). Based on this relationship, the coefficient for the Beta weight for the amount of standard deviation unit of change in the dependent variable for each standard deviation unit of change in the independent variable was calculated. The results are as shown in Table 10.

Table 11: Coefficient of Independent Variables on Use

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	std. error	Beta	T	Sig.
1 (Constant)	1.46	0.20		7.25	0.00
Self-Efficacy	0.20	0.06	0.22	3.67	0.00
Motivation	0.07	0.06	0.07	1.11	0.27

Dependent Variable: Use

The standardized coefficients in Table 11 revealed that:

(a) The Independent variable, motivation value has no effect on use because the Beta ($\beta = 0.07, 0.27$) shows statistically no significant relationship because the significant value was greater than 0.05 alpha value.

(b) The independent variable, self-efficacy has an effect on use. The beta ($\beta = 0.22, 0.00$) shows a statistically significant relationship because the significant value was less than 0.05 alpha value.

Therefore, the research hypothesis which states that there is no significant relationship among motivation, self-efficacy and use of ICT for learning is hereby rejected.

Hypothesis Two

H_{02} : There is no significant difference between male and female undergraduates' motivation in ICT use for learning.

To determine whether there is any significant difference between male and female undergraduates' motivation in the use of ICT for learning, the null hypothesis is tested by using t-test. This is indicated in Table 13.

Table 12: t-test of Male and Female Undergraduates' Motivation in the Use of ICT for Learning.

Gender	No	\bar{X}	SD	df	t	Sig. (2-tailed)
Male	170	3.03	0.34	294	1.57	0.12
Female	126	2.97	0.31			
Total	296					

Table 12 revealed that $t(296) = 1.57$, $p = 0.12$. That is, the result of t-value of 1.57 resulting in .12 significance value was greater than 0.05 alpha values. This means that the stated null hypothesis is accepted.

By implication the stated null hypothesis was established thus: There is no significant relationship between male and female undergraduates' motivation in the use of ICT for learning. Based on the earlier mean score of the undergraduates' motivation, this means that both male and female undergraduates have high motivation.

Hypothesis Three

H_{03} : There is no significant difference between male and female undergraduates' self-efficacy in ICT use for learning.

In determining whether there was significant difference between male and female undergraduates' self-efficacy in the use of ICT, the null hypothesis was tested using t-test as shown in Table 13.

Table 13: t-Test of Male and Female Undergraduates Self-Efficacy in their Use of ICT for Learning.

Gender	No	X	SD	df	t	Sig. (2-Tailed)
Male	170	3.25	0.37	294	0.84	0.46
Female	126	3.21	0.35			
Total	296					

Table 13 indicates that $t(294) = 0.84$, $p = 0.46$. This means that the stated null hypothesis was accepted. This was as a result of the t-value of 0.84 resulting in 0.46 significance value which was greater than 0.05 alpha value.

By implication, the stated null hypothesis which states that there is no significant difference between male and female undergraduates' self-efficacy in the use of ICT for learning is hereby accepted. Based on the earlier mean score of the undergraduates' self-efficacy, this means that both male and female undergraduates have high self-efficacy.

Hypothesis Four

H_{04} : There is no significant difference between male and female undergraduates' ICT use for learning.

To determine whether there is any significant difference between male and female undergraduates' use of ICT for learning, the null hypothesis is tested by using t-test. This is indicated in Table 14.

Table 14: t-test of Male and Female Undergraduates' Use of ICT for Learning

Gender	No	X	SD	df	t	Sig.
Male	170	2.35	0.34	294	2.33	0.02
Female	126	2.26	0.31			
Total	296					

Table 14 indicates that $t(294) = 2.33$, $p=0.02$. That is, the result of the t-value of 2.33 resulting in .02 significance value was less than 0.05 alpha value. Based on these findings, the null hypothesis which states that there is no significant difference between male and female undergraduates' ICT use for learning was rejected.

Hypothesis Five

H₀₅ There is no significant difference among Arts, Social Sciences and Sciences undergraduates' motivation in ICT use for learning.

In an attempt to establish whether significant difference exists between arts, Social science and science undergraduates on their motivation in the use of ICT for learning, data were analysed using ANOVA. The result of the analysis was as shown in Table 15.

Table 15: ANOVA on Arts, Social Science and Science Students' Motivation in the Use of ICT for Learning.

	Sum of squares	df	Mean square	F	Sig.
Between groups	0.47	2	0.23	2.17	0.12
Within Groups	31.45	293	0.11		
Total	31.92	295			

Table 15 indicates no significant difference among undergraduates' area of specialization and their motivation in the use of ICT for learning. { $F(2,293)=2.17, p=.12$ }. This meant that the null hypothesis was accepted because the significant value (.12) was found to be greater than the alpha value (0.05).

Hypothesis Six

H₀₆: There is no significant difference among Arts, Social Sciences and Sciences undergraduates' self-efficacy in ICT use for learning.

In an attempt to establish whether significant difference exists between arts, Social science and science undergraduates on their self-efficacy in the use of ICT for learning, data were analysed using ANOVA. The result of the analysis was as shown in Table 17.

Table 16: ANOVA on Arts, Social Sciences and Science Undergraduates' Self-Efficacy in the Use of ICT for Learning.

	Sum of Squares	df	Mean square	F	Sig.
Between Groups	0.18	2	0.09	0.69	0.50
Within Groups	38.57	293	0.13		
Total	38.75	295			

Table 16 indicates that there was no significant difference among undergraduates' area of specialization and their self-efficacy in the use of ICT for learning, $F(2, 293) = .69, p = .50$. That is, the significance value (.50) was found to be greater than the alpha value (0.05). Therefore, the null hypothesis which states that there is no significant difference among undergraduates' area of specialization and their self-efficacy in the use of ICT for learning was accepted.

By implication, the null hypothesis was established thus: There is no significant difference among Arts, Social Sciences and Sciences undergraduates' self-efficacy in ICT use for learning.

Hypothesis Seven

H₀₇ There is no significant difference among Arts, Social Sciences and Sciences undergraduates' ICT use for learning.

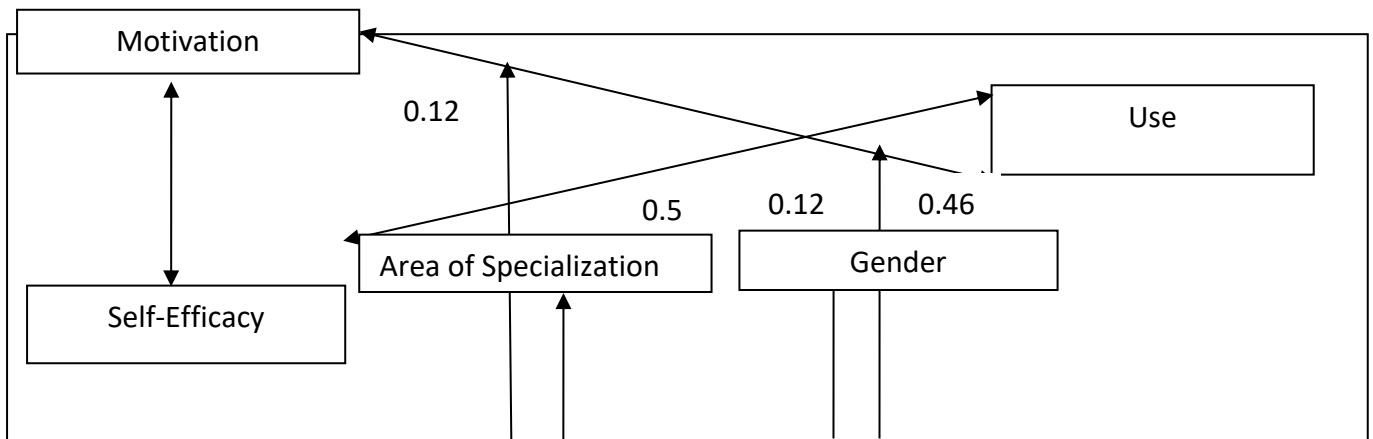
In order to determine whether significant difference exists between arts, Social science and science undergraduates on use of ICT for learning, data were analysed using Analysis of variance (ANOVA). The result of the analysis was as shown in Table 18.

Table 17: ANOVA on Arts, Social Science and Science Undergraduates' Use of ICT for Learning.

	Sum of squares	df	Mean square	F	Sig.
Between Groups	0.81	2	0.40	3.87	0.02
Within Groups	30.45	293	0.10		
Total	31.26	295			

Table 17 indicates a significant difference between undergraduates' area of specialization and their use of ICT for learning, $F(2,293)=3.87, p= .02$. This meant that the null hypothesis which states that there is no significant difference between arts, social science and science undergraduates' use of ICT for learning was not accepted because the significant value (.02) was found to be less than the alpha value (0.05).

From the given information, the null hypothesis was established thus: there is no significant relationship between arts, social science and science undergraduates' use of ICT for learning. The summarized results of the hypothesized model is shown in Figure 7.



1. Undergraduates in Kwara state are motivated to use ICT in their learning.
2. Undergraduates in Kwara state have high self-efficacy in the use of ICT.
3. Undergraduates in Kwara state use ICT extensively in their learning.
4. (a) There is statistically significant relationship among undergraduates' motivation, self-efficacy and use of ICT for learning.
 (b) There is no significant relationship between undergraduates' motivation and use of ICT for learning.
 (c) There is a significant relationship between undergraduates' self-efficacy and use of ICT for learning.
5. Male and female undergraduates are both highly motivated to use ICT for learning and there is no significant relationship between their motivations to use ICT for learning.
6. Male and female undergraduates both have high self-efficacy in the use of ICT for learning and there is no significant difference in their self-efficacy in the use of ICT for learning.
7. There is a significant relationship between undergraduates' gender and their use of ICT for learning.

8. Undergraduates' area of specialization has no effect on their motivation to use ICT for learning.
9. There is no significant relationship between undergraduates' self-efficacy and their area of specialization.
10. Undergraduates' area of specialization has statistically significant relationship with their use of ICT for learning.

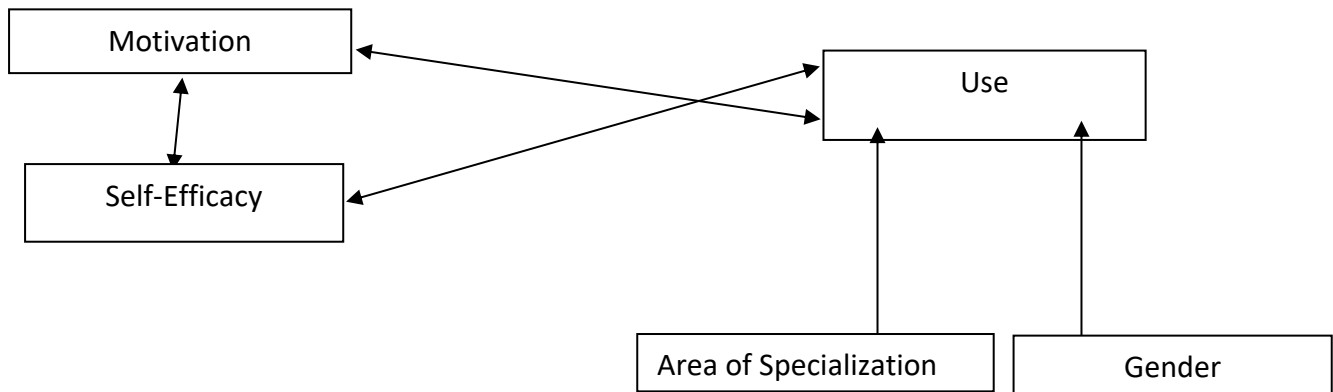


Figure 3: The Derived Model for the Study.

Discussion on Research Findings

The findings of this study are discussed under the following headings.

1. Undergraduates' motivation in the use of ICT for learning.
2. Undergraduates' self-efficacy in the use of ICT for learning.
3. Undergraduates' use of ICT for learning.
4. Relationship among undergraduates' motivation, self-efficacy and use of ICT for learning.
5. Effect of gender on undergraduates' motivation in the use of ICT for learning.
6. Effect of gender on undergraduates' self-efficacy in the use of ICT for learning.
7. The effect of gender on undergraduates' use of ICT for learning.
8. Relationship between undergraduates' area of specialization and their motivation to use ICT for learning.
9. Relationship between undergraduates' area of specialization and their self-efficacy in the use of ICT for learning.
10. The effect of area of specialization on undergraduates' use of ICT for learning.

Findings on Undergraduates' Motivation in the Use of ICT for Learning

The motivation to use ICT for learning among undergraduates for learning was examined in research question 1. Based on the mean value of the result on undergraduates' motivation to use ICT, it was determined that a great percentage of the undergraduates in Kwara state are highly motivated to use ICT for learning.

This finding is similar to that of [Sze \(2005\)](#) who revealed that ICT enhances not only the students' enjoyment and interest of learning relating topics with multimedia presentation, animation and simulations, but also builds self-esteem, independence and confidence of students in the learning process. [Edozie, Olibie, and Aghu \(2010\)](#) explained that information and communication technology (ICT) empowerment enhance the abilities of people to use ICT to improve their life-skills and strengthen their study capabilities. Such empowerment

could be facilitated through awareness and motivation for ICT. An individual's sense of capability influences his perception, motivation, and performance (Bandura, 1997).

The findings of Ebru (2010) revealed that motivation includes a person's perception of self-competencies and control over efforts and it is considered that designing activities which improve the motivational and learning strategies of learners will be more effective in improving their information literacy levels rather than simply giving lectures. Olasina (2012) noted that ICT can stimulate, motivate and spark students' appetites for learning and helps to create a culture of success. This can be demonstrated in their increased commitment to the learning task, their enhanced enjoyment, interest, self-esteem and sense of achievement in learning when using ICT.

Edozie, Olibie and Aghu (2010) explained that information and communication technology (ICT) empowerment enhance the abilities of people to use ICT to improve their life-skills and strengthen their study capabilities. Such empowerment could be facilitated through awareness and motivation for ICT.

From the above findings, it can be deduced that the use of ICT is important in improving students' motivation to learn and so provisions need to be made to ensure that ICT resources and facilities are available to the learners.

Findings on Undergraduates' Self-Efficacy in the Use of ICT for Learning

Undergraduates' self-efficacy in the use of ICT for learning was examined in research question 2. Based on the mean attained from the self-efficacy scores of the learners, it was clear that the respondents had positive response to the items there in and it was determined that undergraduates in Kwara state have strong self-efficacy in the use of ICT for learning.

Cazares, (2010) noted that users with higher levels of self- efficacy will typically set higher goals for themselves and be more resistant to failure; these users are more willing to use a computer and other technology and are more likely to feel that they will succeed in their tasks when using these tools. On the other hand, users with a low level of confidence are less likely to use technology and will typically believe that technology is hard to use. This finding indicates that with the high level of self-efficacy among the undergraduates, they are more likely to succeed in its use for their education and thereby improve their chances of excelling in their education.

Also according to Bandura (1982), self-efficacy has powerful effects on learning, motivation, and performance because people try to learn and perform only those tasks that they believe they will be able to perform successfully which again indicates that the respondents are on the path to greater improvement in their academic endeavours.

Findings on Undergraduates' Use of ICT for Learning

Research question 3 studied the extent of undergraduates' use of ICT for learning in Kwara state. Based on the result of the survey carried out, it was determined that common ICT resources are available to the undergraduates and they are used regularly in their learning process.

The finding of this survey was in disparity with the findings of Tella (2011) who noted that the use of Information and Communication Technology (ICT) in Nigeria education is lagging behind expectation and desire. ICT is being used as a combined factor of the learning environment, learners are expected develop new understandings, skills, and dispositions with regard to technology integration into teaching and learning.

Mahmood (2009) revealed that 85% percent of students in a study conducted agreed that they use ICT for educational related purpose which includes conducting researches, class assignment and others which is in agreement with the findings of this study. The finding is

also in agreement with the findings of Suleiman (2012) who revealed that the incorporation of technology into the teaching and learning process has become an important component of all levels of education and Emwanta and Nwalo (2013) who revealed that undergraduates are aware of the importance of ICT to achieve their academic goals and therefore use them.

From the findings, it can be deduced that the integration of ICT in the learning process is making progress among undergraduates and so in the near future, it can be expected that ICT will take more significant role in the learning process.

Findings on Relationship among Undergraduates' Motivation, Self-Efficacy and Use of ICT for Learning

The relationship among undergraduates' motivation, self-efficacy and use of ICT for learning using research question 4 and hypothesis 1. The result of the regression analysis established a significant relationship between use (dependent variable) and their motivation and self-efficacy (independent variables). Also, the analysis indicated a significant relationship between use (dependent variable) and their self-efficacy while there was no significant difference between use (dependent variable) and motivation (independent variable).

These findings are in agreement with the findings of some scholars. Webster and Martocchio (1992) posited that the higher the computer self-efficacy, the better individuals are likely to be positively disposed to using the computers. Also, Faseyitan, Libii, and Hirschbuhl (1996), posited that computer self-efficacy is a significant factor in differentiating adopters and non-adopters of technology. Alaba and Banio (2010) further showed that computer efficacy has a relationship with Nigerian students' performance. Oye, Iahad, and Rabin (2012) noted that significant relationship exists between self-efficacy and use of information and communication technology. In addition, Tanvisuth and Techatassanasoontorn (2008) posited that individuals who have higher self-determined motivation to participate in ICT training programs are more likely to develop Internet self-efficacy, training satisfaction, and subsequent usage intention

However, contrary to the findings of this study on effect of motivation on use, Nevgi (2001) indicates that among students of virtual university, motivation has a positive effect on learning process and helps develop more effective learning strategies. Garcia and Pintrich (1996) also indicated that students' level of motivation and their use of appropriate learning strategies in appropriate situations is the key for being successful throughout their educational careers. Ebru (2010) posited that motivation of e-learners throughout the process and their use of appropriate learning strategies directly affect their success. Also Edozie, Olibie, and Aghu (2010) explained that information and communication technology (ICT) empowerment enhance the abilities of people to use ICT to improve their life-skills and strengthen their study capabilities. Such empowerment could be facilitated through awareness and motivation for ICT.

It could therefore be inferred from the findings that there were significant relationships among the variables of motivation, self-efficacy and use of ICT in learning. Motivation and self-efficacy give way for actual usage. Since the students were already found not to be lacking in self-efficacy, the students are expected to be closer to using ICT more.

Findings on effect of gender on undergraduates' motivation in the use of ICT for learning

The effect of gender on undergraduates' motivation was examined in research question 5 and hypothesis 2. The results of the findings indicated that while male and female students both have high motivation to use ICT, there is no significant difference in their motivation to use of ICT for learning.

Contrary to the findings of the study, Volman, et al., (2005) noted that teachers believed that boys were motivated more by higher levels of access to ICT, and where ICT activities were competitive in nature and short in duration. A few teachers reported that girls need more support than boys in their use of ICT. This may however be due to the different approaches girls and boys take to working with ICT, rather than a lack of skills – a study from the Netherlands found that girls preferred to have an explanation before starting ICT activities, whereas boys would rather try things out for themselves. Other research, particularly from overseas, has also suggested that girls show less interest in and enthusiasm for ICT as they get older (Sanders, 2005; Volman, et al., 2005).

Findings on Effect of Gender on Undergraduates' Self-Efficacy in the Use of Information and Communication Technology for Learning

The influence of gender on undergraduates' self-efficacy was examined in research question 6 and hypothesis 3. The results of the findings indicated that while male and female students both have high self-efficacy, there is no significant difference in their self-efficacy in the use of ICT for learning.

The relationship of gender to computer self-efficacy has been of regular interest, since gender differences in self-efficacy have been investigated but findings have been mixed, for instance, Harrison and Ranier (1992) found that males demonstrated higher computer self-efficacy than females but Smith (1994) found no gender differences on a measure of computer task self-efficacy among university students enrolled in an introductory computer science course. According to Tomte and Hatlevik (2011), there is a significantly positive relationship between gender and self-efficacy in ICT and ICT-user profiles meaning that both genders have different self-efficacy when it comes to ICT use, girls were reported to have less positive attitudes and self-efficacy towards ICT than boys.

Gencer and Cakiroglu (2007) reported a lesser impact of gender when the interaction between a variety of variables is taken into account; e.g. computer efficacy, and computer attitudes of students while some studies report existing gender differences in measures like computer self-efficacy, computer experience or computer-related attitudes and skills, others notice a declining gender gap (Durdell & Haag, 2002).

There is evidence to suggest that the difference in ICT confidence between boys and girls is narrowing but most studies have found that girls' confidence with ICT is somewhat lower than that of boys (Faulkner, 2002). Girls are less likely to believe they will succeed at computer-related tasks, and when they do, they are more likely to attribute their success to luck rather than skill (Cooper, 2006). Equally, girls are more likely to see failure as being a result of their own lack of ability (regardless of the actual cause), unlike boys, who tend to blame the equipment. However, lower self-efficacy does not necessarily mean that girls' skill levels are lower than boys' (Sanders, 2005). The overall message from the research is that girls consistently under-estimate their ability with ICT.

However, based on the findings of this study, it can be established that there was no significant difference between male and female undergraduates' self-efficacy in the use of ICT for learning in Kwara state. Gender should therefore not be considered as a major criterion in determining self-efficacy in the use of ICT for learning.

Findings on the effect of gender on undergraduates' use of ICT for learning

The effect of gender on undergraduates' use of ICT for learning was examined in research question 7 and hypothesis 4. The results of the findings indicated that male and female students both use ICT and there is a statistically significant difference in their use of ICT for learning.

This is in accordance with the findings of several scholars some of whom are posited that in the field of technology, there is empirical evidence to suggest the continuance of male domination; men use computers and the Internet more than women, men have wider computer experience, spend more time online, report greater interests in and positive attitudes towards computer-related activities, and even appear to be more motivated to learn digital skills (Broos, 2006; Selwyn & Facer, 2007).

Broos (2006) further noted that boys use computers and the Internet more than girls, have wider computer experience, spend more time online, report greater interest in and perceive more positive attitudes to computer-related activities. Boys are also more motivated to learn digital skills. On the contrary, girls appear to be dominating in the communicative field of ICT, like word processing, text messaging on cellphone, as well as e-mail and blogging. Moreover, in most western countries the proportion of women in computer science and in ICT related professions is static or declining, even in cases of sustained inclusion efforts.

Findings on relationship between undergraduates' area of specialization and their motivation to use ICT for learning

The effect of area of specialization on undergraduates' motivation was examined in research question 8 and hypothesis 5. The results of the findings indicated that while arts, social science and science students both are highly motivated to use ICT, there is no significant difference in their motivation to use ICT for learning.

Alexandria (1998) posited that use of ICT in education can help improve memory retention, increase motivation and generally deepens understanding. Charles (2012) identified several factors influencing use of ICT to make teaching-learning effective which include: self-efficacy, computer motivation, computer attitudes, the attitude-behavior relation, technology integration, constructivist beliefs, ICT motivation, attitudes towards ICT in education, organization of learning, organizational climate, infrastructure and resources, teachers' educational beliefs, perceptions on ICT-related school policies, teachers' individual background, gender, teaching experience, professional development, teachers' attitudinal factors, innovativeness, technology self-efficacy (technology competence), attitude toward computers in education, socio-organizational factor, school culture, administrative support, school support, pressure to use technology and age.

However, the findings of the current study indicates that there is no significant relationship between undergraduates' area of specialization and their motivation to use ICT for learning.

Findings on relationship between undergraduates' area of specialization and their self-efficacy in the use of ICT for learning

The effect of area of specialization on undergraduates' self-efficacy was examined in research question 9 and hypothesis 6. The results of the findings indicated that while arts, social sciences and science students have high self-efficacy to use ICT, there is no significant difference in their self-efficacy in the use of ICT for learning.

Findings of several scholars like Adebowale, Adediwura, and Bada (2008) revealed that the field of study the students pursue had a significant influence on their attitude towards the computer as well as on their computer self-efficacy. Poelman, Truyen, and Stockman, (2012) also noted that for both gender and study subject, there are no differences in the global ICT skills score or in the perceived level of computer self-efficacy. However, with regards to undergraduates in Kwara state, this study finds there is in fact no significant difference between field of study and undergraduates' self-efficacy.

Findings on the effect of area of specialization on undergraduates' use of ICT for learning

The effect of area of specialization on undergraduates' use of ICT for learning was examined in research question 10 and hypothesis 7. The results of the findings indicated that arts, social science and science use ICT for learning and there is a significant difference in their use of ICT for learning.

The findings of [Mateja and Mateja \(2010\)](#) indicated that a factor that is seen as strongly related to the use of ICT in education is the area of specialization. Due to specific differences of individual subject areas, the use of ICT strongly differs among different individual based on area of specialization because each field has its own peculiarities and requirements. The result of the study concluded that there is considerable difference in rate of use of ICT by learners with regards to their area of specialization.

The findings of this study is in agreement with [Mateja and Mateja \(2010\)](#) as it has been noted in the study that area of specialization does in fact affect level of use of ICT for learning.

Implication of the Findings

Based on the findings of the study, the following implications can be drawn:

The findings have strong implications for the learning process among undergraduates in Nigeria. It is an indication that there would be great improvement in their learning at if information and communication technology could invariably be integrated into learning. If information and communication technology is incorporated into learning, it can lead to increased learning performance thereby increasing learners' self-efficacy, confidence, interaction and involvement in collaborative learning.

The result in the study also showed that there was no gender influence on the learners' self-efficacy and motivation to use ICT for learning. The implication of this is that ICT-Based instructional strategy can improve the learning effectiveness of both male and female students equally and minimize gender discrepancies in learning process.

4. CONCLUSION

This research explored the relationship among undergraduates' motivation, self-efficacy and use of ICT for learning in Kwara state, Nigeria. The result obtained from data gathered and analysed in this study indicated that undergraduates are highly motivated to use ICT for learning, they have strong self-efficacy in its use and so use it regularly in their learning process but there was a statistically significant relationship between learners' self-efficacy and their use of ICT for learning while there is no relationship between learners' motivation and their ultimate use of ICT.

The research findings also indicated that gender had no relationship with undergraduates' self-efficacy or motivation to use ICT proving that the gap of digital gender divide that was previously a chasm is gradually closing up and females are becoming as comfortable in their use of ICT as their male counterparts but gender was determined to have an effect on the actual use of ICT. Furthermore, it was discovered in the research findings that area of specialization was not a determinant of undergraduates' self-efficacy or motivation to use ICT for learning but has an effect on the learners' use of ICT for learning.

Finally, the research revealed that gender is an important determinant of actual use or extent of use of ICT for learning. The same can be said of area of specialization which was also noted to have an existing relationship with undergraduates' use of ICT for learning.

5. RECOMMENDATIONS

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

1. Researchers in education should further develop keen interest on researching into information and communication technology in order to establish their findings with clearly stated recommendations. This would thus contribute to the existing knowledge.
2. Government and curriculum developers should embrace student-centred learning approach in the teaching and learning process so that an instructional strategy like ICT will be known to various stakeholders in education.
3. Government should provide or aide undergraduates' in the procurement of ICT resources. This could be done by reduction in their prices and free supply of the facilities into higher institutions. This will encourage students in its use.
4. Lecturers should try to help improve learners' interest in the use of ICT by integrating it in the teaching process, this will help the students realize ICT has more value to it than just for playing games.
5. Government and policy makers in education should endeavour to introduce the use of ICT into education curriculum in the universities that both lecturers and students will be using it for instructional purposes.

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