

To cite this article: Kawu Waziri and Bako Idris (2023). SELF-EFFICACY AS PREDICTOR OF SENIOR SECONDARY SCHOOL STUDENTS' ACQUISITION OF INFORMATION AND COMMUNICATION TECHNOLOGY ICT SKILLS IN GOMBE STATE, International Journal of Education and Social Science Research (IJESSR) 6 (4): 90-101 Article No. 806, Sub Id 1289

## **SELF-EFFICACY AS PREDICTOR OF SENIOR SECONDARY SCHOOL STUDENTS' ACQUISITION OF INFORMATION AND COMMUNICATION TECHNOLOGY ICT SKILLS IN GOMBE STATE**

**Kawu Waziri and Bako Idris**

Modibbo Adama University Yola, Adamawa state Nigeria

### **ABSTRACT**

The study examined self-efficacy as predictor of students Acquisition of ICT skills in Gombe State. One research question and one hypothesis were formulated to guide the study. The study adopted predictive correlational design. The population of the study consisted of all the SSII students in Gombe State. 420 students were drawn from the population using multistage sampling technique. Self-efficacy Questionnaire and ICT skills checklist were used as instruments for data collection. The instruments were validated by three experts. Reliability coefficients of 0.87 was obtained using Cronbach alpha. The data collected were analysed using descriptive statistics and linear regression. The result showed that there were more students with high level of self-efficacy. Similarly, self-efficacy significantly predicts students' Acquisition of ICT skills. Based on the findings of the study, it was recommended that the school Authorities should organize self-efficacy motivation programs like workshop/excursions that will expose the students to build more confidence, feeling and believe in their abilities to interact with ICT facilities like computer which in turn will improve their acquisition of ICT skills.

**KEYWORDS:** Self-efficacy, ICT, Skills

### **INTRODUCTION**

Information and Communication Technology (ICT) has brought transformation in the way people live, work and behave. It has brought new knowledge and technologies for human development beyond human imagination. It has also revolutionized the education sector in Nigeria. The acquisition of ICT skills by students and teachers at secondary school level may improve teaching and learning processes and serve as an effective tool that will promote the realization of Nigeria's educational goals. Information Communication Technology is an umbrella term that covers communication devices or applications that include computers, televisions, radios, networks, satellites, video conferencing and e-learning. Furthermore, Information and Communication Technology are always talked about in a particular context, like ICT in education, libraries and health (Rouse, 2015). ICT applications have expanded to the Internet, email, chat, programming, graphics, spreadsheet, online shopping, online literature searching, and other educational materials.

Information and Communication Technology refer to a knowledge applied in the form of tools, equipment and application support which helps in the collection, storage, retrieval, use, transmission, manipulation and dissemination of information to enhance knowledge and developing communication, decision making and problem-solving ability of the user. Some of these ICT tools include radio, television and telephone, computers, satellite, wireless technology and the internet (Mavellas, Wellington & Samuel, 2016). Information and Communication Technology skills refer to the ability of an individual to apply knowledge or experience gained in handling or manipulating internet tools. ICT skills demonstrated by secondary school students may include, among other things; proficiency in handling Microsoft Word, Microsoft PowerPoint, searching and browsing of the internet, spreadsheets skills, database skills, electronic presentation skills, web navigation skills, website design skills, e-mail management skills, digital cameras, file management and windows explorer skills, downloading software from the web (Patankar & Jadhav, 2014).

The acquisition of ICT skills may transform and impact positively in all areas of human endeavour, particularly in this contemporary age when almost all human activities are channeled and guided by the extensive use of ICT tools. It is almost impossible to record a 100 % success in fields like Medicine, Education, Banking, Agriculture, and Transportation, etc. without the use of technological tools. Recently, due to the Covid-19 pandemic, that is currently ravaging the world, most developed economies, who can afford it, have switched to the use of ICT tools for teaching and learning purposes (Olufemi & Oluwatayo, 2014). Nigeria's institutions of learning have also made some efforts towards this; however, complete success was not recorded because we are still yet not fully ready for complete online learning.

Similarly, Adeosun (2010) stated that the acquisition of ICT skills in the secondary school influences teaching and learning by providing the students with the opportunity for personalized, flexible and asynchronous learning by shifting the learning from teacher-centred to student-centred. In the same vein, UNESCO (2014) reported that acquisition of ICT skills in education enhances students' learning of new skills, promoting mobility, and assist students to compete with their mates in a worldwide education system. This is in tandem with the opinion of Redecker (2013) who opined that Information and Communication Technology skills in the use of computer-based test (CBT) for admission purposes will greatly improve efficiency and effectiveness in test administration, enhance the validity and reliability of test scores. Similarly, student use of CBT will increase motivation, concentration, and performance. Based on the benefits of using ICT in schools, it could be said that it is of paramount importance to effective teaching and learning in secondary schools. However, much is left to be said about the acquisition of ICT skills of secondary school students in Gombe State.

An observation made have shown that many students in secondary schools in Gombe State experienced difficulty when interacting with the ICT facilities like a computer because of manifest fear or phobia towards the use of these tools. To support this observation, Dangut and Sakiyo (2014) discovered that some students fear to interact with the computer due to worry, depression, anxiety, and emotions. As

such, may not effectively interact with ICT facilities. Hence may not acquire the skills associated with interacting with these facilities. Many factors evolved from various studies concerning how psychosocial factors predict the students' acquisition of ICT skills (Akaranga & Ongong, 2013). Some of which are; ICT or computer anxiety, computer self-efficacy, gender, parental influence, peer group pressure, socioeconomic status of parents, availability and utilization of ICT facilities, adequacy of ICT facilities, and school essential facilities. A consideration of these factors as identified by Akaranga and Ongong (2013) indicated that some factors are internal (psychological) while others are external (social). More so, both the psychological and social or environmental factors are known to compositely influence behaviour and thus better predictors of secondary school students' acquisition of Information and Communication Technology skills (Akaranga and Ongong, 2013). Therefore, this study focused on psychosocial factors as predictors of secondary school students' acquisition of ICT skills in Gombe State.

As earlier stated, psychosocial factors refer to a combination of both psychological (internal) and social (external) factors. In the words of Whitesell, Bachand, Peel and Brown (2013), on what could affect students' acquisition of ICT skills, the author argued that there is no simple, single, cause; rather, a combination of social, environmental and biological factors jointly contributes to predicting the acquisition of ICT skills. Therefore, this study focused on self-efficacy, anxiety and parental support as psychosocial factors that may predict secondary school students' acquisition of ICT skills in Gombe State.

Self-efficacy is one of the psychosocial factors that may affect the students' acquisition of ICT skills in secondary schools in Gombe state. Self-efficacy refers to individual belief or conviction that he or she may successfully achieve at a designated level of a task or attain a specific goal (Olabisi & Abiola 2014). Information and Communication Technology self-efficacy, tracing back to the work of Bandura (1977), refers to an individual belief in one's ability to relate computer skills to a wider range of tasks. Specific ICT self-efficacy refers to the belief that the student may perform well using a particular technology such as programming and database development (Bandura, 1977). Students with a higher level of self-efficacy are more confident in their abilities to achieve their goals and persist more in the face of difficulty, while students with low self-efficacy are less confident (Bandura, 1977). Therefore, students' confidence in the use of ICT facilities in secondary schools in Gombe state is more likely to occur among students with high self-efficacy than their counterparts with low self-efficacy. This is because, when students are afraid of using Information and Communication Technology tools, they tend to avoid using it (Panjares, 1996). However, a student's high self-efficacy may not necessarily be in the use of ICT for academic purpose. When this occurs, failure will still be recorded. Therefore, this study determines whether students' self-efficacy predicts their ICT skills acquisition in secondary schools in Gombe State.

From the preceding discourse, efforts were made to explain some of the factors associated with secondary school students' acquisition of information and communication technology skills. Specific reference was made to the influence of social and psychological variables. It was observed that previous studies were conducted that captured the variables in this study separately (Dangut & Sakiyo 2014, Halder & Chaudhuri, 2015, Eguavonen 2016). However, none focused on the combined influence social and psychological variables (self-efficacy, anxiety, and parental support) on secondary school students' acquisition of information and communication technology skills in Gombe State. The consequences for not addressing these gaps are, as the world is going digital, schools may end up producing graduates that cannot favourably compete with their counterparts in the national and international labour market. This may therefore make the achievement of the Sustainability Development Goal (SDG) in education a mirage. In the light of these reasons, the study investigated psycho-social factors as predictors of senior secondary school students' acquisition of information and communication technology skills in Gombe state, Nigeria.

### **Statement of the Problem**

As the world becomes a global village, the use of ICT tools has permeated every facet of human endeavour, including education. It is used for assignments, examination purposes and to screen students for admission into higher institutions of learning. However, in Gombe State, lack of ICT knowledge has to a large extent deprived many secondary school students of gaining admission into higher citadels of learning. More so, it has also dispossessed many students the opportunity of enjoying the benefits of acquiring associated Information and Communication Technology (ICT) skills in the course of pursuing their academic goals. This is evidenced in the fact that most secondary school students are unable to interact confidently with ICT facilities that will boost their education and make learning more interesting and effective. Owing to this reason, they prefer going to the computer centres or cyber-cafe to do their assignments, open E-mails, register online courses and even fill confidential documents.

Therefore, this study investigated whether Self-efficacy predict senior secondary school students' acquisition of information and communication technology (ICT) skills in Gombe State, Nigeria.

### **The Purpose of the Study**

The purpose of this study is to investigate the Self-efficacy as predictors of senior secondary school students' acquisition of information and communication technology skills in Gombe State, Nigeria. Specifically, the objectives of the study are to determine whether:

1. Self-efficacy predicts senior secondary school students' acquisition of information and communication technology skills in Gombe State.

### **1.4 Research Questions**

The following research questions were answered in this study:

1. What is the level of self-efficacy among senior secondary school students towards the acquisition of information and communication technology skills in Gombe State?
2. What is the level of skills acquisition of senior secondary school students in information and communication technology in Gombe State?

### 1.5 Hypotheses

The following null hypothesis was formulated and was tested at 0.05 alpha level of significance:

**H<sub>01</sub>:** Self-efficacy does not significantly predict senior secondary school students' acquisition of information and communication technology skills in Gombe State

### METHODOLOGY

Survey research design was adopted for this study. The researcher used questions to study variables categorized into independent (predictor) and dependent (outcome). Hence, the predictor variable for this study is self-efficacy while the outcome is the students' acquisition of information and communication technology skills. The study was conducted in Gombe State located in the Northern part of Nigeria. The researcher chose Gombe state for the study because the state is a virgin area for this type of study as few were conducted but not related to self-efficacy in relation to acquisition of ICT skills. Also, the rate of public secondary school students' inability to interact with information and communication technology facilities in their studies and during the conduct of examinations owing to lack of proficiency in information and communication technology is hindering many students to be qualified for admission into higher institutions and even to secure information and communication technology-related jobs in the labour market have necessitated this study. The population for this study comprised all 24,064 Senior Secondary Two (SS II) students in public secondary schools in Gombe State, Nigeria. The researcher decided to use Senior Secondary Two (SS II) students because they form the category of students whose calendar is not disrupted by any external examinations within the first and second term. They were also chosen because they are developmentally and socially stable and matured to respond to items on studies like this.

The sample for this study was 420 SS II students drawn from the public senior secondary schools across the three educational zones in Gombe State, Nigeria. The sample size was calculated using the Cochran's (1963) sample size formula. The instruments used for data collection were Psychosocial Factor Questionnaire (PFQ) and Students' Information and Communication Technology Skills Checklist (SICTSC). The self-efficacy (SFQ) is an instrument made up of self-efficacy. The questionnaire was an adapted version of the "Computer Self-Efficacy Scale" developed by Teo and Koh (2010). It is a 12-item instrument that consists of three components designed to measure students' self-efficacy in using information and communication technology facilities. It covered basic Computer Skills (BCS), which composed of five items, media related skills (MRS) component with four items and the Web-Based Skills (WBS) which consisted of three items.

The Students' Information and Communication Technology Skills Checklist (SICTSC) is a 30-item instrument developed by Dauda and Isaac (2018) and modified by the researcher. The instrument covered the Information and Communication Technology skills acquisition required by the students at the secondary school level. The skills include, among other things Microsoft Word, Presentation Programs (PowerPoint), Spreadsheets (Excel), Networking (Internet browsing), and Operating Systems (Windows). The items were measured on a modified 5-point Likert scale ranging from 5 = very high level, 4 = high level, 3 = moderate level, 2 = low level, and 1 = very low level. The total score of the items provided the general level of students' acquisition of Information and Communication Technology skills when interacting with the ICT facilities. Copies of the instruments were validated by three experts in. The validators made some useful corrections and suggestions. The researcher was equally advised to reframe all the double barrel items. After effecting the corrections, the reliability of the instruments was determined by administering 30 copies of the instruments to SS II students for trial testing, in one Senior Secondary School in Gombe State. The sample selected did not participate in the actual study. The Cronbach alpha procedure was used to obtain the reliability coefficients for the internal consistency of the administered instruments. The reliability coefficient of 0.87, and 0.65 were obtained for Self-efficacy Questionnaire (SFQ) and Students' ICT Skills Checklist (ICTSC) respectively. These reliability coefficients indicated a high level of internal consistency which is satisfactory for the study.

The researcher solicited for the assistance of three research assistants, one from each of the selected schools within the study area. The research assistants employed in this study were teachers employed by the Gombe State Ministry of education or Gombe state secondary school Education Management Board and were residing within the selected areas of the study. The researcher also, interacted with the research assistants and enlightened them on how to guide the students on how they will respond to the instruments to hasten the distribution and retrieval of the completed instruments. On the second day of the research, the researcher with the help of the research assistants administered the Self-efficacy Factor Questionnaire (SFQ) to the respondents in the sampled schools to ascertain the level of students' self-efficacy as contained in the instrument. This took about 30 minutes to complete. After completing the instrument, the researcher together with the research assistants collected and arranged all the completed instruments immediately to ensure that no copy of the instrument was lost.

On that same day of the research, the researcher together with the research assistants administered the second instrument on students' Information and Communication Technology skills acquisition to the respondents to solicit for information concerning students' information and communication technology skills acquisition in all the schools. This instrument took about 25 minutes to be completed by the respondents. After they completed the instrument, all their responses were collected, gathered and kept sealed in an envelope for onward action by the researcher.

The data generated for this study were analyzed using regression model. The research questions were answered using descriptive statistics of mean and standard deviation. On the other hand, the null hypothesis was tested at 0.05 level of significance using linear regression.

The remark for the research questions was guided by the real limits of numbers, which include: Very High Level (VHL) with 4.50-5.00 real limit; High Level (HL) with 3.50-4.49 real limits; Moderate Level (ML) with 2.50-3.49 real limit; Low Level (LL) with 1.50-2.49 real limit; and Very Low Level (VLL) with 0.50-1.49 real limit. The decision rule for testing the null hypotheses was based on comparing the significant value obtained at the 0.05 alpha level. When the p-value was greater than 0.05, the null hypothesis will not be rejected and the conclusion was that there was no significant prediction between the two variables. But, when the p-value was less than 0.05, the null hypothesis was rejected, with the decision that there was a significant prediction between the two variables.

## RESULTS OF DISCUSSION

**Research Question One:** What is the level of self-efficacy among senior secondary school students towards the acquisition of information and communication technology skills in Gombe State?

**Table 1: Mean and Standard Deviation of Self-efficacy among Senior Secondary School Students towards the Acquisition of ICT Skills in Gombe State**

S/N	Item n = 420	Mean	SD	Remark
1.	I can use word processor to create a document for specific purpose of my assignment.	3.91	1.24	HL
2.	I can use the internet to search for information and resources.	4.26	0.76	HL
3.	I can save a document I downloaded from the Internet.	4.08	1.03	HL
4.	I am confident I can create a new folder.	3.96	0.99	HL
5.	I can get an "A" in a computer studies examination	4.04	1.07	HL
6.	I can learn ICT skills well in my computer studies subject.	4.14	0.95	HL
7.	I feel confident when taking a computer study subject.	3.97	1.13	HL
8.	I am the type of person who can use power point to design wedding invitation.	3.60	1.12	HL
9.	I can complete all my assignment in computer studies.	3.95	1.02	HL
10.	I am confident I can study computer science in the University.	3.69	1.09	HL
11.	I am confident that I can find a file from the desk top.	3.69	1.17	HL
12.	I have the ability to send e-mail message to my friends	4.03	1.07	HL
	<b>Grand Mean</b>	<b>3.94</b>		<b>HL</b>

Students' responses as regards their self-efficacy in the use of ICT tools in secondary schools were collected using the items in Table 1. The result of the analysis presented in Table 1 shows that the majority of the students perceived a high level of self-efficacy towards the acquisition of ICT skills. Therefore, the grand mean of 3.94 indicated that the level of self-efficacy of senior secondary school students in Gombe State is high.

**Research Questions Two.** What is the level of senior secondary school students' acquisition of information and communication technology skills in Gombe State?

**Table 2: Mean and Standard Deviation of Senior Secondary School Students' Acquisition of Information and Communication Technology Skills in Gombe State.**

S/N	Item	n = 420	Mean	SD	Remark
1.	Turn on/shut down a computer properly		3.60	1.36	HL
2	Start a computer program		3.94	1.11	HL
3.	Change monitor brightness		3.74	1.24	HL
4.	Minimize/maximize windows on the desktop		3.40	1.30	HL
5.	Perform file management like deleting text from files.		3.34	1.21	HL
6.	Use a 'search' command to locate a file		3.46	1.40	HL
7.	Install a software program		3.63	1.18	HL
8.	Scan floppy disks for viruses		3.59	1.19	HL
9.	Move a file from a hard drive to a USB drive		3.82	1.23	HL
10.	Create a new folder		3.65	1.29	HL
11.	Ability to resize a photograph		3.47	1.28	HL
12.	Save a document		3.60	1.24	HL
13.	Print a document using a printer		3.50	1.11	HL
14.	Create a basic Word document		3.40	1.22	HL
15.	Copy text in a document using key board		3.47	1.30	HL
16.	Change font style in a document		3.68	1.16	HL
17.	Create a basic Excel spreadsheet		3.63	1.13	HL
18.	Create a simple database using Access		3.46	1.31	HL
19.	Create a simple presentation using PowerPoint		3.49	1.12	HL
20.	Download and save a file from the internet		3.60	1.24	HL
21.	Send and receive attachments through e-mail messages		3.61	1.21	HL
22.	Move document from desktop to a flash drive		3.23	1.10	HL
23.	Use the Google search engine to download educational videos		3.19	1.18	HL
24.	Play instructional games using the computer		3.25	1.21	HL
25.	Perform simple Arithmetic with Microsoft Excel		3.13	1.13	HL
26.	Design a simple wedding card using the power point		3.18	1.31	HL



27.	Use a computer to private chart a friend	3.05	1.07	HL
28.	Rearrange data in a sequential order using Excel	3.84	1.39	HL
29.	Renamed a folder from the desktop	3.53	1.38	HL
30.	Drag a file from desktop to a flash drive	3.48	1.26	HL
<b>Grand Mean</b>		<b>3.50</b>		<b>HL</b>

The 420 students’ responses on 30 items related to Information and communication (ICT) skills checklist were collated and answered using descriptive statistics of mean and standard deviation as illustrated in Table 2. The data presented in Table 2 shows that the majority of the students have a high level of ICT skills acquisition in Gombe State. Also, the average mean of 3.50 indicated that the level of senior secondary school students’ acquisition of information and communication technology skills in Gombe state is high.

**HYPOTHESES TESTING**

One null hypothesis guided the conduct of this study. The null hypotheses was tested at 0.05 alpha level using linear regression.

**H0<sub>1</sub>:** Self-efficacy does not significantly predict senior secondary school students’ acquisition of information and communication technology skills in Gombe State.

The null hypothesis was tested by correlating the mean score of students’ self-efficacy towards ICT skills acquisition and the mean score of students’ acquisition of ICT skills using simple linear regression analysis. The result is illustrated in Tables 3a and 3b respectively.

**Table 3a: Relationship between Students’ Self-efficacy and Acquisition of Information and Communication Technology Skills in Gombe State**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.053 <sup>a</sup>	.003	.004	15.230

The linear regression in Table 3a shows the coefficient of determination (R-square value) value of 0.003. This indicates that only 0.3% of the variance in senior secondary school students’ acquisition of information and communication technology skills in Gombe State can be accounted for by students’ self-efficacy towards ICT skills acquisition. Therefore, an R-square value of 00.3% suggests that students’ self-efficacy towards ICT skills acquisition did not predict the acquisition of ICT skills in secondary schools of Gombe. Table 3b added credence to this result.

**Table 3b: Regressed ANOVA of Students' Self-efficacy and Acquisition of Information and Communication Technology Skills in Gombe State.**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	270.278	1	270.278	1.165	.281
	Residual	95790.454	418	231.938		
	Total	96060.733	419			

Tables 3a clearly show that students' self-efficacy did not significantly predict the acquisition of ICT skills in secondary schools of Gombe ( $F = 1.165$  (df 1, 418),  $p = 0.281 < 0.05$ ). Since the p-value of 0.281 is greater than 0.05 alpha level, the null hypothesis of no significant prediction earlier stated is hereby not rejected.

Self- factors are the psychological cum social characteristic of an individual that affects learning. Therefore, psychosocial factors encompass self-efficacy, of the secondary school students manifested in the acquisition of Information and Communication Technology skills. In this study, students' self-efficacy towards ICT skills acquisition and their acquisition of ICT skills were probed.

The finding of this study shows that senior secondary school students in Gombe State demonstrated a high level of self-efficacy towards computer skill acquisition. This implies that the students' perceived self-confidence towards the use of ICT tools is high. However, when students' self-efficacy towards the acquisition of ICT skills was correlated with their acquisition of ICT skills, no significant prediction was observed. This implies that a variation in students' self-efficacy may not necessarily lead to a corresponding variation in the students' acquisition of information and communication technology skills. In other words, an increase or decrease in students' self-efficacy towards the acquisition of ICT skills may not lead to an increase or decrease in the students' acquisition of ICT skills. This finding supports Sarfo, Amankwah and Konin (2017) who found no significant relationship between computer self-efficacy and students' acquisition of information and communication technology skills. In a related study, Funnisho, Solomon and Solomon (2016) also established that no significant relationship existed between self-efficacy and students' academic achievement in chemistry. Also, in a study on the influence of psychosocial factors on the student's academic performance in Potiskum, Yobe State, Nigeria, Kolo, Jaafar and Ahmad (2017) affirmed the failure of academic self-efficacy to predict academic performance. However, the findings of Fabunmi and Awoyemi (2016) revealed a contradictory result to the one obtained in this study; that computer self-efficacy had a significant relationship with information and communication technology competence. It could be observed that even though students' self-efficacy towards ICT skills acquisition and their acquisition of ICT skills was high; a lack of prediction between the two variables was recorded. This simply proves the ingenuity of the inferential statistics applied. Even though respondents rated themselves higher on both variables, the statistic was able to detect the flaws in their responses, thereby addressing possible human errors. This shows that students' self-efficacy is independent of the students' acquisition of ICT skills and vice versa. This could be a possible reason for the result obtained. Based on the

findings of the study, it was recommended that the school Authorities should organize self-efficacy motivation programs like workshop/excursions that will expose the students to build more confidence, feeling and believe in their abilities to interact with ICT facilities like computer which in turn will improve their acquisition of ICT skills.

## REFERENCES

- Adeosun, O. (2010). Quality basic education development in Nigeria: Imperative for use of ICT. *Journal of International Cooperation in Education*, 13(2), 193-211.
- Akaranga, S. I., & Ongong, J. J. (2013). The phenomenon of examination malpractice: An example of Nairobi and Kenyatta universities. *Journal of Education and Practice*. 4(18), 123-230.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. America: W.H Freeman and Company.
- Cochran, W. G. (1963). *Sampling technique*, (2<sup>nd</sup> Ed.). New York: John Wiley and Sons, Inc.
- Dangut, A., & Sakiyo, J. (2014). *Assessment of computer literacy skills and computer-based testing anxiety of secondary school students in Adamawa and Taraba States, Nigeria*. Modibbo Adama University of Technology, Yola, Nigeria.
- Dauda, M., & Isaac, I. J. (2018). Technical knowledge and skills needed by teachers' in teaching electrical installation and maintenance work trade in technical colleges in Adamawa state. *Journal of Association of Vocational and Technical Educators of Nigeria*, 23(2), 184-195.
- Eguavonen, S. (2016). ICT utilization as correlates of academic performance among students with visual impairment in Lagos state, Nigeria. *European Scientific Journal*, 12(13), 123-130.
- Fabunmi, F. A., & Awoyemi, O. O. (2017). Computer efficacy as determinant of undergraduates' information communication technology competence in state-owned universities in the south-west, Nigeria. *International Journal of Library Science*, 6(2), 129-236.
- Funmisho, T. B., Solomon, O. O., & Solomon, A. O. (2016). Self-Efficacy and chemistry students' academic achievement in senior secondary schools in North-Central, Nigeria. *Malaysian Online Journal of Educational of Sciences*, 4(1), 143-152.
- Halder, S. & Chaudhuri, S. (2015) Computer self-efficacy and computer anxiety of trainee teachers: issue of concern. *International Journal of Science and Research*, 3(2), 8-25.
- Kolo, G. A., & Jaafar, W. Ahmad, M. (2017). Influence of psychosocial factors on student's academic performance in one of Nigerian colleges of education. *Malaysian Journal of Social Sciences and Humanities*, 2(1), 51-73.
- Mavellas, S., Wellington, M., & Samuel, F. (2016). Assessment of the availability and utilization of ICTs for teaching and learning in secondary schools - Case of a high school in Kwekwe, Zimbabwe. *International Journal of Scientific & Technology Research*, 5(2), 32-38.
- Olabisi, O., & Abiola, F. (2014). Ondo state. *International Journal of innovation and Applied Studies*, 8(3), 258-1264.

- Olufemi, O. O., & Oluwatayo, T. J. (2014). Computer anxiety and computer knowledge as determinants of candidates' performance in computer-based test in Nigeria. *British Journal of Education, Society & Behavioral Science*, 4(4), 495-507.
- Panjares, F., & Schunk, D. H. (2001). *Self-beliefs and school success: Self-efficacy, self-concept and school achievement*. London: Ablex publishing.
- Patankar, P. S., & Jadhav, S. M. (2014). ICT skills of teacher for teaching-learning process in higher education. *Journal of Research and Reflections on Education*, 14(2), 123-126.
- Redecker, C. (2013). The use of ICT for the assessment of key competences. *Joint Research Centre of the European Commission Scientific and Policy Report*, 3(2), 195-208.
- Rouse, M. (2015). ICT as an instrument of enhanced banking system. *Journal of computer and communications*, 5(1), 12-25.
- Sarfo, K. F., Amankwah, F., & Koni, D. (2017). Computer self-efficacy among senior high school teachers in Ghana and the functionality of demographic variables on their computer self-efficacy. *The Turkish Online Journal of Educational Technology*, 16, 21- 28.
- Teo, T., & Koh, J. H. (2010). Assessing the dimensionality of computer self-efficacy among pre-service teachers in Singapore: A structural equation modelling approach. *International Journal of Education and Development using Information and Communication Technology*, 6(3), 137-148.
- UNESCO (2014). The self -efficacy background of Erasmus students; a trend towards wider inclusion. *International review of Education*, 54(2), 135- 154
- Whitesell, M., Bachand, A., Peel, J., & Brown, M. (2013). Familiar, social, and individual factors contributing to risk for adolescent substance use. *Journal of Addiction*, 3(1), 32–49.