

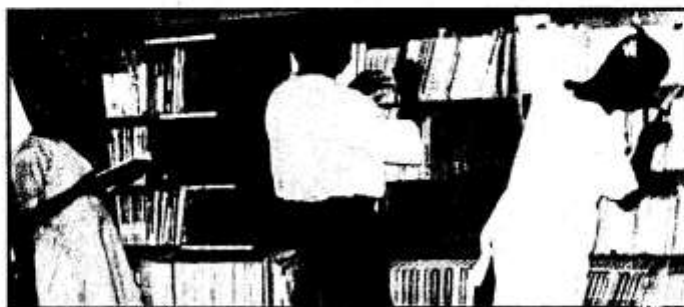


# Nigerian School Library Journal



ISSN: 0331-8214

VOL. 15, 2016



(PUBLISHED BY NIGERIAN SCHOOL LIBRARY ASSOCIATION)  
SUPPORTED BY TERTIARY EDUCATION TRUST FUND (TETFUND)

## STUDENTS' LEVEL OF SKILLFULNESS AND USE OF THE INTERNET IN SELECTED SECONDARY SCHOOLS IN LAGOS STATE, NIGERIA

Dr (Mrs) Stella Ngozi Ifeoma Anasi  
University Library, University of Lagos,  
Akoka, Lagos, Nigeria  
drsanasi4real@gmail.com

Dr Jide E. Owoeye  
Nigerian Institute of Advanced Legal Studies Library  
University of Lagos, Akoka, Lagos, Nigeria

### Abstract

The study examined level of skillfulness and the use of the Internet for learning among secondary school students in Lagos State, Nigeria. The descriptive survey research method was adopted for the study. A sample of 450 students was randomly selected from the three secondary schools. One intact arm was selected from senior secondary one (SS1) to senior secondary three (SS3) in each of the three secondary schools. Of the 450 copies of questionnaire distributed, 355 usable copies of the questionnaire were returned giving 78% response rate. Data collected were analysed using frequency counts, percentages, mean and Pearson Product Moment correlation coefficient. Results showed that there is a perfect strong relationship between the level of skillfulness and the use of the internet for learning. The study also found that there is strong positive relationship between accessibility to the internet and the frequency of use of the Internet. It was recommended that government should connect all secondary school libraries with high-speed Internet access and functional facilities to enable the students learn and develop internet skills in order to take advantage of the massive Open Educational Resources on the Internet. It also advocated the integration of the Internet into the learning process. This will help to improve learning and prepare students to effectively participate in the 21st century knowledge society.

**Keywords:** Internet use, Skillfulness, School libraries, Students, Secondary schools, Lagos State, Nigeria

### Introduction

One of the new and emerging technologies that have had phenomenal and tremendous impact on every facet of human endeavour is the Internet. It is the backbone of e-library, e-learning, e-mail, e-reservation, e-commerce and so on. It is the global gateway to ideas, resources and opportunities that has the potential to transform the lives and livelihoods of every one. Internet is a key element and the force behind globalization. The growth in Internet access and usage has increased tenfold from 1999 to 2013 globally. Around 40% of the world population has an Internet connection today (Internet Live Stats, 2015). A survey of 11 African countries by Research ICT Africa in 2011/2012 indicates that mobile Internet access has increased significantly across all countries. This is due to the fact that mobile internet requires fewer ICT skills, less financial resources and does not rely on electricity at home, compared to computers or laptops (Stork, Calandro, Gillwald, 2013).

The number of internet users on the Global System for Mobile Communications (GSM) networks increased from 76,322,802 in 2014 to 81,892,840 in January 2015 (The Nigerian Communications Commission, 2015). This is due to increase in the growth in mobile telephone infrastructure and services in Nigeria despite the low broadband penetration. In

fact, since 2001 Nigeria's digital mobile network has grown significantly. Nigeria with over 45 million subscriber base has been described as the fastest growing telecommunication in the world (Udutchay, 2008).

Internet technology has changed dramatically the way teaching, learning and research is conducted worldwide. It has become an integral part of today's educational system. It is a valuable source of information that assists students in the pursuit of knowledge and facilitates their social interaction. According to Munusamy and Ismail (2009) the Internet has become a powerful tool for exchanging information and ideas as well as for learning and gaining knowledge among students. This position is affirmed by researchers such as Gencer and Koc (2012) who explored the adoption of digital technologies among secondary students and found that secondary school students are the mainstream consumers and drivers of digital contents. Roberts and Foehr (2004) asserted that no other technological innovations have fixed deep roots in the lives of the net generation students like the Internet. It has become a daily routine of the new generation especially the secondary school students. It enables the students to navigate a world full of interconnected information, discover new sites, read up-to-date information, and download things of interest (Loan, 2012).

The use of Internet among secondary school students has been widely reported. These studies indicate that the Internet is playing a significant impact on educational processes. A research conducted on 883 school students in Lebanon by Hawi (2012) showed that 84.2% students used the Internet for communication and email, 65.7% for information search and research, and 51.8% for entertainment such as online games and music. Another study at West Seattle High school, United State by Fidel; Davies; Douglass; Holder; Hopkins; Kushner; Miyagishima and Toney (1999) indicated that the students' prime focus of using the Internet was to find correct answers to their assignments in order to complete their work. In a survey of a sample of 754 youths aged 12 to 17 years the Pew Internet and American Life Project reported that 94 % of them used the Internet for school research and for their most recent project 71 % of them used the Internet as the major source of information (Lenhart, Simon, and Graziano, 2001). Another study on the integration of Internet tools in language learning activities revealed that Internet increased learning possibilities (Yang and Chen, 2007).

In India, Singh and Bala (2014) investigated the utilization pattern of Internet among secondary school students. The findings revealed that students used the internet mostly for scholastic purpose but private schools students access more information through internet than government school students. Another America-wide study of 136 students aged 11 to 19 found that the Internet facilitates easy access to up-to-date information sources and speedy completion of school work (Levin and Arafeh 2002). A study by Chan and Fang (2007) in Hong Kong found that young people use the Internet for different purposes such as for making friends, shopping, listening to music, having fun, completing homework, and searching for information on further education.

In Istanbul, Turkey, Yilmaz and Orhan (2010) examined the use of Internet by high school students for educational purposes with respect to their learning approaches. The study found that surface learners use the Internet more when compared to deep learners, but the

ratios of the Internet use of deep learners for educational purposes are higher when compared to those of surface learners who use it for non-instructional purposes. Another study conducted in South Korea on the effects of internet use on academic achievements among adolescents indicated that Internet use for educational purposes was associated with adolescent academic achievement while social and recreational use of the Internet was associated with lower academic achievement (Kim, 2011).

In Nigeria, Udende and Azeez (2010) reported that 80.8% of students use the internet for academic purpose and 90% of them reported that the internet help them in solving their academic problems. However, in four Greek cities, Aslanidou and Menexes (2008) who collected samples from 418 high school students found that Internet access remained at a very low level and was insufficiently used for academic purposes.

In this information age, the possession of Internet skills is a vital resource that will propel and sustain students' interest and utilization of the Internet for academic activities. Students require some skills on how to identify, locate and retrieve the information needed out of the pool of information in the knowledge world (Ani, 2013). According to Van Deursen and Van Dijk (2011) the digital divide has evolved beyond physical access to the Internet, it includes differential possession of skills to use the Internet. Skills refer to the user's ability to locate content online effectively and efficiently (Hargittai and Shafer, 2006). Indeed, students need to be well versed with the Internet technologies and their applications in this present networked society.

Contributing further to this discourse, Van Deursen and Van Dijk (2010) identified the following range of Internet skills: Operational Internet skills which are derived from concepts that indicate a set of basic skills in using Internet technology; Formal Internet skills which relate to the hypermedia structure of the Internet, which requires the skills of navigation and orientation. Information Internet skills which are derived from studies that adopt a staged approach in explaining the actions through which users try to fulfill their informational needs and Strategic Internet skills which refer to the capacity to use the Internet as a means of reaching particular goals and for the general goal of improving one's position in society. The emphasis lies on the procedure through which decision makers can reach an optimal solution as efficiently as possible.

Kuhlemeier and Hemker (2007) opined that generally, Internet skill contribute to better learning outcomes and successful school careers. In the Netherlands, Van Deursen and Van Diepen (2013) examined information and strategic Internet skills of secondary school students. The study found that on the overall, 64% of the four Internet skills assignments were completed successfully by the students. The findings also revealed that while educational attainment was the most important contributing factor to the level of information and strategic Internet skills, gender did not reveal any differences at all. In Malaysia, Umar and Jalil (2012) conducted a survey to assess the level of ICT skills among secondary school students as well as the barriers that impede its use. The study revealed that their levels of ICT skills for basic applications and for Internet applications in accessing and sharing information were at moderate level while their Internet applications for communication skills were at the proficient level. The result also showed insignificant gender difference in terms of the students' levels of ICT skills.



Studies suggest that young people are unsophisticated users of search engines (Fallows 2005) and that they struggle to find what they need (Valenza, 2006) from the Internet. Lauman, (2000) observed that not every student is equally proficient in the Internet skills they need for academic activities. The study by Fidel, et al. (1999) suggested that in spite of students' belief in the ease of Internet use, they were unskilled and often unable to find the information they needed. Similarly, result of the study by Ojedokun (2002) showed that students lacked necessary searching skills for effective use of the Internet in spite of their awareness of the benefits. Anasi (2006) examined level of the Internet use among students and affirmed that they cannot design search strategies and were not skilled navigators of the web. Chen (2003) also enumerated the search problems and difficulties students experienced in searching the online catalogue and the World Wide Web to include concept of keywords, search strategy, browsing strategy, and rapid surfing. Against this backdrop, this study investigates the level of skillfulness and the use of the Internet for learning in selected secondary schools in Lagos State, Nigeria

### **Research Questions**

The research questions which guided this study are:

1. Where do secondary school students access the Internet?
2. How skillful are secondary school students in the use of the Internet?

### **Hypotheses**

Seven hypotheses were tested at 0.05 level of significance

1. Access to the Internet would not be a significant correlate of frequency of use of the Internet among the students.
2. The relationship between level of skillfulness and frequency of use of the Internet among the students is not significant.
3. Level of skillfulness and access to the Internet and use of the Internet are not significantly related.
4. There is no significant relative effect of level of skillfulness and access to the Internet on use of the Internet.
5. There is no significant relative contribution of socio-demographic variables on respondents' level of skillfulness in the use of the Internet
6. There is no significant difference between male and female students in their level of skillfulness in the use of the Internet.
7. The difference in level of skillfulness of younger and older students in the use of the Internet is not significant.

### **Research Method**

The study population consisted all senior secondary school students in three secondary schools located in federal tertiary institutions in Yaba Local Government Area in Lagos State, Nigeria. The schools are International School University of Lagos (ISL), Yaba College of Technology Secondary School (YCTSS) and Federal College of Education (Technical) Secondary School (FCESS). The study employed the descriptive survey research design and a questionnaire was used as instrument for data collection. One intact arm (50 students) was randomly selected from senior secondary one (SS1), senior secondary two (SS2) and senior secondary three (SS3) in each of the three secondary schools. Using simple

random sampling technique, a sample of 450 students was randomly selected from the three secondary schools. Of the 450 copies of questionnaire distributed 355 usable copies of the questionnaire were returned giving 78% response rate.

The questionnaire used for data collection is divided into three sections. Section A includes questions eliciting students' demographic characteristics (gender, age and class). Section B comprises items related to access to the Internet and frequency of use of the Internet using five point likert scale (ranging from rarely=1; once a month=2; once a week=3; twice a week=4; to daily=5). Section C includes items related to students' level of skills in the use of the Internet using a three point Likert scale (ranging from 1=Not skillful; 2= Moderately skillful; to 3= Very skillful).

The data collected were analyzed with frequency counts, percentages, mean, Pearson's Product Moment correlation coefficient, regression analysis and multiple regression analyses of variance (ANOVA). Beta weights and T-test were used to test the level of significance. For the analysis of research question 2 a three- point Likert scale was used to determine the respondents' skillfulness in the use of the Internet. The Upper and lower limits of the 3-point scale used to answer the research question 3 were:

2.50 3.49 Very skillful  
1.50 2.49 moderately skillful  
0.50 1.49 Not skillful

## Data Analysis and Results

### Demographic Characteristics of Respondents

The gender distribution of the respondents shows that the males were 192(54.1%) while the females were 163(45.9%). Majority of the respondents 223 (62.8%) were between the ages of 13 and 14 years while 132(37.2%) were 15 years and above. The survey showed that majority of the respondents 146(41.0%) were in SS1, 107 (30.0%) of the respondents in SS2 while 102 (29.0%) of the respondents were in SS3.

### Research Question 1: Where do secondary school students access the Internet?

The details of the findings are presented in Table 1.

**Table 1: Students' Access point to the Internet**

Access point	FCESS	YCTSS	ISL	Frequency	%
Home	40	101	40	181	45
Cybercafe	49	26	37	112	28
Parents' Offices	12	15	22	49	12
Computer Laboratory	7	7	32	46	11
School library	8	3	4	15	4

Table 1 reveals that 45% of the students reported that they have access to the Internet at home. This is followed by those who have access to the Internet at Cybercafés (28%). Only 4% of the students indicated that they have access to the Internet in the school library. This result is a reflection of the state of the school libraries in Lagos State as most of them have no internet connectivity.

**Research Question 2:** How skillful are secondary school students in the use of the Internet?

The respondents were asked to indicate their level of skillfulness in the use of the Internet. The results are presented in Table 2.

**Table 2: Respondents Level of skillfulness in Internet Use**

Skills	N	Mean	Std. Deviation	Decision
Down loading learning materials	355	2.30	.657	moderatelyskillful
Uploading assignments	355	2.21	.701	moderatelyskillful
Chatting with friends	355	2.39	.768	moderatelyskillful
Searching for information	355	2.53	.677	very skillful
Using search engines	355	2.39	.744	moderatelyskillful
Visiting web sites	355	2.44	.724	moderatelyskillful
Communicating via e-mail	355	2.09	.782	moderately skillful
Weighted Mean Score		2.33		moderatelyskillful

**Note:** 2.50 3.49 =Very skillful, 1.50 2.49= moderately skillful, 0.50 1.49= Not skillful

The findings presented in Table 2 showed that the respondents were very skillful in the use of the Internet for searching for information ( $=2.53$ ;  $SD=.677$ ) while they were moderately skillful in "visiting websites" ( $=2.44$ ;  $SD=.724$ ) and "communicating via email" ( $=2.09$ ;  $SD=.782$ ). The overall mean of 2.33 showed that they were moderately skillful in the use of the Internet.

**Hypotheses Testing**

1. Access to the Internet would not be a significant correlate of frequency of use of the Internet among the students.

The result is presented in Table 3.

**Table 3: Relationship between Access to the Internet and Frequency of Use**

Variable	N	df	Mean	SD	r	P	Remark
Access to Internet	355	354	3.4986	1.70472			
Use Of Internet	355	354	3.5775	1.45227	.128	.016	Significant

Significant at  $p < 0.05$

The correlation coefficient of the relationship between access to internet and frequency of use of the Internet is 0.128;  $P < 0.05$ . This implies that there is positive relationship between accessibility to the internet and the frequency of use of the Internet. Since the significant value of this relationship (0.16) is less than 0.05 this implies that the relationship under consideration is significant at 2 tailed- test, therefore, the null hypothesis was therefore rejected.

2. The relationship between level of skillfulness and frequency of use of the Internet among the students is not significant.

**Table 4: Relationship between Level of Skillfulness and Use of the Internet**

Variable	N	df	Mean	SD	r	P	Remark
Level of Skillfulness	355	354	19.3915	3.60029			
Use Of Internet	355	354	3.5775	1.45227	.194	.000	Significant

Significant at  $p < 0.05$ 

The correlation coefficient of the relationship between the students' level of skillfulness and their use of internet is .194;  $P < 0.05$ . This implies that there is a positive relationship between the level of skillfulness and use of the internet. Since the significant value of this relationship (0.00) is less than 0.05 this implies that the relationship under consideration is significant at 2 tailed tests, therefore, the null hypothesis was therefore rejected.

**Table 5: Regression Summary among Level of Skillfulness, Access to Internet and Use of the Internet**

R	=	.224
R square	=	.050
Adjusted R square	=	.045
Std. Error of Estimate	=	1.41926

Source of variation	Sum of Squares	df	Mean Square	F-Ratio	Sig. of P
Regression	37.582	2	18.791	9.329	.000
Residual	709.038	352	2.014		
Total	746.620	354			

Predictors: (Constant), Level of skillfulness, Access to Internet

Dependent Variable: Use of the Internet

Table 5 shows that the multiple regression correlation coefficient (R) indicating the linear relationship among level of skillfulness, access to the Internet and use of the Internet is .224; R square equals 0.050 while the adjusted R square equals 0.045. This implies that the two independent variables (Level of skillfulness and Access to the Internet) contributed only 5 per cent to the variation in the use of the Internet. The remaining unexplained 95 per cent could be due to other factors that were not considered in this study. Further verification, using Regression ANOVA produced  $F_{(2,352)}$  ratio equals 9.329;  $P < 0.05$ . Since P value is less than 0.05 then the null hypothesis three was therefore rejected. Hence there is significant linear relationship among level of skillfulness, access to the Internet and use of the Internet.

**Table 6: Coefficients indicating Relative Effects of Level of Skillfulness, Access to Internet and Use of the Internet,**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	1.792	.431		4.153	.000
Level of skillfulness	.075	.021	.185	3.553	.000
Access to the Internet	.097	.044	.113	2.176	.000

A. Dependent Variable: use of the Internet





hand, there is no significant contribution of age of the respondents on their level of skillfulness in the use of the Internet.

6. There is no significant gender difference between male and female students in their level of skillfulness in the use of the Internet.

The result is presented in Table 8.

**Table 8: T-test statistics showing gender difference in level of skillfulness in the use of internet**

Gender	N	Mean	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	P
Male	192	20.17	3.312	0.070	4.586	353	.000	1.71083	<.05
Female	163	18.46							

Table 8 presents the T-test analysis of gender difference in level of skillfulness in the use of the Internet by the respondents. It could be observed that the mean score ( = 20.17 and = 18.46) for male and female respectively showing that the female respondents level of skillfulness is lower than that of the male. The t-test value ( $t=4.586$ ,  $df=353$  and  $p<.05$ ) also showed that there is significant difference in level of skillfulness in use of Internet by male and female respondents. The hypothesis is thus rejected.

7. The difference in level of skillfulness of younger and older students in the use of the Internet is not significant.

**Table 9: T-test statistics showing age difference in level of skillfulness in the use of internet**

Age	N	Mean	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	P
Younger Respondents (13-14 years)	223	19.1973	.704	.408	-1.323	353	.187	-.52239	>.05
Older Respondents (15 years and above)	141	19.7197							

Table 9 presents the T-test analysis of age difference in level of skillfulness in the use of the Internet by the respondents. It could be observed that the mean score ( = 19.19 and = 19.71) for younger and older respondents respectively showing that the respondents level of skillfulness is the same. The t-test value ( $t= -1.323$ ,  $df=353$  and  $p>.05$ ) also showed that there is no significant difference in level of skillfulness in the use of Internet by age. The hypothesis is thus not rejected.

#### Discussion of Findings

Before the advent of the Internet, students and researchers who need information rely on the library, and some of them find it frustrating to retrieve the desired information. The Internet came as a solution to these difficulties and as a means of improving the information seeking behavior of students. The results reflect major trends in Internet access and usage in urban schools in Nigeria, and might be used as a basis for comparison for similar studies in developing countries.

As regards accessibility, the study found that the students had access to the Internet from various places homes, cybercafés, their parents' offices and so on. Specifically, majority 181(45%) of the students in this study had access to the Internet at home and only 4% of the students indicated that they have access to the Internet in the school library. This perhaps is due to the growth of mobile Internet access in Nigeria which makes it possible for mobile telephone subscribers to use their smart phones to access internet services anywhere (Udutchay, 2008). The result also reveals that most school libraries did not have internet access. School libraries ought to be the hub for the provision of information resources in both print and electronic formats. The finding is consistent with the study conducted by Anasi and Nwalo (2012) which reported that most schools in Lagos State lack functional school libraries and the few available are poorly equipped.

Again, 112(28%) had Internet access at Cybercafe. Basically, home and cybercafé were the most common area internet is accessed by the respondents. This finding is consistent with the result of the study by Singh and Bala (2014) which reported that cybercafé and home were the most common place secondary school students access the Internet. This result also tallies with the findings of another study conducted elsewhere among school children in Malaysia which showed that most of them access the Internet at home (Omar, Daud, Hassan, Bolong and Teimmouri, 2014). The result of this study also affirms the findings of a study conducted in Israel by Nachmias, Mioduser and Shemla (2000) which showed that the child's home is the center of gravity of this cultural development and not the school and among all possible factors affecting the young people's use of Internet, the most significant was accessibility from home. However, the result of this study contradicted findings of the study conducted in India which revealed that the college or the work place were the most accessed points for using internet by the teachers and the students (Kumar and Kaur, 2006). The findings is also at variance with another study by Robinson (2005) which indicated that the use of the Internet for most African-American college students occur more at school (49%) than at home (47%) and for forty-three per cent of the students, their primary motivation for using the Internet was to learn and find school resources.

Accessibility to the Internet from home is also an indication that the Internet facilities and support offered in the schools and the school libraries were inadequate. In fact some schools in Nigeria prohibit the use of mobile phones among the students within the school premises in order to avoid distractions from their studies. This is unlike South Korea where every primary, junior, and high school was provided with high-speed Internet access (Onishi, 2006). Students are feeling increasingly upset by the digital disconnect they are experiencing at school. They cannot think of doing school assignments without access to the Internet and yet they are not being given opportunities in school to take advantage of the Internet. These obstacles and barriers need to be addressed to promote the integration of Internet into the school curriculum as well as to improve the students' Internet skills. It is pertinent to point out that the introduction of the Internet into schooling is not the panacea to all educational problems as some have argued. Arafah, Levin, Raine and Lenhart (2002) warned against the exaggerated claims of some who promote the Internet as a silver bullet for education and that it has the magic power to turn ill-prepared middle and high school students into Ivy League-caliber honors students.

Results obtained from the study revealed that the students were moderately skillful in the use of the Internet. However, male and female students' skills differ significantly in the use of Internet for tasks such as downloading of learning materials, uploading of assignments, use of search engines and communicating via email. This finding is consistent with Loan (2012) who reported that females are more likely to experience the problem of the Internet literacy than males. The result also supports the findings of Sherman, End, Kraan, Cole, Campbell, Birchmeier and Klausner (2000) which indicated that college men are more proficient and comfortable using the computer technology and the Internet when compared to their female classmates.

Surprisingly, age did not influence significantly the students' skillfulness in the use of the Internet. It could be expected that as students mature they would become more skillful and sophisticated in the use of the Internet. Interestingly, the study found that there is positive relationship between accessibility to the internet and the frequency of use of the Internet. This is in agreement with the study by Jagboro (2003) which concluded that the use of the Internet for academic research would significantly improve through the provision of more access points. The result also supports the finding of the study that revealed that computer and Internet access significantly impacted students' attitude toward using Blackboard and the Internet (Henderson, 2005).

As expected there is a positive relationship between the level of skillfulness and use of the internet. This finding agreed with Adeshina, Udoh, Ndomi and Aliyu (2013) who found that there is a relationship between the information technology skills of secretarial teachers in the Nigerian Colleges of Education and their ability to use the internet to access information. Nonetheless, despite providing a meaningful insight on level of skillfulness and the use of the Internet among students, the limitation of this study is its sample size which consists of secondary school students. This makes it difficult to generalise the results across different strata of the society.

### **Conclusion**

It is evident from the study that majority of the students had access to the Internet at home and that for students the Internet is emerging as an alternative knowledge resource outside school. This suggests that the Internet infrastructure and support which the schools offer is inadequate. Most significantly, the students reported that they were moderately skillful in the use of the Internet. However, the male were more proficient than the female students in internet skills. Age did not influence significantly the level of skillfulness in the use of the Internet. The study found that there is positive relationship between accessibility to the internet and the frequency of use of the Internet. The result also revealed that there is a positive relationship between the level of skillfulness and the use of the internet for learning.

### **Recommendations**

The following recommendations are made towards based on the findings.

1. Teachers should take into account the varying skill levels of students when designing Internet literacy instructions for the students.



2. Internet technology should be integrated into the learning process in order to improve learning and prepare students to effectively participate in the 21st century knowledge society.
3. Restrictive school policies on the use of mobile phones within school premises which hinder the students from taking advantage of the massive Open Educational Resources on the Internet as well as developing internet literacy skills should be revisited.
4. Government should connect all secondary school libraries with high-speed Internet access and functional facilities to enable the students learn and develop Internet skills.
5. Parents and guardians should monitor and ensure appropriate use of the Internet primarily for information and education purposes.

#### References

- Adeshina, T. J., Udoh, A., Ndomi, B., & Aliyu, M. (2013). Relationship between the utilization of internet based information by secretarial teachers in the Nigerian Colleges of Education and the effectiveness of their lesson delivery. *International Journal Vocational and Technical Education*, 5(2), 13-20.
- Anasi, S. (2006), "Internet Use Pattern of Undergraduate Students at the University of Lagos, Nigeria", *University of Dar es Salaam Library Journal*, 8 (1&2): 1-15. Available from <http://www.ajol.info/viewarticle.php?id=164&id=37030&layout=abstract>
- Anasi, S.N.I. & Nwalo, K.I.N. (2012) In-school Adolescent Girls' Reproductive Health Information Needs and Resources in Public Secondary Schools in Lagos State, Nigeria, *PNLA Quarterly* 76(2), 1-11. Available @ <http://www.pnla.org/assets/documents/Quarterly/pnlaq76-2-winter2012.pdf>
- Ani, O.E. (2013). Accessibility and Utilization of electronic information resources for research and its effect on productivity of academic staff in selected Nigerian universities between 2005 and 2012. (Doctorate Thesis) University of South Africa. Retrieved from [http://uir.unisa.ac.za/bitstream/handle/10500/13057/thesis\\_.pdf?sequence=1](http://uir.unisa.ac.za/bitstream/handle/10500/13057/thesis_.pdf?sequence=1)
- Arafeh, S. Levin, D., Raine, L & Lenhart, A. (2002, August 14). The Digital Disconnect: The Widening Gap Between Internet Savvy Students and Their Schools. American Institutes for Research for the Pew Internet and American Life Project. Retrieved January 17, 2016 from: [http://www.pewInternet.org/PPF/r/67/report\\_display.asp](http://www.pewInternet.org/PPF/r/67/report_display.asp)
- Aslanidou, S & Menexes, G. (2008). Youth and the Internet : Uses and practices in the house. *Computers and Education*, 3(5), 1375-1391.
- Chan, K., & Fang, W. (2007). Use of internet and traditional media among young people. *Young Consumers*, 8(4), 244-256.
- Chen, S.H. L. (2003). Searching the online catalog and the World Wide Web. *Journal of Educational Media and Library Sciences* 41(1): 29-43.
- Fidel, R.; Davies, R. K; Douglass, M. H; Holder, J. K; Hopkins, C.J.; Kushner, E.J.; Miyagishima, B.K. & Toney, C.D. (1999). A visit to the information mall: Web searching behavior of high school students. *Journal of the American Society for Information Science and Technology* 50(1): 24-37.

- Gencer, S.L. & Koc, M. (2012) Internet abuse among teenagers and its relations to Internet usage patterns. *Demographic Educational technology and Society*. 15 (2) 25-36
- Hargittai, E. & Shafer, S.M. (2006). Differences in actual and perceived online skills: The role of gender. *Social Science Quarterly* 87(2), 432-448.
- Hawi, N. S. (2012). Internet addiction among adolescents in Lebanon. *Computers in Human Behavior*, 28, 1044-1053.
- Heimrath, R. & Goulding, A. (2001). Internet perception and use: a gender perspective, *Program*, 35 (2), 119-134.
- Henderson, R. (2005) The role of computer and internet access in business students' acceptance of e-learning technology. Dissertation submitted to the Faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of doctor of philosophy in career and technical education. <http://scholar.lib.vt.edu/theses/available/etd-07102005214659/unrestricted/DissertationRondaHenderson.pdf>
- Internet Live Stats (2015) *Internet Live Stats (elaboration of data by International Telecommunication Union (ITU) and United Nations Population Division)*. Available @ <http://www.internetlivestats.com/internet-users/> (accessed December, 2015)
- Jagboro, K.O. (2003). A Study of Internet Usage in Nigerian Universities: A Case Study of Obafemi Awolowo University, Ile-Ife, Nigeria. *First Monday*, v8, i2. Retrieved June 26, 2004, from <http://firstmonday.org/issue82/jagboro/index.html>.
- Kim, S. (2011). The effects of internet use on academic achievement and behavioral adjustment among South Korean adolescents: mediating and moderating roles of parental factors. Dissertation submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Child and Family Studies in the David B. Falk College of Sport and Human Dynamics, Syracuse University.
- Kuhlemeier, H. & Hemker, B. (2007). The impact of computer use at home on students' Internet skills. *Computers and Education*, 49(2), 460-480.
- Kumar R & Kaur A (2006). Internet use by teachers and students in engineering colleges of Punjab, Haryana, and Himachal Pradesh states of India: An analysis. *Electronic Journal Academic Special Librarianship*, 7(1): 1-12.
- Lauman, D. J. (2000). Student home computer use: a review of the literature. *Journal of Research on Technology in Education*, 33(2), 196-203.
- Lenhart, A., Simon, M. & Graziano, M. (2001). The Internet and Education: Findings of the Pew Internet & American Life Project. Pew Internet and American Life Project. Retrieved August 17, 2005 from: [http://www.pewInternet.org/PPF/r/39/report\\_display.asp](http://www.pewInternet.org/PPF/r/39/report_display.asp)
- Loan, F. A. (2012). impact of the Internet surfing on reading practices and choices. *Webology*, 9 (1), Article 94. Available @ : <http://www.webology.org/2012/v9n1/a94.html>
- Munusamy, K. & Ismail, M. (2009). Influence of gender role on internet usage pattern at home among academicians *Uluslararası Sosyal Araştırmalar Dergisi: The Journal of International Social Research*. Volume 2/9 Fall, 317.
- Nachmias, R., Mioduser, D. & Shemla, A. (2000) Internet usage by students in Israel high school. *Journal of an Educational Computing research* 22 (1) 55-73
- Ojedokun, A. A. (2001). Internet access and usage by students of the University of Botswana. *Africa Journal of Library, Archives and Information Sciences*, 11(2), 97-102.

- Omar, S.Z., Daud, A., Hassan, M. S., Bolong, J. & Teimmouri, M.(2014). Children Internet Usage: Opportunities for Self Development. *Procedia - Social and Behavioral Sciences*. 155, 75-80.
- Onishi, N. (The New York Times International, 2006, April 2). In a Wired South Korea, Robots Will Feel Right at Home. Retrieved from [http://www.nytimes.com/2006/04/02/world/asia/02robot.html?\\_r=0](http://www.nytimes.com/2006/04/02/world/asia/02robot.html?_r=0) Accessed 22/12/15.
- Roberts, D. F. & Foehr, U. G. (2004). *Kids and media in America*. Cambridge: Cambridge University Press.
- Robinson, J. W. (2005). Internet Use among African-American College Students: An Exploratory study. Retrieved 9 August, 2005, from <http://wwwlib.umi.com/dissertations/fullcit/3156015>.
- Singh, S & Bala, J (2014) Utilization Pattern of Internet among Secondary School Students. *Asia Pacific Journal of Multidisciplinary Research*, 2(6): 28-33.
- Stork, C., Calandro, E. & Gillwald, A. (2013) Internet going mobile: internet access and use in 11 African countries, *Info*, 15 (5), 34-51
- The Nigerian Communications Commission. (2015) Nigerian Tribune (April 7, 2015) - Internet usage on Nigeria's GSM networks hit 81 million. Available [http://www.ncc.gov.ng/index.php?option=com\\_content&view=article&id=1626%3Anigerian-tribune-april-7-2015-internet-usage-on-nigerias-gsm-networks-hit-81-million&catid=86%3Acat-mediapr-headlines&Itemid=64](http://www.ncc.gov.ng/index.php?option=com_content&view=article&id=1626%3Anigerian-tribune-april-7-2015-internet-usage-on-nigerias-gsm-networks-hit-81-million&catid=86%3Acat-mediapr-headlines&Itemid=64) (accessed January 19, 2016).
- Udende. P. & Azeez, A.L (2010). Internet access and use among students of the University of Ilorin, Nigeria. *Journal of Communication and Media Research*, 2 (1) 33-42.
- Udutchay, H. (2008) "Nigeria: Seven Years of GSM Revolution" *This Day* 27 October.
- Umar, I & Jalil, N. A. (2012) ICT Skills, Practices and Barriers of its use among secondary school students. *Procedia - Social and Behavioral Sciences*. 46:5672-5676.
- Valenza, J. K. (2006). They might be gurus. *Teacher Librarian*, 34(1): 18-26.
- Van Deursen, A. J. A. M., & Van Dijk, J. A. G. M. (2010). Measuring Internet skills. *International Journal of Human-computer Interaction*, 26(10), 891-916.
- VanDeursen, A. J. A. M., & Van Dijk, J. A. G. M. (2011). Internet skills and the digital divide. *New Media & Society*, 13(6), 893-911.
- Yang, S. C. & Chen, Y. (2007). Technology-enhanced language learning: A case study. *Computers in Human Behavior*, 23, 860-897.
- Zhang, S (2004) Gender-based differences in attitudes towards computers. *Computer Education*. 20 (2), 169-181.