Full Length Research Paper

Availability and the use of computer and internet by secondary school students in Benin City, Nigeria

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This study identifies the availability of internet use among 1000 secondary schools students Benin City, Nigeria. Internet has become a useful tool for education. Access to information communication technology (ICT), the internet in particular, has provided people especially students with a foundation for meeting their information needs. Many private schools can boast of computer laboratories, but only few can pride themselves on Internet access. Another frustration is the capacity to use the Internet. Methodology adopted is the survey design in which questionnaires was used for obtaining data. The target population of this study was students from private secondary schools in the cosmopolitan city of Benin. Multi-stage sampling method and purposive sampling was adopted in the research. 1000 students were selected from 20 private secondary schools across the two (out of three) local government of Benin City. Result showed that students have the capacity to use the internet which they learnt from friends and family members. However, the level of internet access in schools is poor despite the schools having computer laboratories. Students access the internet from their homes and cyber cafes since they are denied access in their respective schools while most of the students use the internet for educational activities. Internet availability should be considered as one of the most important scientific tools in schools.

Key words: Internet, internet access, computers, secondary schools, Benin City.

INTRODUCTION

The field of secondary education has been affected by internet access, which has undoubtedly affected teaching, learning, and research (Yusuf, 2005). Education is a fundamental human process; a matter of values and action. The cluster of technologies called the "Internet" has the ability to complement, reinforce, and to enhance the educational process (Simond, 2008). It will take the focus of education from the institution to the student. The internet has come to befriend, dwell with, and live beyond, both, the teacher and the student. African wisdom says, "It takes an entire village to raise a child".

Internet usage and world population statistics for March 31, 2011 showed that 5.7% of the population in Africa uses the internet which is the second lowest in the world, while Asia statistics showed the highest with 44% of internet use (Internet World Stats, 2011). In the later part of 2008, an estimated 100% of US public schools had one or more instructional computers with internet access and the ratio of students to instructional computers with internet access was 3.1: 1. Ninety-seven percent of schools had one or more instructional computers located in classrooms (excluding laptops on carts) and 58% of schools had laptops on carts (U.S. Department of Education, National Center for Education Statistics, 2010). While in Nigeria, very few schools can pride themselves on the use of internet in the teaching learning process. Research by Ukpebor (2010) revealed in the analysis that the level of internet access in schools is very poor. This is because the majority of the schools studied do not have access to the internet and while few who does, do not frequently allow students to have access to the technology.

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The internet is a vast global network that links millions of computers ranging from the smallest handheld personal mobile digital assistants to the most powerful computer systems ever constructed. The power of the internet is that it allows a worldwide community comprising millions of people to communicate, access, and publish information. People are using the internet to gain access to libraries throughout the world, aid in research projects and cross-cultural studies, solve school assignments, and enhance foreign language skills, and simply exchange ideas and studies with their peers. The internet has become a global cultural phenomenon; tens of millions of people have access to the system. It is of the same magnitude as television was in its early years and is the most powerful current trend for societal change. According to Dowlin (1995), "Participation in the internet collapses geography and time". The cost is independent of distance and the information is accessed in real or virtual time with little delay. However, Internet is not self dependent but a network itself. One needs computer or an enabled mobile phone to access the information and other multimedia resources through the internet. Therefore, because of the countless benefits from using the internet especially the educational value, schools now acquire computer systems with telecommunication tools to have access to the internet.

Considering the fact that Internet use by students at secondary school level is yet to be formerly recognized as a means of improving academic performances, because curriculum developers underestimate its importance at that level, students' problems are further compounded, as they do not have the full capacity to use the internet and understanding of the use of internet for academic purpose (Ukpebor, 2010). Students are not taught information, computer and internet literacy skills in schools, while digital divide remains a succeeding factor in developing nations. However, many private schools can boast of computer laboratory, but only few can pride themselves on internet connectivity. The cost of access points and connections to the internet is a source of concern to secondary school students and private school owners respectively. With the rapid advancement in information communication technology and a decline in the price of computers, information sources have become affordable to students both in print form and online (Wee, 1999). The questions that arise are: Do the schools in Benin City have computers and internet access? What is the frequency of access to the system? How do students acquire internet skills and most possible place of internet access? Doyle (1994) stressed that the individual of the 21st century must have the ability to access information, evaluate and use information from a variety of source. These sources include the computer and internet. As a result of this, students increasingly utilize the internet to do research on their own initiative, and satisfy their other forms of information needs (Smith and Philips, 1999), most unguarded students forego the importance of the internet as it contributes to their academic work, and decides using it for fraudulent activities as well as, immoral acts such as accessing pornographic and other related materials on the net.

This research study would provide solutions to some problems bedeviling students in internet access, information retrieval, and choice of sites that will benefit them academically, socially and morally. The outcome of this research has implications for curriculum development in Nigeria, secondary schools students, school policies on information retrieval, designers of search engines and most importantly the teachers responsible for using the internet as an educational tool in class.

Since studies, focusing on survey of internet use by secondary schools students in Nigeria are minimal, it will be expected that the result of this work could be beneficial to students, school management and those willing to take up similar researches as the case may be.

Review of related literature

Within a few short years, the Internet has reached many areas of activity, often acting as an agent of profound change. Much of the evolution of the internet has occurred in the university and research environments, but more recently, it has entered a larger public arena. It is now making major inroads into elementary and secondary school environments and creating a new model for classrooms across the globe.

However, in Nigeria, the deployment of networking technology into the education environment has been limited to date. Yet, it is in this environment that perhaps the most striking developments can be undertaken and the essential basic groundwork laid for the longer-term productive integration of information technologies in, our society. Accordingly, there is much that must be done to ensure that the opportunities these technologies offer to the classroom and the children are optimized. The internet computer–based world wide information network have had enormous impact on information seekers, as it offers a wealth of opportunities to improve access to information resources in support of both "traditional" on – campus instruction and distance- independent learning, (Borgman, 2000). In the last few years, in the foreign scene, internet connectivity in schools has grown by leaps and bounds, but some schools are just starting from the scratch especially, here in Nigeria.

Internet has become a useful tool for school assignments. Students and teachers trust and have confidence that internet is a good educational tool. Private school owners have high expectations in the use of internet by their children for school purposes. They see the need for parents to supervise the use of internet with their children. Students and teachers need more direction and training in the use of internet. Teachers need to incorporate the use of internet sites in classroom

assignments. Since the bulk of the schools claimed to have computer systems, it is highly imperative that these systems are connected to the internet such that students and teachers can have access to it.

With the government efforts at removing import duties from information communication technology (ICT), materials and ministry of education efforts plus the cyber cafes around the cosmopolis, students are expected to exploit this media for personal and educational purposes. This study aims to find out the availability and the use of computers and internet by secondary school students. Education is a fundamental human process; it is a matter of values and action. The cluster of technologies called the "Internet" has the ability to complement, reinforce, and to enhance the educational process (Simond, 2008). It will take the focus of education from the institution to the student. The internet has come to befriend, dwell with, and live beyond, both, the teacher and the student. African wisdom says, "It takes an entire village to raise a child".

There is emerging research on how the internet can be an important component of a programme that significantly increases student learning. This type of programme requires students and teachers to have appropriate access to the internet and instruction in its use. It also requires changes in curriculum content, instructional practices, and assessment to take advantage of the communication and information storage and retrieval strengths of the internet and to appropriately assess the types of learning these strengths engenders.

Importance of internet in the teaching learning process

The importance of ICT is quite evidence from the educational perspective. Though the chalkboard, textbooks, radio/television and film have been used for educational purpose over the years, none has quite impacted on the educational process like the computer (Aduwa-Ogiegbaen and Iyamu, 2005). Works by Shavinina (2001) states that the main purpose of ICT consists just in the development of human mental resources, which allow people to both successfully apply the existing knowledge and produce new knowledge. With the rapid growth of the internet, many educational institutions began to use internet as a new medium to assist the teaching, research and many activities. According to a survey conducted by market data retrieval in Shelton Conn; out of 2000 colleges, 72% offered online course in 1999 to 2000 as compared with 48% in 1998 to 1999 (Manir, 2007). Using the internet in teaching and research makes the communication between the students and the teacher more convenient and interesting. Especially, using web in teaching and research makes it available for the students who prefer or require learning outside the classroom to study at their convenient time and space. The web has already been

one of the most popular media for the delivering of the course information. Furthermore, because of the attractive characteristics of the internet, some secondary school teachers are trying to use web to assist in interactive teaching, research and learning in recent years. The use of the internet for interactive teaching and learning is relatively recent. The first materials appeared in the early 1990's. The impact, however, has been considerable, mainly because the technology has advantages over the previous generations of computers (Encyclopaedia Britannica Inc., 2010).

Factors that facilitate and impede internet access

Access to internet in Nigeria and Africa in general is low. Not that the internet is not available across Africa but limited access because of costs and unavailability in remote and awkward areas making it non-existent for a vast majority of Africans (Kamara, 2010). A major factor that facilitates internet access in schools, is the need to ensure that the internet support the educational goals for students. In other words, the learning goals should drive the technology use. Access to the internet is facilitated by so many factors, which include the presence of internet connections in schools and at home, adequate number of computers, the level of information literacy on the part of the students, speed of access, cost, and stability of the network and power supply and satisfaction of information accessed. Students in schools are only interested in having access to the internet when there is an enabling environment. With these aforementioned factors, students and teachers are encouraged to make use of the internet even at their most inconvenient time.

The push to provide internet technology in schools has been successful in recent years. According to Goldman et al. (1999), most schools have computer laboratories and computers in their classrooms. Although, internet services are the latest technology in the educational system, there are still many factors that still impede internet access within and outside the school environment. Hardware and software pose problems as the technical support may not be there. Teachers may lack the time and the motivation to learn technology skills that may hamper the interest in teaching related skills to students like information literacy and retrieval skills. Placement of computers in schools for equitable access, technical support, effective goals for technology use, and new roles for teachers and sustained funding for technology are some of the factors impeding internet access in schools.

METHODOLOGY

This research adopted the survey design. The target populations were students of private secondary schools in the cosmopolitan city of Benin. Private secondary schools were chosen for the study because they are at the forefront of adopting information

Table 1. Demographic information of respondents in the selected local government.

Local government area	Number of private secondary schools	Number of selected schools and respondents (simple randomization)	Names of selected private schools
Oredo local government	147	10 (500 Respondents)	Adun Group of Schools Dynamic Secondary schools Travis Christian College St. Mary British International School Rosie Marie International School Lydia Group of Schools Ogunbor Secondary school Sacred Wealth Secondary school Paragon Comprehensive College Southern Academy Centre
Egor local government	184	10 (500 Respondents)	Auntie Maria College, Obaro Educational Centre Jossy Wisdom School Eghosa Anglican Grammar School Evangel Sure Foundation school University Preparatory secondary school, FYBEN School Fountain Group of Schools St. Thomas group of schools
Total	331	20(1000 Respondents)	20

Fieldwork: Ministry of Education 2010.

communication technology in their schools' curriculum, its acquisition as well as some connecting to the internet. Multi-stage and purposive sampling method was used in the research. Firstly, two (2) local governments (Egor and Oredo) were randomly selected among the three (Egor, Oredo and Ikpoba-Okha) in the cosmopolis.

Thereafter, ten (10) schools were randomly selected from the two (2) local governments each to make twenty (20) selected schools. Thirdly, fifty (50) students were also randomly selected from each school to make 1000 students.

However, purposive sampling was used to select only the senior secondary students for the research. The reason was because the pre-test revealed that the majority of the junior secondary students had little or no knowledge on the subject matter especially on the availability of ICTs in their respective schools. The questionnaires were distributed to students during class hours and collected at the end of a 60 min period resulting in a 100% response rate. Table 1 shows the demographic distribution of secondary school students in the selected local governments. Oredo Local Government has 147 private secondary school and Egor Local Government with 184 private secondary schools making a total of 331 schools. From each local government area, the table shows the list of the ten selected private school making a total of 20 schools after which 500 respondents were also selected from each local government making 1000 respondents. From Table 2,

51.8% of the students were males, while the females were relatively fewer with 48.2%. Table 3 shows that students within the ages of 16 to 18 years (44.7%) are the highest, while others are; 10 to 12 years (6.4%), 13 to 15 years (42.2%) and 19 to 21 years (6.7%). From Table 4, the distribution shows that more of the students (54.7%) are in SSS2, while others are SS1 (30.3%) and SS3 (15.0%).

FINDINGS

From Table 5, 73.1% of the respondents claimed that there is availability of computers in the laboratory. In addition, only 34.9% indicated that the computers are sufficient,

Table 2. Distribution of students according to gender.

Gender	Frequency	Percentage
Male	518	51.8
Female	482	48.2
Total	1000	100

Table 3. Distribution of students according to age.

Age	Frequency	Percentage
10-12	64	6.4
13-15	422	42.2
16-18	447	44.7
19-21	67	6.7
Total	1000	100

Table 4. Distribution of students according to class.

Class	Frequency	Percentage
SSS1	303	30.3
SSS2	547	54.7
SSS3	150	15.0
Total	1000	100

Table 5. Availability and use of computer and internet.

No.	Question	Yes (2)	No (1)	Mean	Std. deviation
1	Availability of computers in the laboratory	731 (73.1)	269 (26.9)	1.73	0.44
2	Sufficiency of the computers	349 (34.9)	651 (65.1)	1.35	0.48
4	Connected computers to the Internet	378 (37.8)	622 (62.2)	1.39	0.51
5	Existence of school club treating Internet	189 (18.9)	811 (81.1)	1.19	0.40
6	Use of computers	544 (54.4)	456 (45.6)	1.54	0.50
7	Use of Internet in school	229 (22.9)	771 (77.1)	1.22	0.42
Weight average mean = 1.40					

Table 6. Method of internet skill acquisition.

Method	Frequency	Percentage
Self taught	462	46.2
From school teachers	357	35.7
From friends	561	56.1
From families/relatives	531	53.1

while 37.8% stated that the computers are connected to the internet. Other results also showed that 18.9% claimed that there is the existence of school clubs treating internet, 54.4% indicated that they use the computers while 22.9% stated that they use the internet in their respected schools.

Above all, the weighted average of 1.40 out of 4.00 showed that the availability and use of computers and internet was very poor. Many schools may boast of computer laboratory but only a few can pride themselves on the internet access. Table 6 responses showed that 56.1%, which represented the majority, acquired

Table 7. Frequency of access to the computer room.

Response	Frequency	Percentage	Mean	Std. deviation
Never (1)	314	31.4		
Occasionally (2)	403	40.3		
Often (3)	165	16.5	2.09	0.97
Very often (4)	118	11.8		
Total	1000	100		

Table 8. Place of internet access.

Response	Frequency	Percentage
Home (1)	346	34.6
School (2)	184	18.4
Cyber café (3)	256	25.6
Mobile phones (4)	177	17.7
Friends/Relatives homes (5)	37	3.7
Total	1000	100

internet skills from friends. This was followed by 53.1% claiming families/relatives. While the other acquisition method obtained low percentage with 46.2% indicating self-taught and 35.7% acquiring from schools teachers. In conclusion, the method of acquisition of internet skills by students is more of learning through friends and families/relatives against the teachers who majorly impact knowledge on the students.

Table 7 showed that majority of students either occasionally have access to the computer room (40.3%) or never have access to the computer room (31.4%). Other results showed that students often have access to the computer room (16.5%), and very often have access to the computer room (11.8%). The mean score of 2.09 out of a maximum score of 4.00 showed the level of access to the computer room is poor. This is because either the systems are faulty or/and they are not connected to the internet. In addition, many schools do not allow their students to have access to the computer when they are in need of information.

Table 8 showed that majority (34.6%) of students access the internet from their homes. This is followed by cyber café (25.6%). Other places of internet access obtained very low percentages viz: schools (18.4%), mobile phones (17.7%) and friends/relatives homes (3.7%). In conclusion, students access the internet more frequently from their homes while few others use the cyber café.

As seen in Table 8, 87.4% which represent the majority of students use the internet for assignments, followed by those who use it for computer assignments (71.9%). Some significant level of percentage responses were obtained for other uses such as: Biography (50.5%), Biology (62.1%), English assignments (66.4%) and General Paper (70.7%). Therefore, it can be concluded that students significantly make use of the internet for educational activities.

RESULTS AND DISCUSSION

In relation to the research questions, the analyzed data fully showed that the availability and use of computers and internet is very poor. Many schools may boast of computer laboratory but only a few can pride themselves on the internet access. This is not far from Goldman et al.

(1999), who claimed that most schools have computer laboratories and many computers in the classrooms, but since internet services are the latest technology in the educational system, there are still many factors that still impedes internet access within and outside the school environment. However, most of the schools who could boast of computers in their schools only had outdated computers from which a few were functioning. It is highly imperative that schools across the city should endeavour to acquire computers for practicals and also internet access so as to empower the student on educational pursuit.

However, few schools with computers connected to the internet do not allow the students to have access to the system when they are in need. This is against the assertion that students increasingly utilize the internet to do research on their own initiative, and satisfy their other forms of information needs (Smith and Philips, 1999).

The study reveals that many of the students have the capacity to use the internet, and these internet skills are majorly learnt from friends against the teachers who only encourage them on its use through assignments and other school works that requires the use of Internet. Formal skills are acquired through courses in institutions where the skills are taught, while informal skills can be acquired through friends, self-taught or personal arrangement with people who are experts in that particular field of study. However, the research has revealed that students learn these skills more from friends who should not be unexpected as studies on internet usage by Ojoko and Asaolu (2005) revealing that 67.9% of the students acquired skills through teaching by friends, 39.3% through self-teaching while 20.7% acquired their skills by reading of books.

The findings also show that students access the

internet more frequently from their homes while few others use the cyber café. Many homes of the middle or upper class of the respondents could boast of internet access either through personal computers or through use of mobile phones, which is a major trend of accessing the internet in the country. However, previous research indicates that computer ownership and internet access in the home strongly influence students' overall use of the internet. Results of their most recent study (with Schlosser) also support the notion that the presence or lack of a computer in the home is the key behind gaps in internet use in general, and, in particular, between whites and blacks (Hoffman, 2000).

The research has shown that students significantly make use of internet on educational activities. This may not be far fetch from Seifkashani (2003) assertion that the internet facilitates, classifies and enables the exchange of information, knowledge and news. The information can vary from local news to business or education developments to health, and therefore, help enhance the standard of living of its users or viewers.

The general implication of this study is that ministry of education and other regulating bodies should key into the information age where internet is considered as an inevitable tool in the upbringing of children in secondary schools. This should not be unconnected with the implementation of standards for all secondary schools in the acquisition of computers and internet accessibility for such schools to be accredited for operating.

Conclusion

The bulk of the secondary schools surveyed in this work have computers in their laboratories but only a few are connected to the internet. Also, students have the capacity to use the internet, and these internet skills are majorly learnt from friends against the teachers who only encourage them on its use through assignments and other school works that requires the use of internet. The level of internet access in schools is very poor. This is because the majority of the schools studied do not have access to the internet and while few who does, do not frequently allow students to have access to the technology. Students access the internet from their homes and cyber cafes since they are denied access in their respective schools. Notwithstanding, the major system used in this access is internet enabled mobile phones and laptops/personal computers.

RECOMMENDATIONS

From the result of the findings in the study, the researcher recommends the following:

1. Schools across the country irrespective of being public or private should acquire more computers with the latest

specifications and multimedia kit should be installed so that the users can use Internet telephony, video-conferencing, chatting and other useful services of the Internet.

2. Curriculum developers and other policy makers should include Internet/information retrieval skills in the school syllabus/curriculum.

3. Capacity building (Internet skills acquisition) on the part of the teachers should be given adequate attention. More efficient technical staff should be appointed and they should always be present in the Internet section for expert advice.

4. While schools are teaching the students on how the Internet can improve them in all phases of life, they should be aware of the standards and ethics of using the Internet.

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