

APPRAISAL OF INTERNET SERVICES USAGE BY SECONDARY SCHOOL TEACHERS FOR PROFESSIONAL DEVELOPMENT IN LAGOS, NIGERIA

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Abstract

The study investigated the impact of internet services availability, accessibility and usage on secondary school teachers' professional development in Lagos, Nigeria. Before internet services can be useful, it must be available and easily accessible. The study adopted a descriptive design survey type. The researchers' made instrument tagged Internet Services and Professional Development Questionnaire (ISPDQ) was used to collate data. The instrument reliability coefficient was 0.79. 200 teachers were randomly sampled out of a population of 1,009 for the study from an educational district in Lagos state, Nigeria. 188 questionnaires were properly filled and returned out of 200 administered which gave a response rate of 94%. Tables, charts, and percentages were used to answer the research questions. The outcome of the study shown that the available internet services in secondary schools are inadequate. The accessibility and usage of internet is a matter of concern. Hence, it was recommended among others that the public and private schools' owners should as a matter of necessity avail teachers in the schools with internet services and sponsors them on training and retraining programmes to enhance their professional development.

Keywords: accessibility, availability, internet services, professional development, teachers

Introduction

Over the years, so much has been discussed on the Internet, its use and application. Its dynamism requires that humans continue to upgrade and improve their knowledge of it. The latest information is available on the internet and can be accessed from anywhere in the world. Despite the importance of this resource in education, availability of it is not yet much felt in Nigerian Educational sector. In developed countries like the United States of America (USA) and Britain, cyber education has been given. Intensive moves have been made in Africa to pledge Internet Connectivity and technology training. These programmes linked institutions around the world for better educational standard (UNESCO, 2013).

Secondary school teachers' professional development in Nigeria has been in Arithmetical progression while that of the teachers in advanced countries are in geometrical progression. The reason is not hidden. According to Anao (2003), affirmed that the majority of teachers in higher institutions were not having access to the latest information on the globe due to the non-availability of the Internet. Those that are connected are not having access to it due to the erratic power supply, poor service delivery, and high cost of the subscription. So, the majority of the academic staff based their researches on journals, text and proceedings, which are not easy to get. It is not news that many establishments including educational institutions in under-developed and developing countries like Nigeria still keep records in files tucked away in file cabinets where they accumulate dust. At times, rodents and insects (cockroaches) rendered vital documents useless and irretrievable after eating up the files in the cabinets.

However, Onwuka, (2008) posited that the schools can be better managed through the Internet. The Internet has made it easy for academia around the globe to exchange knowledge and skills on various area of specialization and interest, and also permit learners and educators to communicate both locally and internationally (Luambano and Nawe, 2004). The idea of Internet availability and utilization in Nigeria commenced in 1991 when a few pioneering groups began to offer limited e-mail services (Eshekels Associates, 2001). The Regional Information Network for Africa (RINAF) in July 1995 kicked up Internet services at the Department of Computer Science, Yaba College of Technology, Lagos in conjunction with the Nigerian Postal Service (NIPOST). This was also in a collaborative effort with Rose Clayton Nigeria Limited (Adomi, 2005). The Internet services available at that time are email, telnet and gopher. Internet users then had to pay for both access, usage for sending and receiving e-mail messages through the billing system being based on the length of message being sent and time spent.

However, Yusuf and Onasanya (2004) defined ICT as electronic tools that aid individuals to work with the latest information and communication gadgets requires of an institute. The use of ICTs can offer a wide range of learning experiences that are adequate for learners' needs, aspirations, space, pace and learning styles as opined by Olorundare (2011). Makinde (2010) observed that since the world is encouraging the use of ICT in various areas of human endeavours, in order to transform Nigeria educational system, there is the need for internet resources not only as tools for information and communication but also as a field of study.

The advantages of using the internet services include: (a) accessing information easily, (b) getting accurate information at a glance, (c) promoting academic communication, (d) increasing the pattern of cooperation between students and between teachers/learners (Atiyah, El Sherbiny and Guirguis, 2015), (e) promoting students' ability to analyze problems (Makinde, 2017), (f) growing learners' learning charisma and promoting learners' self-confidence in internet service applications (Makinde, 2010), (g) Applied in highly populated classes (Bernard, Borokhovski, Schmid, Tamim and Abrami, 2014), and (h) encouraging good retention of material (Makinde, 2017).

However, the study by Bernard, Borokhovski, Schmid, Tamim and Abrami, (2014) opined that despite the advantages, internet service usage also has the following disadvantages: (a) need a quality internet connectivity (Rohs and Ganz, 2015), (b) requiring additional skills to operate internet applications, (c) lessen the teacher's role in material explanation and clarification, (d) lowering social relationships between teachers, students and parents because every individual feels independent (Atiyah, El Sherbiny and Guirguis, 2015; Rohs and Ganz 2015), and (e) requiring periodic and occasional maintenance to ICT gadgets like computers/laptops(Rohs and Ganz, 2015).

Furthermore, successful use of Internet by the teachers in secondary schools in Nigeria faces several impediments such as cost, poor infrastructure, lack of relevant software, limited access to the Internet and lack of skills. Though, there are Internet services providers that provide Internet gateway services to Nigerians, which made up of Nigerians who are in a business partnership with foreign investors. Majority of them provide substandard services to customers who are often manipulated and defrauded. The few known companies, which provide sensible services, are not affordable, this reduces access to Internet usage. This has been the greatest technological challenge in Nigeria. Up till this moment, the problem on how to lunch reliable and low-cost Internet connectivity in Nigeria still not getting the required solution.

High schools in Nigeria are not properly funded as a result, majority of them lack furniture, relevant books, good laboratories and learning conducive classrooms let alone being provided with high-tech equipment such as Computer gadgets and Internet service connectivity. Furthermore, the inadequate electric power supply mostly in rural communities, schools located in those areas cannot have access to Internet services and are totally cut off from the global technological development. All Internet providers are based in the urban areas where they believe their prospect is located in Nigeria. But schools are numerous and located in both rural and urban cities where the use of the Internet for teaching and learning in secondary schools is very important.

However, there is a range of applications of the Internet which can be of great benefit to teachers and learners in Nigeria. First, educational efficiency could be improved through the use of the internet. The various teaching subjects could be more simplified with the use of the internet. For instance, many public schools' teachers are handling large classes of students which is very difficult for them to manage. But with adequate availability and accessibility of internet services, it is possible to use learning technology package that will properly guide the learners in a systematic way with little instruction from the teacher without much stress on them like in Flipped Classroom (FC). According to Makinde (2017), flipped classroom is a strategy of teaching, if chosen at secondary schools, it can increase students' involvement in class activities, enhance student's confidence, promote cordial interaction between teachers and learners during learning period, this can work effectively with availability of the internet.

Research by Nnadozie and Nnadozie (2008) noticed that the availability of internet services does not mean that the information is accessible and usable because the problem of transmission, display and storage of information problem

have been joined with the problem of getting information to end users as fast as possible. Though electronic searching and bibliographic databases are now obtainable in almost every discipline which affirms that as information expands, the ability of the user to process it constantly (Seth and Parida 2006).

Availability, accessibility and usage of internet services are indispensable to the teaching, research and community work of teachers in any educational institutions. The internet services available in institutional information systems must be reliable and supportive in research activities that enhanced the professional development of teachers (Shokeen, and Kaushik, 2002). Similarly, Wisdom, (2012) opined that the Internet gives teachers the opportunity to access colleagues through e-mail, search engines, Facebook, WhatsApp etc.; easy access to a growing number of online journals and databases of various subjects.

Researches have shown that faculty of education academic staff in Nigeria Universities were the least experienced in the use of the internet (Jagboro, 2003 & Isah, 2005). If this can be the case of universities, the teachers in secondary schools cannot be left out. All these points to the fact that internet services are very important for effective teaching, learning and research activities in an academic environment which brings about the professional development of teachers.

The following objectives were raised for the study. The first objective is assessing the available Internet services in secondary schools for teachers' professional development. The second objective is examining the influence of the accessibility of the internet on the professional development of teachers in secondary schools. The last is investigating the level of use of the Internet by the secondary school teachers

The researchers then developed three research questions as follows:

1. Is there any relationship between the availability of internet services and professional development of secondary school teachers?
2. Is the accessibility of internet services influence the professional development of teachers in secondary schools?
3. Does the usage of internet services by secondary school teachers influence their professional development?

Method

The study adopted a descriptive design survey approach. This was to examine the availability, accessibility and usage of internet services on the professional development of secondary school teachers in Lagos, Nigeria. The research was conducted in Education District 1 in Lagos comprises of Alimosho, Agege and Ifako/Ijaiye secondary school teachers. The population of the study comprised all 1,009 teachers in Education District 1 in Lagos State. 200 academics were randomly sampled from the population with an average of 20 teachers from ten secondary schools that formed the sample size. It was a big task in getting a large number because the majority of the teachers were sceptical.

The instrument constructed and used to elicit information from the respondents was the Internet Services Availability, Accessibility and Usage towards Professional Development of Teachers Questionnaire (ISAAUPDTQ). It

had three sections A, B and C. Section A tried to extract demographic data such as name, qualification, department and years of experience. Section B items carefully structured to obtain information on the availability and accessibility of internet services in secondary schools. While Section C contained items based on usage of internet services by secondary school teachers.

The instrument was subjected to face, construct and content validity by three experts in the department of educational technology, educational evaluation and computer science. Its reliability was ensured using a test-retest reliability method on a secondary school other than the sampled schools for the main study which gives 0.79 coefficient using Cronbach's Alpha. The value was measure up with the recommended criteria as stated by Ogunkola and Archer-Bradshaw (2013), that a benchmark of 0.7 is acceptable therefore, the questionnaire was reliable. Frequency counts and simple percentages were worked out to answer the research questions and presented in Tables.

Findings and Discussion

Research Question 1: Is there any relationship between the availability of internet services and professional development of secondary school teachers? Table 1 presents the outcome of the study as shown below

Table 1. Responses of teachers on internet services availability and professional development

Item	Response category			
	Yes		No	
	F	%	F	%
The school provides a laptop/computer for teachers	80.0	43.0	108.0	57.0
I own a personal laptop/computer	88.0	47.0	100.0	53.0
Internet is connected to my Laptop/Computer in school	68.0	36.0	120.0	64.0
Internet is connected to the teacher's office	57.0	30.0	131.0	70.0
Internet services available through personal mobile devices	49.0	26.0	139.0	74.0
Internet services connection is in my school library	70.0	37.0	118.0	63.0

Source: Fieldwork data

Table 1 contains analysed data on respondents on the availability of Internet services. 80 (43%) of the respondents said that the laptop/desktop computer available supplied by the school while 108(57%) of the respondents said the laptop/desktop were not supplied to teachers in the school. 88(47%) of the respondents have personal computers while 100(53%) of the respondents do not have personal computers. Among the respondents, only 68(36%) said that available systems are connected to the internet while 120(64%) said the systems available were not connected to the internet. However, 57(30%) of the respondents claimed that the school management provided internet services in teachers offices while 131(70%) said no. Hence, 49(26%) of the respondents said internet services were available through the personal mobile device while

130(74%) of the respondents did not. Also, 70(37%) of the respondents added that the internet available in the school library while 118(63%) of the respondents said the school library do not have internet. From Table 1, it showed that majority of the respondents do not have either personal or the school sponsored computers for use talk less of having internet connectivity.

Research Question 2: Is the accessibility of internet services influence the professional development of teachers in secondary schools? Table 2 presents the outcome of the study as shown:

Table 2. Accessible of internet services in secondary schools by the teachers in Lagos

Item	Frequency	%
Very accessible	20	10.6
Slightly accessible	80	42.6
Not accessible	80	42.6
Not accessible at all	8	4.2
Undecided	-	-
Total	188	100

Source: Fieldwork data

Table 2 reports the analysed data from the respondents on the accessibility of Internet services. 80 (42.6%) of the sampled teachers reported that the Internet is slightly accessible. Similarly, 80 (42.6%) of the respondents stated that no accessible internet in their schools. Nevertheless, 20 (10.6%) of the respondents reported that in their schools, the internet is very accessible, but just 8 (4.2%) of the respondents stated that the internet is not accessible at all in their schools. There is a balance between the respondents who said that the Internet services slightly accessible and those that said that they are not accessible. However, those that said do not have access to the Internet at all are the minority.

Research Question 3: Does the usage of internet services by secondary school teachers influence their professional development? Tables 3 and 4 present the outcome of the study.

Table 3. Responses of teachers on the use of the internet services in secondary schools for professional development

Response	Response category			
	Yes		No	
	F	%	F	%
I am linked to professional colleagues on the internet through various platforms	42.0	23.0	146.0	77.0
My mobile Phone/laptop/computer is my source of internet	68.0	36.0	120.0	64.0
I use internet conferencing to deliver the international paper	19.0	10.0	169.0	90.0
I have my own blog(s)	10.0	5.0	177.0	95.0
I am a member of the international journals through internet	49.0	26.0	139.0	74.0

Response	Response category			
	F	Yes %	F	No %
I subscribed to Khan Academy, Ed-tech, Edmodo, etc.	32.0	16.0	156.0	84.0
I do online marketing and shopping regularly	39.0	21.0	149.0	79.0
I send and receive mail on the internet regularly	120.0	64.0	68.0	36.0
I Browse for the information to write books	68.0	36.0	120.0	64.0
I browse for the information to supplement my lesson materials	19.0	10.0	169.0	90.0
I use the internet to gather information on the latest development in my teaching subject(s)	10.0	5.0	177.0	95.0
I use the internet to publish articles	49.0	26.0	139.0	74.0
I search for current awareness/update/ knowledge on the internet	42.0	23.0	146.0	77.0

Source: Fieldwork data

Table 3 shows that 68(36.0%) of the respondents use the internet on the mobile Phone/laptop/computer to browse for information to write books, while 19(10.0%) obtain information to supplement their lesson materials, and internet conferencing to deliver international paper. 42(23.0%) of the respondents used internet to connect with professional colleagues on the internet through the Facebook and to update their knowledge or for current awareness, 120 (64.0%) of the sampled teachers used it to send and receive messages online. Likewise, 49 (26.0%) of the respondents used it to be a member of the international journals, and publish article. 19 (10.0%) of the respondents used the internet to gather information for literature review, and create blog, while 32(16.0%) said that the internet services were used to subscribe to the educational websites like Khan Academy, Ed-tech, Edmodo and so on. 39(21.0%) of the respondents used the internet to shop and market online. The internet mostly used by the majority of the respondents for sending and receiving electronic mails according to the Table 3 above.

Table 4. Rate of use of internet services by the teaching staff

key	Items	Not at all F (%) I	Daily F (%) II	Once a week F (%) III	Twice a week F (%) IV	Every Other Day F (%) V	Occasional ly F (%) VI
A	Yahoo, e-mailing /chatting, (www)	0(0)	101(53)	15(8)	20(11)	3(2)	49(26)
B	Goggle; knowledge search.	0(0)	119(64)	20(11)	3(2)	0(0)	46(23)
C	Cable/ instructional broad Casting	12(6)	0(0)	0(0)	0(0)	0(0)	176(94)

key	Items	Not at all F (%) I	Daily F (%) II	Once a week F (%) III	Twice a week F (%) IV	Every Other Day F(%)V	Occasional ly F (%) VI
D	Hosting/ integrated hosting /home base hosting	179(96)	0(0)	0(0)	0(0)	0(0)	9(4)
E	Shopping / on-line marketing	69(37)	0(0)	8(4)	30(16)	0(0)	80(43)
F	Information link: job search Vacancy /recruitment.	0(0)	0(0)	0(0)	53(28)	0(0)	135(72)
G	Webbing	118(63)	0(0)	0(0)	0(0)	0(0)	70(37)
H	Conferencing	76(40)	0(0)	0(0)	0(0)	0(0)	112(60)
I	Downloading	0(0)	15(8)	108(58)	10(5)	15(8)	40(21)

Source: Fieldwork data

Table 4 shows that the majority of the respondents are using yahoo, e- mailing, world wide web (www) and Google with percentage respondents of 53 and 64 respectively. But Cable / Instructional broadcasting, Shopping / on-line marketing, Information links, Webbing and Conferencing are not commonly used but occasionally with percentage response of 94, 43, 72, 37and 60 respectively. The respondents of 28% use information links fortnightly. Downloading is usuallyused on weekly bases by 58% of respondents while 21% occasionally use it. Hence, Table 4 above indicated that yahoo, World Wide Web (www) and goggle are mostly used daily. While cable, information link and conferencing are occasionally used. Downloading is used once a week while hosting/integrated hosting/home base hosting and webbing are not usually put into use.

Availability of Internet Services in Secondary Schools in Lagos, Nigeria

The results as presented in Tables 1 and 2 shows that the internet services were not available in secondary schools in Lagos, Nigeria. Computers were not supplied to the teaching staff by the school management, few teachers that have personal computers were not connected to the internet. The internet services were not available in the offices for professional development of teachers. Most teachers banked on the personal mobile devices to connect to the internet. This finding agrees with Ezeoba, (2007); Fakeye, (2010) and Makinde, (2010); who also established that the internet services were not available in higher institutions. This situation could be explained by the fact that the educational institutions are not doing it right by not given adequate training to educators on the internet usage, hence the absence of the internet services in majority of the secondary schools because there are no trained personnel to use them.

Accessibility and Rate of Use of Internet Services in Secondary Schools in Lagos, Nigeria

The results from Tables 2, 3 and 4 showed that the rate of use of the internet services were very low in secondary schools in Lagos, Nigeria. The availability leads to accessibility of the internet services. The poor availability and accessibility of the internet services in secondary schools in Lagos, Nigeria also means usability will be thwarted for the professional development of teachers. This authenticates the observation of Ezeoba, (2007) and Fakeye, (2010) who also instituted that ICT resources (internet services) were unavailable in colleges of education. This is also imputed to the failure of teacher training institutions whose products pass through the programme without adequate interaction with technology. Since their teachers are not internet compliant hence, they lack the technicality of the programmes in the primary and secondary schools' classes expected to teach.

This study also corroborates the observation of Jagboro, (2003) who also found that poor utilization of the Internet services by the Postgraduate students for academic researches associated with two factors: the low connectivity level, and high cost of cybercafé equipment. But, considering the huge academic resources available on the Internet and its benefits to education, it would be essential for all secondary schools' libraries in Nigeria to provide adequate access to the Internet as a way of enhancing books and journals collections for referencing.

Conclusion

It can be concluded from this study that, integrating the internet services in secondary schools will greatly improve the standard of education and encourages critical thinking of the learners towards their learning. This will also encourage the teachers to change their lackadaisical approach to daily professional exercises. As all interested parties in education demand for improved quality of education through the incorporation of internet in learning (FRN, 2013), the need to furnish secondary schools and their teachers with sufficient internet services resources, adequate training and skills is a necessity.

According to the findings of this study, it is recommended among others that the stakeholders in secondary schools should ensure that:

1. The internet services equipment like search interface, information and communication technology packages, and regular electricity supply should be provided in schools to power the facilities;
2. if the major stakeholder (Government) does not provide these, school management should look inward for alternative arrangements;
3. more internet service points should be provided at Zonal education districts, public libraries and schools. With this, more encouraging environment will be available for the use of the Internet for studies and researches; and
4. secondary schools' teachers should be encouraged to attend workshops, seminars and conferences on ICT and internet usage for professionalism in the area of teaching and learning.

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