

INTERNET RESOURCES FOR LEARNING: ACCESS AND PRACTICES AMONG STUDENTS OF A NIGERIAN UNIVERSITY

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Abstract

Universities in the developing nations like Nigeria have made significant investment in ICT infrastructure to facilitate the achievement of institutional goals in teaching, research and community service. This study investigated students' access to Internet resources, their use of these resources and perceived problems militating effective use of Internet resources. The respondents were 97 male and 123 female students drawn from five faculties within a Nigerian university. Data analyses using percentages revealed that majority of the students had access to Internet facilities outside the university. Students also made more use of conventional Internet resources (e-mail, online journals, social networking sites, etc.), while other resources like podcast, internet radio, instant messaging, bulletin board, and so on, were hardly used. Such factors like slow Internet speed, insufficient training on the use of the Internet, difficulty in finding relevant information, among others, were identified as militating factors against effective utilization of Internet within the university. Recommendations were made on the need for Nigerian universities to improve on the existing ICT infrastructure and the need to provide needed training for students in the use of Internet resources was also highlighted.

Keywords: Information and Communication Technology, Internet Resources, Nigerian Universities, Access to Internet Resources, Perceived Problems

Introduction

The field of education has been affected by the rapid communication and telecommunication technologies. Information and communication technologies (ICTs) are indispensable for quality education in the contemporary world. The evolving and expanding resources on the Internet have widened the potential for conventional and online teaching and learning thereby creating innovative practices in education (Delich, Kelly, & McIntosh, 2008). Equipping tertiary institutions students with the knowledge skills for effective integration of ICT in schools will provide them more autonomy to be involved in constructing meaning out of their learning experiences (Matos, 2005).

In spite of the recognized value of ICT, the global impact of ICTs on education has been uneven. The digital divide between the developed world and least developed economies like Nigeria is well established in literature. The 41 core indicators of information and communication technology penetration still indicate wide gap between the developed economies, transition economies, developing economies, and least developed economies. Developed economies, the transition economies and several developing economies in Asia, are advanced users and producers of ICT, while the least developed economies in Africa (Nigeria inclusive), Asia, Latin America, and the Caribbean have low ICT penetration as users and producers (United Nations Organisation, 2008).

'Although the use of ICT in education in Nigeria is recent, nevertheless it has had gradual impact on the country's education systems. The rapid adoption of emerging and mobile technologies in Nigeria since the introduction of mobile phone in 2001 has led to over 70 million phone subscribers out of a population of about 140 million. A major policy step to promote ICT integration in all sectors of the nation was the Nigeria national policy for information technology (IT) (Federal Republic of Nigeria, 2001) launched. Among others, the policy envisaged the development of IT curricula for all levels of Nigerian education, the facilities, and IT dedicated institutions; and the integration of ICT in teaching and learning. In spite of the gradual penetration of ICT there has been no consistent documentation of the state of ICT use in education in Africa against which future developments can be anchored (Farrell, & Shafika, 2007). Thus, there is the need for case studies and comprehensive national studies to reveal the state of ICT integration in education in Africa.

Background

Several policy initiatives have impacted on the integration of ICT in Nigerian universities. The first document, the National Policy on Computer Education in 1988 (Federal Republic of Nigeria, FRN, 1988) underscored infrastructural needs of Nigerian tertiary institutions. Further impetus came with the 2001 National Policy on Information Technology, tagged "Use IT". It was a major step in the integration of ICT in all facets of the country's life. The Nigerian National Policy on IT (FRN, 2001) has within its purview the vision, mission, general objectives, strategies for the implementation of the policy, and sectoral application for all sectors (health, agriculture, tourism, among others and also application at the tertiary educational levels. The Ministerial Initiative on Education for the Nigerian Education System (Federal Ministry of Education, FME, 2004) made specific recommendations for Nigerian higher institutions. In addition, the Nigerian government agency responsible for registering and regulating universities, the National Universities Commission (NUC), prescribed PC ownership for students and academic staff (Agyeman, 2007) and also required institutions to develop institutional ICT policies.

University of Ilorin, like many universities in the developing world acquired its first sets of microcomputers in mid 1980's. These computers were used mainly for administrative purposes. Further developments in the 90's were the commencement of postgraduate diploma and degree programmes in Computer Science, and growth in the acquisition of microcomputers by Units, Departments and individuals. Others included the establishment of the University Computer Centre for the training of low level computer technicians. Later the need for centralized control on ICT issues led to the establishment of the Computer Services and Information Technology (COMSIT) Directorate charged with the responsibilities of deploying ICT infrastructure and services for administrative purposes, teaching, research, learning to the University. Internet connectivity by some of the University's academic and non-academic units before 2003 was through dial-up access, however, the commissioning of the Education Tax (Trust) Fund sponsored VSAT project of the University in 2003, provided opportunity for better access to Internet facilities for the University. The first ICT policy document for the University was the Information and Communication Technology Policy developed in 2003. This policy development gave impetus for rapid growth of ICT infrastructure and integration within the University. This policy was improved upon through the Information and Communication Technology (ICT) Policy and Strategic Plan, 2009 – 2013 (Unilorin Information and Communication Technology (ICT) Policy and Strategic Plan, 2009 – 2013).

Presently, the University has an internal network (Intranet) that links all buildings, Network Operating Centre (NOC) with robust facilities for robust Intranet and Internet connection, Wi-fi environment for IP telephony and surveillance, and also Computer Based Test (CBT) facilities for University examinations. To facilitate staff acquisition of ICT equipment, the University granted assistance to willing staff through the computer acquisition scheme for them to pay over a period of one year. In addition, development programmes were held for staff on the acquisition of ICT skills and integration of ICT in teaching and administrative (Unilorin Information and Communication Technology (ICT) Policy and Strategic Plan, 2009 – 2013). In addition, the University has a robust Internet staff and students' portal and also courseware are being developed for the University's transformation into a dual mode university (on campus and distance learners).

Statement of the Problem

Many students in tertiary institutions, particularly in Nigerian universities regularly use ICT based devices such as computers, mobile phones, iPod, audio and video systems, and so on. However, no significant efforts have been made to examine the ways in which these technologies have been used by students as mediating tools for learning. Therefore, it is essential to investigate the perspectives of students in husbanding the potentials of ICT for learning and eventual integration in their social life outside the university. This study aims to address the knowledge gap in the use of Internet resources for learning among university students in Africa.

Study Objectives

This case study examined:

1. how students acquired Internet use skills.
2. students' access to Internet resources for learning.

3. the extent of students' use of the internet resources for learning.
4. factors militating against effective integration of Internet resources in students' learning.

Research Questions

1. How did the students acquire their skills for using the Internet?
2. Where do students have access to Internet resources?
3. What are the resources used by the students on the Internet for educational purposes?
4. Do students encounter problems in their use of Internet resources for learning?

Methodology

The case study design was used for the study. The population for this survey is defined as the institution (University of Ilorin) and all the undergraduate and graduate students of the University of Ilorin, Ilorin, Nigeria. Student sample was randomly drawn from academic faculties within the University. The instrument used for data collection was a researchers' developed and validated questionnaire to collect data. Part I of the questionnaire deals with biographical data of the respondents, Part II addressed specific skills and access to internet facilities for learning, Part III focused on the use of internet resources for learning, while Part IV, investigated problems encountered in the use of internet resources for learning. Data collected were analysed using percentages to answer the research questions and chi-square statistical analysis to test research hypotheses, at 0.05 level of significance.

Results

Respondents to the questionnaire items across the university are as shown in Table 1.

Table 1: Demography of Respondents

Faculties	No.	Percentages
Business and Social Science	52	23.63
Information and Communication Sciences	31	14.09
Education	54	24.55
Law	42	19.09
Science	41	18.64
Total	220	100
Gender	No.	Percentages
Male	97	44.09
Female	123	55.91
Total	220	100

The results in Table 1 indicate that 23.63% were drawn from the Faculty of Business and Social Sciences, 14.09% from the Faculty of Information and Communication Sciences, 24.55% from the Faculty of Education, 19.09% from the Faculty of Law, while 18.64% were from the Faculty of Science. Furthermore, 44.09% of the respondents were males while 55.91% were female students.

Research Question One: *How did the students acquire their skills for using the Internet?*

Table 2: Process for Acquiring the Internet Skills

S/N	Methods of Acquiring Internet Skills	Yes		No	
		No.	%	No.	%
1	Formal training	143	65	77	35
2	Internet orientation programmes by the library staff	39	17.72	181	82.27
3	Assistance from colleagues	169	76.82	51	23.18
4	Using manuals/handbooks	128	58.18	92	41.82
5	Self instruction through trial and error	178	80.91	42	19.09

Table 2 indicated that majority of the students acquired their Internet skills through self instruction (80.91%), assistance from colleagues (76.82), formal training (65%), through

manual/textbooks (58.18), and 17.72 through orientation by library staff. These results indicate little impact of the University academic support in students' acquisition of needed internet skills.

Research Question Two: *Where do students have access to Internet resources?*

Table 3: Access to Internet Resources

S/N	General Use	General Use		Specifically for University work	
		No.	%	No.	%
1	University accommodation (e.g. halls of residence)	137	62.30	83	37.73
2	University library	100	45.45	120	54.55
3	In lecture/seminar rooms	36	16.36	184	83.64
4	Commercial Internet Café	211	95.91	9	4.10
5	Other locations on campus	170	77.27	50	22.73
6	Other locations off campus	206	93.64	14	6.36

Research Question Three: *What are the resources used by the students on the Internet for educational purposes?*

Table 3 on access to Internet resources indicated that 62.30% of the students had access through the halls of residence, 45.45% through the University library, 16.36% in the lecture rooms, majority (95.91%) through the commercial internet cafes, 77.27 percent in other locations on campus, and 93.64% on locations outside the university campus. These results indicate that the major access by the students were outside university. Further analyses were conducted on students' use of the internet resources for academic purposes and the results are as reflected in Table 4.

The results in Table 4 show that 10.9% of the students used online library resources everyday, 28.6% used it weekly, 20% weekly, 3.6% once a term, while over 34% used it less often or had never used it. Social network work sites were used everyday for academic purposes by 43.2 of the students, weekly by 25.5%, monthly by 7.7%, once a term by 5.9% while a little over 17% used it less often or had never used it. On e-mail for academic purposes majority of the students (83.2%) used it regularly, while less than 17% used it less often. For submission of assignments on line 82.3% used it less often, while less than 18% do it regularly. For accessing course specific material about 50.4% do it regularly while less than 50% do it less often. This indicates average use among students.

For accessing course information only 33.6 used the Internet regularly while 66.4% do not use it regularly. In accessing the students' portal over 76% of the students used it regularly while less than 24% used it less often. Students' involvement in online community activities was done regularly by only 42.7% while majority (over 57%) do it less often. The use of online scholarly websites (e.g. Google scholar) for learning was engaged in regularly by 70.5% of the candidates while 29.5% do not use it regularly. Podcasts for learning are downloaded regularly by 41% of the students while 59% of them do it less often. Internet radio was used regularly by only 16.8% of the students while over 83% do it less often.

The use of SMS for educational purposes was engaged in by 43.2% of the students while over 56% of them do it less often. Newsgroup was used regularly by 25% of the students while 75% do not use it regularly. The use of bulletin boards was engaged in by 22.7% of the students regularly while over 77% used it less often. Online dissertations or thesis were used regularly by 24% of the students while 76% used it less often, and instant messaging was used for educational purposes regularly by 26.4% of the students while over 73% used it less often.

Table 4: Use of Internet Resources among Students

S/N	Use of Internet Resources	Everyday		Once a week or more		Once a month or more		Once a term or more		Less often		Never		Don't know	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Use online library resources (e.g. journals, databases, etc)	24	10.9	63	28.6	44	20	8	3.6	48	21.8	25	11.4	8	3.6
2	Use social networking sites (e.g. MySpace, Flickr or Facebook, Twitter) to discuss coursework with others	95	43.2	56	25.5	17	7.7	13	5.9	12	5.5	22	10	2	2.3
3	Use other technologies (e.g. mobiles and email) to discuss coursework with others	100	45.5	61	27.7	22	10	4	1.8	13	5.9	19	8.6	1	.5
4	Submit work / assignments online	8	3.6	14	6.4	17	7.7	53	24.1	38	17.3	79	35.9	11	5
5	Access course-specific materials online (lecture notes, slides, podcasts for example)	22	10	37	16.8	52	23.6	34	15.5	34	15.5	32	14.5	9	4.1
6	Access general course information online (e.g. timetables)	16	7.3	32	14.5	26	11.8	61	27.7	36	16.4	36	16.4	13	5.9
7	Use your university's portal	28	12.7	62	28.2	78	35.5	37	16.8	12	5.5	2	.9	1	.5
8	Take part in an online community, for example a "virtual world" such as Second Life	21	9.5	48	21.8	25	11.4	22	10	26	11.8	59	28.8	19	8.6
9	Search for papers/journals on non-university provided scholarly websites (e.g. Google Scholar)	27	12.3	66	30	62	28.2	26	11.8	15	6.8	19	8.6	5	2.3
10	Use downloaded podcasts for your coursework	14	6.4	36	16.4	40	18.2	19	8.6	15	6.8	67	30.5	29	13.2
11	Use Internet radio for your coursework or programme	9	4.1	8	3.6	20	9.1	13	5.9	17	7.7	134	60.9	19	8.6
12	Use online SMS to contact your lecturer or colleague for your coursework or programme	24	10.9	22	10	49	22.3	21	9.5	22	10	76	34.5	6	2.7
13	Use newsgroups for your coursework or programme	14	6.4	15	6.8	26	11.8	23	10.5	44	20	86	39.1	12	5.5
14	Use bulletin boards for your coursework or programme	7	3.2	15	6.8	28	12.7	27	12.3	30	13.6	96	43.6	17	7.7
15	Use online theses and dissertations for your coursework or programme	13	5.9	19	8.6	21	9.5	13	5.9	33	15	104	47.3	17	7.7
16	Use chat (instant messaging) for your course or programme	16	7.3	24	10.9	18	8.2	17	7.7	47	21.4	88	40	10	4.5

Research Question Four: *Do students encounter problems in their use of Internet resources for learning?*

Table 5: Problems encountered in the use of Internet Resources

S/N	Problems Encountered by Users	Really a Problem		Sometimes a Problem		Not a Problem	
		No	%	No	%	No	%
1	Insufficient training on the use of the Internet	69	31.4	78	35.5	73	33.2
2	Slow Internet access	115	52.3	72	32.7	33	15.0
3	Difficulty in finding relevant information	38	17.3	119	54.1	63	28.6
4	Overload of information on the Internet	26	11.8	63	28.6	131	59.5
5	Long time to download information	64	29.1	124	56.4	32	14.5
6	Lack of e-mail facility	26	11.4	37	16.8	158	71.8
7	Privacy problem	36	16.4	64	29.1	120	54.5
8	Cost of internet Access	83	37.7	48	21.8	89	40.5

The results in Table 5 indicate that majority of the students considered insufficient training on the use of the Internet (66.9%), slow Internet access (85%), difficulty in finding relevant information (71.4%), long time to download information (85.5%), and cost of internet access (59.5%) as major problems affecting the use of internet resources. However, overload of information on the Internet (59.5%), lack of e-mail facility (71.8), and privacy problem were not considered as problems affecting the use of internet.

Conclusions and Implications of the Findings

The findings in this study have revealed the degree of students' integration of Internet resources in their learning in a Nigerian university. Nigerian universities are making great investment in ICT infrastructure and staff development to ensure proper integration of ICT in teaching, learning, and administrative duties. This study thus provides empirical information on how far students have husbanded the potentials of Internet resources in their learning. Generally, the following conclusions can be drawn:

1. Majority of the students acquired the skills to use the internet on their own either through personal reading, trial and error or assistance from friends.
2. Although students have access to Internet resources within the University, however, most of them have greater access to Internet resources outside the University or in commercial Internet cafes within the University.
3. Most of the students made use of Internet for personal ends. For academic purposes students made more use of conventional internet resources (e-mail, online journals, social networking sites, etc.), however, other resources with audio and/or audio potentials (podcast and internet radio), and also instant messaging, bulletin board, and so on, were hardly used.
4. Students identified factors like slow internet speed, insufficient training on the use of the Internet, difficulty in finding relevant information, long time to download information and cost of internet access as militating against effective use of Internet for learning.

It must be noted that this study, a case study, may not really reflect the general scenario of Nigerian universities. Thus, there is the need for nationally based study across most of Nigerian universities for the state of the art in the integration of ICT, particularly Internet resources in learning. Despite this observed limitation, the need for more ICT infrastructure and training for students on the use of ICT for learning are underscored.

Recommendations

The Internet has the potentials to provide Nigerian university students with limitless resources which are essential for their and personal development in the contemporary world. Based on the findings of this study the following recommendations are made.

1. Nigerian universities should embark on intensive development programme for both staff and students so that they can husband the potentials of the Internet. In addition, context specific (course specific) ICT skills should be developed in learners and staff. This will assist the staff and students to make the best use of Internet resources.
2. Government, corporate bodies, and private individuals should assist Nigerian university in the development of ICT based infrastructure and also in the provision of Internet access, particularly the telecommunication companies (MTN, GLO, Etizalat, etc.).
3. University should provide more access points for students to be able to access the Internet in locations within the University.
4. University lecturers across Nigeria should be encouraged to produce ICT based course materials and connect students through the Internet to promote students' use of the Internet. The current efforts in students' portal, e-payment, e-accommodation, and so on, should further be promoted to encourage students' use of the Internet.

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