Accessibility and Utilization of Information and Communication Technology (ICT) Facilities by Lecturers of Adamawa State University, Mubi

By

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Abstract

This research work surveyed the impact of accessibility and utilization of Information and Communication Technology (ICT) facilities by Lecturers of Adamawa State University (ADSU), Mubi, Nigeria. The population of this study was 388 Lecturers of the university. Krejcie and Morgan (1970) table was used todetermine a sample size of 191 from the target population, while, simple random sampling technique was employed to administer the questionnaire. The main research instrument used for this study was questionnaire and the data collected was analyzed using a Statistical Package for the Social Sciences (SPSS) version 17.0 and descriptive statistics of frequencies and percentages to present results in tables, pie charts and bar charts. Findings of the study revealed that accessibility and utilization of ICT facilities had positive impact on the performance of Lecturers which enhanced their teaching, research and learning output. However, respondents mostly used personal subscription to access the ICT facilities in the university due to problems such as poor ICT infrastructure, network fluctuation and low bandwidth size, among others. These problems had negative consequences on Lecturers' academic activities. Recommendations made include provision of adequate funds to improve on ICT facilities, provision of alternative power sources and training of Lecturers on the use of ICT facilities for teaching, learning and research activities.

Introduction

Adamawa State University (ADSU), Mubi was established in January 2002 by the Adamawa State University law No. 10 of 2001. The University is located in Mubi town, in the Northern Senatorial District of Adamawa State, Nigeria. Since 2002, the institution has been striving to meet the stated goal of providing "Education for Development". In keeping with the University Management's commitment to build a world class University, great emphasis has been placed on Information and Communication Technology (ICT). To this end, the University has put in place a lot of ICT facilities, which includes wireless internet access covering a 5 kilometer radius of the entire campus and Mubi town. An internet café with over 120 access points made up of 100 desktops and 20 laptops has been established. In addition, the University

has established an Electronic Library with an annual subscription of Science Direct Data base that enables the University access over 5,000 and 2,000 current titles of books and scientific journals respectively.The establishment of staff and students laptops project which ensures that every student that enrolls acquires a laptop on loan at an affordable rate with a flexible repayment over a period of time, while over 90% of the staff has been assisted to acquire laptops for teaching and research purposes (Adamawa State University, Mubi Overview, 2015).

Problem Statement

The need for Nigerian universities to achieve their mission and vision in providing quality education require the Lecturers to perform their functions of teaching, research and learning activities through accessibility and utilization of ICT facilities, to aid in accessing relevant and up-to-date information resources in their various fields of endeavor. Studies have shown that, most Nigerian universities have spent huge amount of funds in the acquisition and installation of ICT facilities for the purpose of improving the standard of education in their domains, however, accessibility and utilization of these facilities remain a great challenge. This has no doubt posed a serious hindrance to these Lecturers in their pursuit to provide quality teaching and research. It is against this background that this study determined the impact of accessibility and utilization of Information and Communication Technology (ICT) facilities by Lecturers of Adamawa State University, Mubi.

Research Questions

The following research questions were answered;

i. What is the extent of accessibility of ICT facilities by Lecturers of ADSU, Mubi?
ii. What is the impact of accessibility and utilization of ICT facilities on Lecturers of ADSU, Mubi?
iii. What are the problems associated with accessibility and utilization of ICT facilities by Lecturers of ADSU, Mubi?

Literature Review

The advent of information and communication technology has revolutionized the manner information is accessed and utilized which was hitherto inaccessible or very difficult to access. Ekwelem, Okafor and Ukwoma (2009) described ICT facilities as information

resources that are available and can be accessed electronically through computer networked facilities such as online library catalogues, Internet, World Wide Web (WWW) and digital libraries. Recent studies have shown that accessibility and utilization of ICT facilities in academic environment by academics have a lot of impact on their quest to provide quality teaching and research. A study by Madhusudhan (2010) on the use of electronic resources by research scholars of Kurukshetra University in India, found that electronic resources have indeed become an integral part of the information needs of research scholars and that the e-resources can be good substitutes and supplements for conventional resources. Open Learning Centre (2007) discovered that the internet allows individuals to access up-to-date information, thus enabling both teachers and students to access the information they need, in order to teach and learn at their own individual rates, as well as collaborate with other teachers, scientists, researchers, students and other interested individuals.

Similarly, Abolade and Yusuf (2005) reiterated that ICT facilities have the potentials of being used to meet the learning needs of individuals, promote equality of educational opportunities; offer high quality learning materials, increase self-efficacy and independence of learning among students and improve Lecturers professional development. The use of ICT facilities enables faculty members and students to effectively and efficiently access digital information to assist with investigating issues, solving problems, making decisions, products and creative solutions to support learning, develop new understanding in areas of learning and teaching (Aramide & Bello, 2010). Mutula and Mutula (2007) asserted that there is a digital divide which refers to the widening gap of access to ICT facilities between communities and countries, creating an imbalance in equitable access to quality education in an electronic age. Abba (2012) opined that libraries are meant to be accessed with the aim to retrieve valuable information for various purposes and needs. Eiriemiokhale (2012) established from a study of 380 respondents representing lecturers' from four universities in Edo State, Nigeria. The survey confirmed lecturer's use of internet resources for research, acquisition of subject knowledge and preparation of lectures. Similarly, a survey conducted by Kwafoa, Imoro and Afful-Arthur (2014) on assessment of the use of electronic resources among administrators and faculty in the University

of Cape Coast also indicated that majority (52%) of the respondents always accessed the internet for academic information while 11% occasionally accessed the internet for academic information.

Methodology

This study used survey research method and the population of this study was 388 Lecturers of ADSU, Mubi. Simple random sampling technique was employed to administer the questionnaire. The study also used Krejcie and Morgan (1970) table for determining sample size to arrive at a sample of 191, which was used for this study. The main research instrument used for this study was questionnaire and the data collected was analyzed using a Statistical Package for the Social Sciences (SPSS) version 17.0 and descriptive statistics of frequencies and percentage was used to present results in tables, pie charts and bar charts.

Findings

The following tables contain data collected from the questionnaire, retrieved from the respondents, the data were analyzed and presented in percentages.

Table 1: Response Rate

Distribution	Frequency	Percentage (%)
Administered questionnaire	191	100.0
Returned questionnaire	128	67.0

Table 1 showed the response rate of the respondents. A total of one hundred and ninety one (191) copies of the questionnaire were administered to the respondents and one hundred and twenty eight (128) were completed, returned and found usable for this study, representing 67.0% response rate.

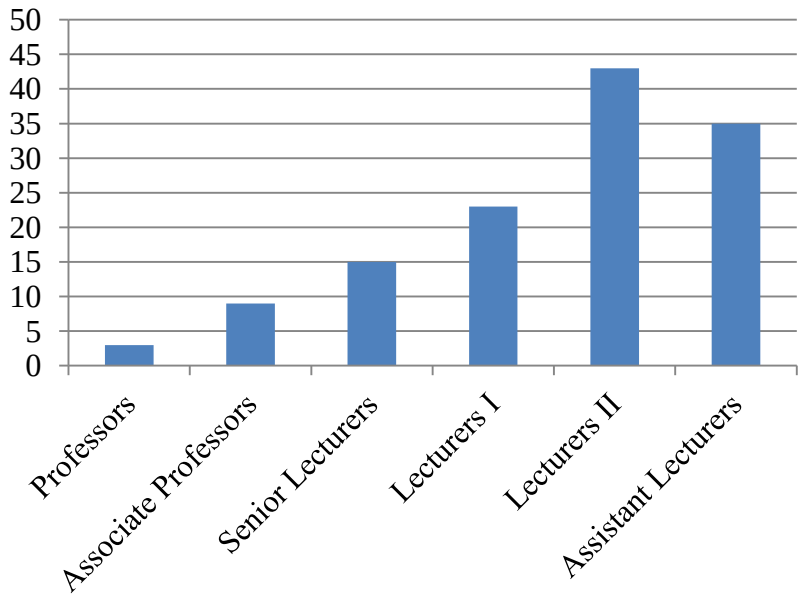

Figure 1: Ranks of Lecturers

Figure 1 shows the ranks of the respondents. The result thus: Professors 3(2.3%), Associate Professors 9(7.0%), Senior Lecturers 15(11.7%), Lecturers I 23(18.0%), Lecturers II 43(33.6%), and Assistant Lecturers 35(27.4%). From the result, Lecturers II form majority of the respondents, with 43(33.6%), while, Professors with 3 (2.3%) form the least of the respondents.

Table 2: Extent of Accessibility to Information through ICT Facilities

Resources	Agreed		Not Agreed		Undecided		Remark
	F	%	F	%	F	%	
OPAC	63	57.8	42	38.5	4	3.7	Agreed
Internet searching	72	66.1	30	27.5	7	6.4	Agreed
Online databases	52	47.7	55	50.5	2	1.8	Not Agreed
CD-ROM facilities	46	42.2	54	49.5	9	8.3	Agreed
Total	**233**	**53.3**	**181**	**41.5**	**22**	**5.2**	**Agreed**

Table 2 reveals the means through which Lecturers access information using ICT facilities. The result reveals that 63(57.8%) agreed that they access information through

OPAC, 72(66.1%) agreed that they access information through internet searching. However, only 52(47.7%) agreed that they access information through online databases, while, 46(42.2%) agreed that they access information through CD-ROM facilities. This indicates that majority (53.3%) of Lecturers in ADSU Mubi access information through ICT facilities. The high percentage can also be attributed to the efforts and encouragement put in place by the management of the university. In corroborating this view, Ansari (2008) reveals that a high percentage of users in five academic libraries in New Delhi use OPAC as a search tool for retrieving documents. Similarly, Mulla and Chandrashekara (2009) study indicates that 81.61% of 1,338 of their respondents use OPAC to search for library resources. Moreover, Yusuf and Iwu (2010) study indicates that 61.9% of students use OPAC to access library materials. Eyitayo (2008) disclosed that internet as a retrieval tool is very useful in allowing users to access vast quantities of information and also serve as a means of communication with everyone around the world, adding that it has become the most popular way of locating and retrieving information. Yumba as cited by Anyira, (2011) observed that the internet provided lecturers with access to colleagues through e-mail, powerful search facilities (engines), access to large and growing number of online journals and electronic databases on various subjects. In the same vein, Krubu and Osawaru (2010) states that technological advancement of the past twenty five years brought about electronic databases, online services, CD-ROMs and introduction of internet which radically transformed access to information.

Accessibility and Utilization of ICT facilities in ADSU, Mubi

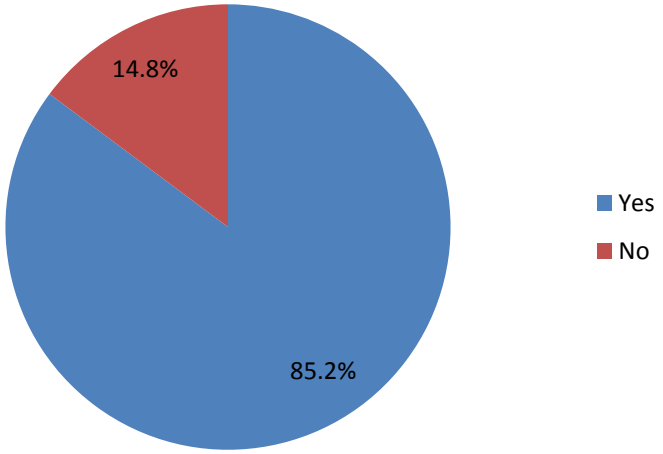

Figure 2: Accessibility and Utilization of ICT facilities in ADSU, Mubi

Figure 2 reveals whether the Lecturers access and utilize ICT facilities in ADSU, Mubi and the result shows that 109(85.2%) access and utilize, while, only 19(14.8%) don't access and utilize ICT facilities. This can be attributed to the availability of the ICT resources in the university.

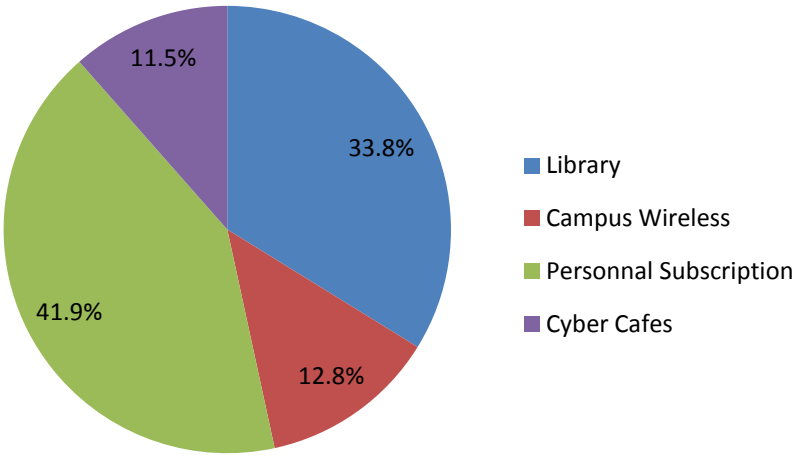

Figure 3: Location of accessing ICT facilities

Figure 3 reveals the locations where Lecturers accessed information using ICT facilities. The result reveals that 41.9% of respondents' accessed information using ICT facilities through personal subscription, 33.8% of users' accessed information from the university library, 12.8% of users' accessed information from the campus wireless, while, 11.5% of the academics accessed information from cyber cafes. This indicates that majority of the staff rely solely on personal subscription due to perhaps slow connectivity and unreliability with ICT facilities provided by the university. In line with this finding, Ani's (2012) study has shown that commercial internet cybercafé in university campuses were major sources of internet access for both students and Lecturers in the universities, as most university libraries were not connected or if connected, the connectivity/access was not reliable and sustained. A study conducted by Chigbu and Dim (2012) established that majority of the respondents access internet through cyber cafes on campus (68%); mobile internet providers (such as Zain and MTN) 66%; and wireless connections (52%). In the same vein, Ozoemelem (2009) reported that cybercafés served as the major access points for electronic resources usage in Delta State University, Abraka. Fasae and Aladeniyi (2012) established that 99% and 19% of respondents have access to ICT facilities from the cybercafé and the university library respectively.

Table 3: Impact of Accessibility and Utilization of ICT facilities

Impact	SA		A		UN		D		SD		Remark
	F	%	F	%	F	%	F	%	F	%	
Enhances teaching activities	21	19.3	65	59.6	4	3.7	12	11.0	7	6.4	Agreed
Facilitates easy research and publication	93	85.3	9	8.3	1	0.9	2	1.8	4	3.7	Strongly Agreed
Enhances learning activities	24	22.0	56	51.4	11	10.1	7	6.4	11	10.1	Agreed
Facilitates easy communication with colleagues	21	19.3	61	56.0	5	4.6	12	11.0	10	9.1	Agreed
Facilitates easy access to instructional materials	12	11.0	81	74.3	1	0.9	7	6.4	8	7.4	Agreed
Facilitates download of articles from online databases	91	83.5	4	3.7	0	0.0	12	11.0	2	1.8	Strongly Agreed
Facilitates access to news and social media	10	9.2	73	67.0	9	8.3	6	5.5	11	10.0	Agreed
Total	**272**	**35.7**	**349**	**45.7**	**31**	**4.1**	**58**	**7.6**	**53**	**6.9**	**Agreed**

Table 3 reveals the impact of accessibility and utilization of ICT facilities as provided by the respondents. The result thus: 65(59.6%) of the respondents agreed that ICT facilities enhances their teaching activities, 93(85.3%) strongly agreed that ICT facilities facilitates easy research and publication activities, 56(51.4%) agreed that ICT facilities enhances learning activities, 61(56.0%) agreed that ICT facilities facilitates easy communication with colleagues, 81(74.3%) agreed that ICT facilities facilitates easy access to instructional materials, 91(83.5%) agreed that ICT facilities facilitates download of articles from online databases, while, 73(67.0%) agreed that ICT facilities facilitates access to news and social media. In general, majority (45.7%) of the respondents agreed that accessibility and utilization of ICT facilities have great impact on their academic activities. In line with this view, a study by Kumar and Kumar (2010) showed that majority of the academic community uses electronic information sources for their academic related work including research.

Similarly, Abolade and Yusuf (2005) described information and communication technologies as essential tools in any educational system. They have the potentials of being used to meet the learning needs of individual lecturers, promote equality of educational opportunities; offer high quality learning materials, increase self-efficacy and independence of learning among students, and improve teachers' professional development. According to Eyitayo (2008), the internet enables users' access vast quantities of information and also communicates with one another globally. Vasishta (2013) posited that the use of e-resources can revolutionize teaching and learning, bringing advances that would improve education dramatically. Imhonopi and Urim (2011) explained that academics from tertiary institutions in developed nations depended on internet services and resources for teaching and research activities. This makes their research works visible and accessible globally.

Table 4: Problems associated with accessibility and utilization of ICT facilities

Problems	Agreed		Undecided		Disagreed		Remark
	F	%	F	%	F	%	
Network fluctuation	67	61.5	8	7.3	34	31.2	Agreed
Low bandwidth	61	56.0	11	10.1	37	33.9	Agreed
Inadequate ICT infrastructural facilities	77	70.6	4	3.7	28	25.7	Agreed
Inconsistent power supply	59	51.4	19	17.4	31	31.2	Agreed
Obsolete ICT facilities	79	72.5	13	11.9	17	15.6	Agreed
Total	**343**	**62.9**	**55**	**10.1**	**147**	**27.0**	**Agreed**

Table 4 reveals the problems associated with accessibility and utilization of ICT facilities. The result thus: 67(61.5%) agreed that there was network fluctuation, 61(56.0%) agreed that there was low bandwidth, 77(70.6%) agreed that there was Inadequate ICT infrastructural facilities, 59(51.4%) agreed that there was inconsistent power supply and 79(72.5%) agreed that the ICT facilities were obsolete. In general, majority (62.9%) of the respondents

revealed that there were problems associated with accessibility and utilization of ICT facilities in ADSU Mubi, and this no doubt remains the reason why the ICT facilities have low impact on the academic activities of Lecturers in the university. This finding lends credence to the study of Gbaje (2007), which maintained that "bandwidth and connectivity for higher education institutions and their providers are deployed using expensive technology like the VSATs and radio links, and for most institutions, the internet connections are very erratic and slow to support the uploading and downloading of electronic resources."Nnadozie (2007) revealed that "public power supply is unreliable and the alternative is expensive and out of the reach of poorly funded university libraries". Also, Amkpa and Abba (2009) stated that "poor infrastructural facilities in our universities provide major constraints in the implementation of ICTs.

Conclusion

Based on the findings of this study, accessibility and utilization of ICT facilities had positive impact on the performance of Lecturers and enhanced their teaching, research and learning output. However, they mostly used their personal subscription due to problems such as poor ICT infrastructure, network fluctuation, low bandwidth among others, in the university; and these problems had negative consequences on their academic activities. Consequent upon this, access to up-to-date information becomes difficult. The challenges are enormous to generate concern; this requires the attention of all stakeholders if the university is to excel into being a world class university. With such problems, the quest for the university to provide effective teaching, research and learning will be difficult to achieve. In the long run, this will affect the entire institutions mission and visions of attaining higher academic excellence. The following measures are hereby recommended toward improvement on the accessibility and utilization of ICT facilities by Lecturers of ADSU, Mubi.

Recommendations

1. Provision of more funds on regular basis for procurement and maintenance of ICT facilities in the university.
2. The university should provide alternative power source by having a dedicated generating plant powering all ICT facilities.
3. Lecturers of the university need to be trained and encouraged on the use and importance of ICT facilities in

supporting their teaching, research and learning activities.

4. Improvement in ICT facilities such as the internet, intranet, continuous update of both hardware and software as well as increase subscription of internet bandwidth.
5. Development of effective Local Area Network (LAN), Wide Area Network (WAN) and Wireless Network for robust effective connectivity.

References

Abba, T. (2012).Challenges facing the development of Digital Libraries in Nigeria.In Dillip, K. S. (Eds).*Electronic Age Librarianship.* New Delhi: Ane Books Pvt. Ltd. 187-197.

Abolade, A. O. & Yusuf, M. O. (2005).Information and Communication Technologies (ICTs) and the Nigerian Teachers' Education Program.*African Journal of Education Studies,* 3(1), 11.

Adamawa State University, Mubi Overview (2015). http://schoolnews.com.ng/a-brife-history-about-ad

Amkpa, S. A. & Abba, T. (2009). Factors inhibiting the implementation of information and communication technologies (ICTs) in Nigerian university libraries.*Journal of Information and Communication Technologies,* 6, (1).Retrieved from www.ajol.info.com.

Ani, O. E. (2012). Access and usage of Electronic Resources in African Universities: Challenges and Prospects. In Dillip K. Swain (Ed.) *Electronic age librarianship. (pp. 262 - 274).* New Delhi: Ane Books Pvt. Ltd.

Ansari, M. A. (2008). Awareness and use of OPACs in five Delhi Libraries", *Electronic Library* 26(1): 111-129.

Anyira, I. E. (2011). Internet Services in Nigerian Private Universities: A case study. *Library Philosophy and Practice (e-journal),* 534. Retrieved from http://digitalcommons.unl.edu/libphilprac

Aramide, K. A., & Bello, T. (2010).Accessing Electronic Databases for Curriculum Delivery in Schools: Implications for School Library Media Specialists. Paper presented at the 24th Annual Conference of the Nigerian School Library Association, held at Ibadan, 14th-15th September, 2010. 17-18.

Chigbu, E. D. & Dim, C .L. (2012). Connectivity and Accessibility in Nigerian University Libraries: A survey of access, usage and problems in the University of Nigeria, Nsukka. *Library Philosophy and Practice (e-journal)*, 767. Retrieved from http://digitalcommons.unl.edu/libphilprac

Ekwelem, V. O., Okafor, V. N., & Ukwuoma, S. C. (2009).Students' use of Electronic Information Sources at the University of Nigeria, Nsukka.*African Journal of Library, Archival, and Information Science*, 7 (1): 34-45.

Eiriemiokhale, K. A. (2012). Lecturers level of satisfaction with availability of Electronic Information Resources in Universities in Edo State, Nigeria. *Information Technologist 9* (1): 7.

Eyitayo, O. T. (2008). Internet facilities and the status of Africa's connectivity. In Aina, L.O., Mutula, S. M., and Tiamiyu, M. A., *Information and Knowledge Management in the digital age: Concepts, Technologies and African Perspectives*. Ibadan: Third World Information Service.

Fasae, J. K., & Aladeniyi, F. R. (2012).Internet use by Students in Faculty of Science in two Nigerian Universities *Library Philosophy and Practice (e-journal)*, 763. Retrieved from http://digitalcommons.unl.edu/libphilprac

Gbaje, E. S. (2007). Implementing a national virtual library for higher institutions in Nigeria.*LIBRES*, 17(2), retrieved from http://libres.curtin.edu.au/

Imhonopi, D. & Urim, U. M. (2011).The impact of internet services on the research output of Lecturers of selected State Universities in South-Western, Nigeria. *Information*

Technologist, 8(1): 1-12. Retrieved from www.ajol.org

Krejcie, R. V. & Morgan, D. W. (1970). Determining sample for research activities: Educational and Psychological measurement, obtained from http://www.fns.usda.gov accessed on 20/06/2016.

Krubu, D. & Osawaru, K. (2010).The Impact of Information and Communication Technology (ICT) in Nigerian University Libraries.*Library Philosophy and Practice (e-journal).*Paper 515.http://digitalcommons.unl.edu/libphilprac/515

Kumar, G. T. and Kumar, B. T. S. (2008). Use of Electronic Information Sources by the Academic Community: A comparative study, 6th International CALIBER-2008, University of Allahabad, Allahabad, 684-692.

Kwafoa, P. N. Y., Imoro, O., & Afful-Arthur, P. (2014). Assessment of the use of Electronic Resources among Administrators and Faculty in the University of Cape Coast. *Library Philosophy and Practice (e-journal).*Paper 1094.http://digitalcommons.unl.edu/libphilprac/1094

Madhusudhan, M. (2010).Use of Online Electronics Resources by Research Scholars of Kurukshetra University.*Electronics Library,* 28 (4): 12.

Mulla, K. R. & Chandrashekara, M. (2009).A study on the effective use of Online Public Access Catalogue at the Libraries of Engineering Colleges in Karnataka (India).*International Journal of Library and Information Science,* 1(3): 21-27.

Mutula, S. M. & Mutula, D. L. (2007). ICT information in Botswana Secondary Schools: Digital divide factor and implications for information literacy. *African Journal of Library Archives and Information Science*, 17 (2): 126-128.

Nnadozie, C. O. (2007). Current trends in ICT availability and use in government-owned university libraries in South Eastern Nigeria.*Information Technologist*, 4 (2), 39-55.

Open Learning Centre (2007). *What is e-learning*? Retrieved on 21/9/2016 from: http://www.openlearningcentre.com/whatise-learning.htm

Ozoemelem, O. A. (2009).Use of Electronic Resources by Postgraduate Students of the Department of Library and Information Science of Delta State, University, Abraka, Nigeria. *Library philosophy and Practice (e-journal)*, 301. Retrieved from http://digitalcommons.unl.edu/libphilprac

Vasishta, S. (2013). Dissemination of Electronic Journals: A content analysis of the Library Websites of Technical University Libraries in North India, *Electronic Library*, 31 (3): 278 – 289.

Yusuf, F. & Iwu, J. (2010). Use of Academic Library: A case study of CovenantUniversity Nigeria. *Chinese Librarianship: An International Electronic Journal*, 30.http://www.iclc.us/cliej/cl30YI.pdf.