

PNLA QUARTERLY
The Official Journal of the Pacific Northwest Library Association



Volume 77, number 3 (Spring 2013)

Volume 77, number 3 (Spring 2013)

President's Message 2

Peer-Reviewed Articles

O.D. Bakare, O.A. Owolabi, O.B. Bamigboye, O.M. Bankole. Factors Affecting Library Use by Academic Staff and Students of Federal University of Agriculture, Abeokuta, Ogun State, Nigeria 3

Bolarinwa M. Adeyemi, Reuben Abiodun Ojo, Olalekan Abraham Adekunjo. Twenty-Four Hour Library Services in Kenneth Dike Library: Challenges and Prospects 12

Solomon Olanrewaju Makinde, Omawumi Orighomisan Makinde. Library Use among Lagos State University Students 21

Abayomi Ebenezer Adesoye, Oyintola Isiaka Amusa. Use of Electronic Resources in Health Sciences Institutions in Ogun State, Nigeria 28

Shuaib Agboola Olarongbe, Dauda Morenikeji Ibrahim. The Use of Electronic Resources by Academic Staff at the University of Ilorin, Nigeria 42

K.N. Igwe, R.O. Oyewo, S.M. Yusuf. The Importance of Open Access Initiatives to the Serials Crisis in Nigerian Academic and Research Libraries 55

Editor-Reviewed Articles

Lindsey A. Halsell. TEI and So Can You: Corpus Linguistics and the Text Encoding Initiative 63

Call for submissions and instructions for authors

The *PNLA Quarterly* publishes both peer-reviewed and high-quality non-peer reviewed articles. Please indicate whether you would like your article to go through blind peer review when you submit it.

Authors should include a 100-word biography and mailing address with their submissions. Submit feature articles of approximately 1,000-6,000 words on any topic in librarianship or a related field. Issue deadlines are

Peer-reviewed articles:

October 1 (Winter)
January 1 (Spring)
April 1 (Summer)
July 1 (Fall)

Editor-reviewed articles

October 1 (Fall)
January 1 (Winter)
April 1 (Spring)
July 1 (Summer)

Please email submissions to mbolin2@unl.edu in rtf or doc format.

Would you like to serve as a peer reviewer? Please contact the editor at mbolin2@unl.edu

President's Message

Heidi Chittim



"Without continual growth and progress, such words as improvement, achievement, and success have no meaning." Benjamin Franklin

I would like to highlight two great opportunities which will enhance your leadership skills and help you gain tools which will benefit not only you personally but also your organization. On October 13th through the 18th, 2013, the Fifth Pacific Northwest's Premier Library Leadership Institute returns. The institute will take place in beautiful Fort Worden State Park near Seattle, Washington. Facilitators will be Becky Schreiber & John Shannon, Schreiber Shannon Associates. PNLA leadership has worked hard in securing grants which allows cost of the institute to stay as low as possible. We have created an official logo and developed a program that gets better every time we offer it. Please consider joining the more than 130 individuals that have gone back to their libraries and communities equipped with leadership and management skills to help guide their libraries in this time of tremendous and constant change. Participant and Mentor applications are now open and available through the PNLA website.

We are excited for the upcoming PNLA conference. "Cultivating Libraries; rooted in the community" is the theme for the conference in Boise, Idaho on August 14th - 16th, 2013. The conference will offer many inspiring workshops and highlighting authors such as Gregg Olson: True Crime, YA Series, Alan Minskoff ~ Idaho Wine Country, Erin Saldin: Girls of No Return, and Ally Condie: Matched, Crossed, Reached. Join us in beautiful Boise for enhancing your education, personal development, and most important meet others in the profession from libraries around the Pacific Northwest and Canada. Early Bird Registration now open.

I will be attending the Montana Library Association Conference on August 17th - 20th, 2013 at the Hilton Garden Inn in beautiful Missoula, Montana. On April 25-28, 2013 I will be in Jasper, Alberta attending the Alberta Library Association conference. I am excited to have the opportunity to promote PNLA at these conferences and let people know of all the exciting opportunities taking place through PNLA. Making new contacts, friends, attending great educational workshops, and attending outstanding events is also a special part of attending these conferences. Thank you for the support that I have received through the PNLA community.

Factors Affecting Library Use by Academic Staff and Students of Federal University of Agriculture, Abeokuta, Ogun State

O.D. Bakare
O.A. Owolabi
O.B. Bamigboye
O.M. Bankole

All authors are at the 'Nimbe Adedipe Library, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria. O.D. Bakare can be reached at: bumdots4eva@yahoo.co.uk. O. A. Owolabi can be reached at: yomiowolabi2000@yahoo.com. O.B. Bamigboye can be reached at: bamigboye.olusola66@gmail.com. O.M. Bankole can be reached at: olubankebankole@yahoo.com

Introduction

Academic libraries have played critically-important roles in supporting research in all subjects and disciplines within their host universities. As such, in recent years there has been a change in relationships between researchers, students, and libraries, thereby leading to a symbiotic relationship of mutual benefits between all parties concerned. An academic library is a library that is attached to an academic institution above the secondary level, serving the teaching and research needs of students and staff (Hoare, 1997). It fosters information literacy and provides resources to both students and staff and provides numerous services to users, addressing their diverse needs, characteristics, and interests (Andaleeb, 2001). According to Mason (2010), an academic library has the mission to build and maintain a collection that will support and enhance the instructional needs of the institution. These libraries serve three purposes which are to support the school's curriculum, to support the research of the university faculty/students and to create a learning environment in which faculty/ students are provided with a variety of library resources and ultimately, become competent users.

However, it has been discovered that technological developments and the availability of information resources online have changed how research and studying is done, and likewise the services that academic libraries provide to their research communities (changing from printed materials to electronic materials). With these new technological developments and innovations come new challenges and new expectations. Therefore, academic libraries are striving hard to adapt rapidly to these challenges and seeking to exploit their potential to the fullest. Consequently, it is on this premise that this paper is written to address the issue of usage of the library by both academic staff and students, and to determine how frequent they use library resources, and how this technological development that academic libraries are embracing are being used by library patrons coupled with their printed materials.

Historical Background of FUNAAB

The Federal University of Agriculture, Abeokuta, Ogun State (FUNAAB) was established on January 1, 1988 by the Federal Government when four Universities of Technology, earlier merged in 1984, were demerged. At the initial stage, five Colleges were introduced in the University in October 1988 as follows:

1. College of Agricultural Management, Rural Development and Studies (COLAMRUCS)
2. College of Animal Science and Livestock Production (COLANIM)
3. College of Environmental Resources Management (COLERM)

4. College of Natural Sciences (COLNAS)

5. College of Plant Science and Crop Production (COLPLANT)

Two additional Colleges, College of Engineering (COLENG) and College of Veterinary Medicine (COLVET) were introduced in March, 2002. During 2008/2009 session, the College of Agricultural Management, Rural Development and Consumer Studies was split into two with two new Colleges emerging as follows:

6. College of Food Science and Human Ecology (COLFHEC)

7. College of Agricultural Management and Rural Development (COLAMRUD)

The university library took off along with the institution the same year. The library was later named 'Nimbe Adedipe library to honor the first Vice-Chancellor of the University, Professor Nurudeen Olorunnimbe Adedipe. The ultra modern library building can accommodate 1000 users at a time. The total collection of books at present is 50,622 titles. The library started its automation programme in 1994 when it acquired through a World Bank Project, an IBM personal computer and the TINLIB library software designed for four work stations. This was later upgraded to ten work stations. The library has since migrated from the DOS based TINLIB software to a more versatile windows based GLAS (Graphical Library Automated System) software with capability to operate 50 work stations within the library. At present the OPAC is fully functional making it possible to catalogue books on line and for library clients to access such books immediately. The objective of the library is foster the acquisition of skills necessary for independence in lifelong learning; to maintain and develop relationships with other library services and institutions within the state and county; and to facilitate cooperation and collaboration.

Statement of the Problem

Libraries are established to be used primarily by both academic staff and student for research/learning. Sowole (1995) noted that users are described as the raison (reason for existence) of the library. But the purpose of the creation of libraries is defeated if none of these users patronize the library. This study set out to investigate factors influencing library usage by academic staff and students' of the federal university of agriculture, Abeokuta, Ogun state, Nigeria.

Objectives of Study

1. To examine the level of library usage of both academic staff and students
2. To examine the awareness of the resources available
3. To identify any challenges faced by users in accessing these resources
4. To examine the extent of users of satisfaction with the library resources

Literature Review

The majority of researchers and students' in all disciplines have adapted readily to the widespread availability of technological development in universities world wide. Stella, Irene and Antonia (2006) cited the results of a user survey at the University of Hong Kong Libraries (Woo, 2005) showed that 68.8

per cent of the respondents prefer to use journals online compared to 31.2 per cent who prefer to use printed journals. Also according to them it has been identified that discipline has a major influence on usage patterns and preferences, and that faculty members in science or agriculture tend to use the Internet more intensively than faculty members of humanities or social sciences (Lazinger et al., 1997; Bar-Ilan et al., 2003). Age also plays an important role in usage; the younger the faculty members are, the more they use electronic sources (Bar-Ilan et al., 2003). They went further in their research to identify that men are heavier users of the Internet and they make most use of the more complicated services (Busselle et al., 1999; Teo, 2001; Cheong, 2002). Bar-Ilan et al. (2003) also found that gender and academic rank have only a minor influence on the usage of e-sources and the Internet.

Applebee et al., 1997; Kaminer, 1997; Lazinger et al., 1997) as cited by Stella, Irene and Antonia (2006) stated that e-mail is considered to be the most important service because it increases cooperation with colleagues. Cohen, 1996 as cited by Stella, Irene and Antonia (2006) stated that there is a positive relationship between the frequency of use of technology and publications. [Brian](#) and [Margie](#) (2012) studied the impact of library use on students' performance; Isah (2010) examines the pattern of usage of electronic library by academic staff of the University of Ilorin. The study investigated the utilization of Electronic Information resources by the academic staff of Makerere University in Uganda (*Agaba, Kigogo-Bukenya, Nyumba, 2004*). Egberongbe (2011) as cited in Salaam, Ajiboye and Bankole (2013) investigated the 'Use and Impact of Electronic Resources at the University of Lagos, Nigeria'. The findings showed that 32(28.6%) lecturers were not aware of the library electronic resources, 69.8% of lecturers had received training on use of electronic resources. The findings further showed that 53.5% of lecturers used Science Direct, 28.6% used EbscoHost and 21.4% used Agora. 55.4% of lecturers were not satisfied with the IT infrastructures provided by library and the University at Large, and majority 53.6% are of the opinion that e-resources will never diminish the importance of traditional resources.

Different studies deal with the use of the Internet and/or the other electronic sources of the library (Applebee et al., 2000; Teo, 2001; Adika, 2003; Uddin, 2003), as well as with computer anxiety (Weil and Rosen, 1995; Ajayi et al., 2001; Durdell and Haag, 2002; North and Noyes, 2002; Gordon et al., 2003). [Andrew Hewitson](#), 2010, carried out a study which investigates awareness and extent to which university academic staff use and assimilate electronic information services (EISs) into their work. [Ogunniyi](#) (2011) investigated Use of Serial Publications by the Academic Staff. Pauline (2010) investigated User satisfaction with academic libraries services: Academic staff and students perspectives. Rachel (2010) carried out a survey on electronic resource usage in UMass Amherst Libraries. Stella, Irene and Antonia (2006) citing Abels et al., 1996; Kaminer, 1997; Busselle et al., 1999; Teo, 2001; Shih, 2003 revealed that perceived usefulness of the Internet is considered to be an important influence on Internet use. Ray and Day (1998) found that limited time and lack of effective information retrieval skills are the main barriers to using e-sources. They also noted that, faster access to information was noted as the main advantage of electronic sources. Bar-Ilan et al. (2003) found that speed, accessibility and searchability were seen as the main advantages while the main disadvantages were lack of access, lack of coverage and low readability.

Agboola and Bamigboye (2011) believes that library use is an important measure of output or services provided by libraries and suggests that it is a possible index by which such measurement can be made. Salaam, Ajiboye and Bankole (2013) investigated the use of library electronic information resources by academic staff. It was revealed that there was a very high level of awareness (93.8%) of the existence of electronic resources at 'Nimbe Adedipe Library among the academic staff of FUNAAB and the scientists believed that the library EIR has enhanced their academic activities by generally holding very positive opinions on the contribution of EIR to their job performance. Ansari and Zuberi (2010) as cited by Salaam, Ajiboye and Bankole (2013) analyzed the use of electronic resources using a sample of 70 academics at the University of Karachi. The study found that only 18% of respondents agreed to know much about electronic resources, while about 80% knew little about electronic resources. Slightly over half of the respondents used both printed and electronic resources, while 42.9% used only printed sources. About

one-third of the respondents used electronic resources for research, about one-quarter to one third used it to prepare lectures and gain subject knowledge.

Methodology

The survey research method was adopted for this study because similar studies adopted this approach. A questionnaire was designed and used to collect data for this study. Population for the study comprises of one hundred and fifty (200) academic staff and eight hundred (200) students. The questionnaire was administered seventy nine (179) students (100-300 Level) and 150 academic staff. The questionnaire was in three parts. Part A elicited background information such as status, gender and college of respondents. Part B was used to elicit information on respondents' usage of library while part C elicited information on respondents' perception of the library and its resources. The data was analyzed using simple percentages and frequency counts. A total of three hundred and twenty nine (329) questionnaires were duly completed and found useable for the study, with the break down of 150 for academic staff and 179 for students. For academic staff, 50 questionnaires were not returned and for students, 21 questionnaires were also not returned.

Findings and Discussion

Table 1 showed the breakdown of the target population by status. The table revealed that of the 400(100.0%) respondents, 150 (37.5%) were academic staff, 179 (44.75%) were students while seventy one (17.75%) of the respondents did not indicate the status. From the table, it was revealed that students used the library most.

Table 2 revealed that of the 150 (100.0%) academics who used the library, 96 (64%) were male academics, 54 (36%) female academics while 99 (53.31%). Table 3 revealed that 179 (100%) students were male and 80 (44.69%) were female. This indicated that more male academics used the library than the female academics while male students have the highest number of usage

Table 1: User Status

Status	Frequency	Percent%
Academic Staff	150	37.5
Student	179	44.75
No response	71	17.75
Total	400	100

Table 2: Distribution of academic staff by gender

Gender	Academic Staff	Percent%
Male	96	64
Female	54	36
Total	150	100

Table 3: Distribution of students by gender

Gender	Students'	Percent%
Male	99	55.31
Female	80	44.69

Total	179	100
-------	-----	-----

Table 4: Breakdown of Academic staff by colleges

College	Frequency	Percent%
COLPLANT	21	14
COLENG	15	10
COLNAS	27	18
COLERM	20	11.3
COLFHEC	14	9.3
COLANIM	17	11.3
COLVET	23	15.3
COLAMRUD	13	8.7
Total	150	100

Table 3 showed that of the 150 (100%) respondents among academic staff, 21 (14%) were from COLPLANT, 15 (10%) were from COLENG, 27 (18%) were from COLNAS, 20 (11.3%) were from COLERM, 14 (9.3%) were from COLFHEC, 17 (11.3%) were from COLANIM, 23 (15.3%) were from COLVET, and 13 (8.7) were from COLAMRUD. This indicated that majority of the users were from COLVET. On the frequency of use of the library, for the academic staff as table 5 revealed 65 (43.3%) indicated very often, 41 (27.3%) indicated often, 44 (29.3%) indicated not often, while no one indicated no response. The table also revealed that 112 (62.6%) indicated very often, 48 (26.8%) indicated often, 19 (10.6%) indicated not often while no one indicated no response. We can deduce from the table that students make use of the library often that academic staff

Table 5: Frequency of use of the library

Frequency of use	Academic staff	Percent%	Student	Percent%
Very often	65	43.3	112	62.6
Often	41	27.3	48	26.8
Not often	44	29.3	19	10.6
No response	0	0	0	0
Total	150	100	179	100

Table 6: challenges faced in retrieving information from the library is easy

Process	Frequency(Academic staff)	Percent%	Frequency (Student)	Percent%
Yes	30	20	52	29.1
No	78	52	96	53.6
No response	42	28	31	17.3
Total	150	100	179	100

When the participants were asked if there are challenges faced in obtaining materials on current research areas in the library was easy, a majority of them as revealed in Table 6 indicated that it was not easy. 30 (20%) academic staff indicated the process of retrieval as been easy, 78 (52%) indicated No, 42 (28%) indicated no response. While 52 (29.1%) students indicated Yes, 96 (53.6%) indicated NO, and 31 (17.3%) indicate no response. Also on the issue of awareness of library resources 76 (50.7%) academic staff

indicated YES, 42 (28%) indicated NO, and 32 (21.3%) indicated no response. While 102 (56.98%) indicated YES, 39 (21.79%) indicated NO, and 38 (21.22%) indicated no response. This clearly revealed that students are more aware of library resources than academic staff.

Table 7: Awareness of library resources

Awareness	Frequency(Academic staff)	Percent%	Frequency (Student)	Percent%
Yes	76	50.7	102	56.98
No	42	28	39	21.79
No response	32	21.3	38	21.22
Total	150	100	179	100

Table 8: Users satisfaction

Users satisfaction	Frequency(Academic staff)	Percent%	Frequency (Student)	Percent%
Agreed	42	28	59	33
Disagree	79	52.7	120	67
No response	29	19.3	0	0
Total	150	100	179	100

Table 8 revealed that 42 (28%) of academic staff are satisfied with library resources, 79 (52.7%) disagree with that and 29 (19.3%) indicated no response. While 59 (33%) of students are satisfied with library resources, and 120 (67%) disagrees. This clearly revealed that both academic staff and students are not satisfied with the library resources

Table 9: Reasons why academic staffs use the library

Reasons	Frequency(Academic staff)	Percent%
Research	68	45.3
Using library resources	29	19.3
Preparing lesson notes	15	10
Borrow library materials	28	18.7
No response	10	6.7
Total	150	100

Table 9 and table 10 revealed reasons why academic staff and student make use of the library. 68 (45.3%) indicated research, 29 (19.3%) indicated using library resources, 15 (10%) indicated preparing lesson notes, 28 (18.7%) indicated borrowing library materials, and 10 (6.7%) indicated no response. While 115 (64.2%) student indicated reading, 15 (8.4%) indicated using library resources, 20 (11.2%) indicated doing assignment, 18 (10.1%) indicated borrowing library materials, 11 (6.1%) indicated no response. Therefore, both tables clearly showed that academic staff uses the library most for research and not for using library resources, while students use the library mostly for reading and not for using library resources. Also from both tables it was clearly revealed that academic staff makes use of library resources than students who consider the library only as a reading area.

Table 10: Reasons why students use the library

Reasons	Frequency(Academic staff)	Percent%
---------	---------------------------	----------

Reading	115	64.2
Using library resources	15	8.4
Doing assignment	20	11.2
Borrow library materials	18	10.1
No response	11	6.1
Total	179	100

Table 11: Library resources that users consult most

Library Resources	Frequency	Percent%
TEEAL	45	13.7
HINARI	30	9.1
AGORA	40	12.2
OPAC	10	3.0
ELECTRONIC JOURNALS	45	13.7
PRINTED JOURNALS	50	15.2
REFERENCE MATERIALS	27	8.2
EBSCO	12	3.6
CAB Abstract	20	6.1
DSPACE (INSTITUTIONAL REPOSITORY)	0	0
BOOKS	50	15.2
TOTAL	329	100

Table 11 revealed that respondents consult books and printed journals than any other library resources with 50 (15.2%) respectively. While respondents do not use DSPACE at all, but all other electronic resources like TEEAL 45 (13.7%), HINARI 30 (9.1%), AGORA 40 (12.2%), Electronic Journals 45 (13.7%), and EBSCO 12 (3.6%) have varying degree of usage.

Conclusion

Based on the findings from the study, it was revealed that both academic staff and students of FUNAAB use the library but in varying degrees. Both students and academic staff are of the opinion that there are challenges faced in retrieving information from the library, and they are all aware of various library resources. Also, respondents are not satisfied with library resources, and the reason why academic staff uses the library is basically for research. On the other hand students basically use the library for reading and both parties do not use the library to make use of library resources which should be the principal reason they come to the library in the first place. Furthermore, it was revealed that respondents consult books and printed journals than any other library resources.

Recommendations

Based on the findings of the study, it is therefore recommended that the university library adopt these recommendations to enhance the continuous usage of the library by both academic staff and students of FUNABB, which are:

1. Students should be sensitized to the importance and type of materials in the library during library orientation and how they can use the materials to improve their studying.
2. The University library should seek audience with the academic staff and students on what the library should provide to better serve them.
3. Academic staff and students should be oriented on how to use the resources of the library.
4. The university library management should make the library environment conducive and minimize all challenges faced in accessing these materials.
5. The university library management should make sure that there is uninterrupted power supply in the library so as to have more access to electronic resources in the library.

References

- Abels, E.G., Liebscher, P., & Denman, D.W. (1996). Factors that influence the use of electronic networks and network services by science and engineering faculty in small universities and colleges. *Journal of the American Society for Information Science*, 47: 146-58.
- Adeniran, P. (2010). User satisfaction with academic libraries services: Academic staff and students perspectives. *International Journal of Library and Information Science* 3(10): 209-216.
- Adika, G. (2003). Internet use among faculty members of universities in Ghana. *Library Review*, 52 (1): 29-37.
- Agaba D., Kigogo-Bukenya I.M.N., & Nyumba, J.B. (2004). Utilization of electronic information resources by academic staff at Makerere University. *University of Dar es Salaam Library Journal*, 6(1): 18-28
- Agboola, I.O., & Bamigboye, O.B. (2011). Students' level of study and user of library resources in Nigerian universities: A comparative study. *Library Philosophy and Practice*.
- Ajayi, A., Olatokun, W.M., & Tihamiyu, M.A. (2001). Computer anxiety, phobia, obsession and work stress at the University of Ibadan, Nigeria: Part 1 – prevalence and correlates. *African Journal of Library, Archives & Information Science*, 11(2): 125-38.
- Andaleeb, S.S. (2001). Usage of academic library: The role of service quality, resources and users characteristics. Available: <http://www.allbusiness.com/technology>.
- Ansari, M. N., & Zuberi, B. A. (2010). Use of electronic resources among academics at the University of Karachi. *Library Philosophy and Practice*
- Applebee, A.C., et al. (2000). Australian academic use of the Internet: Implications for university administrators. *Internet Research: Electronic Networking Applications and Policy*, 10(2): 141-9.
- Bar-Ilan, J., Peritz, B. C., & Wolman, Y. (2003). A survey on the use of electronic databases and electronic journals accessed through the web by the academic staff of Israeli universities. *Journal of Academic Librarianship* 29(6): 346-361.

- Busselle, R., Reagan, J., Pinkleton, B., & Jackson, K. (1999). Factors affecting Internet use in a saturated-access population. *Telematics and Informatics*, 16(12): 45-58.
- Cheong, W.H. (2002). Internet adoption in Macao. *Journal of Computer-Mediated Communication* 7(2). Available: www.informatik.uni-trier.de/ley/db/indices/a-tree/c/Cheong:Weng_Hin.html
- Cohen, J. (1996), Computer mediated communication and publication productivity among faculty, *Internet Research: Electronic Networking Applications and Policy*, 6 (2-3): 41-63.
- Cox, B., & Jantti, M. (2012). Measuring the value of library resources and student academic performance through relational datasets. *Proceedings of the Library Assessment Conference: Building Effective, Sustainable, Practical Assessment*, 25- 27 October 2010, Baltimore, Maryland, 2011, 8p.
- Durndell, A., & Haag, Z. (2002), Computer self efficacy, computer anxiety, attitudes toward the Internet, and reported experience with the internet, by gender, in an East European sample. *Computers in Human Behavior* 18: 521-35.
- Egberongbe, H. S. (2011). The use and impact of electronic resources at the University of Lagos. *Library Philosophy and Practice*.
- Gordon, et al. (2003). The factor structure of the computer anxiety rating scale and the computer thoughts survey. *Computers in Human Behavior*, 19: 291-8.
- Hewitson, A. (2010). *Hewitson, Andrew (2002) [EIS Student survey]*. (an unpublished internal report.). Leeds Metropolitan University.
- Hoare, P. (1997). Academic libraries. In Feather, J., & Sturges, P. (Eds.) *International Encyclopedia of Information and Library Science*, New York, New York: Routledge.
- Isah, A. (2010). Electronic library use by academic staff at the University of Ilorin, Nigeria. *Journal of Library and information science (JOLIS)* 7(1&2).
- Kaminer, N. (1997). Scholars and the use of Internet. *Library and Information Science Research*, 19(4): 329-45.
- Lazinger, S.S., Bar-Ilan, J., & Peritz, B.C. (1997). Internet use by faculty members in various disciplines: A comparative case. *Journal of American Society for Information Science*. 48: 508-518.
- Mason M. K. (2010). User groups in academic libraries. Available: <http://www.moyak.com/papers/library-reference-services-users.htm>
- Mason, M.K. (2010). Myths associated with undergraduate use of academic libraries. Available: <http://www.moyak.com/papers/academic-library-anxiety.html>
- North, A.S., & Noyes, J.M. (2002). Gender influences on children's computer attitudes and cognitions, *Computers in Human Behavior* 18: 135-50.
- Lewellen, R. (2010) . Academic Library Services to International Students Interest Group. FY12 ACRL Plan for Excellence Implementation Reports

Ray, K., & Day, J. (1998). Student attitudes towards electronic information resources. *Information Research* 4 (2): 1-13.

Ogunniyi, O. S. (2011). Use of serial publications by the academic staff of school of arts and social sciences in Adeyemi College of Education, Ondo State, Nigeria. *Library. Philosophy and Practice*

Salaam, M.O., Ajiboye, B.A., & Bankole, O.M. (2013). The use of library electronic information resources by academic staff at Federal University of Agriculture, Abeokuta, Ogun State, Nigeria. *PNLA Quarterly* 77(2)

Shih, H. (2003). Extended technology acceptance model of Internet utilization behaviour. *Information & Management*, 41: 719-2.

Sowole, I.A. (1995). Information needs of farm management personnel: A case Study of two universities and two agricultural research institutes in Western Nigerian. *Lagos Librarian*, 16(1): 9-12.

Korobili, S., Tilikidou, I., & Delistavrou, A. (2006). Factors that influence the use of library resources by faculty members. *Library Review*, 55(2): 91-105

Teo, T.S.H. (2001). Demographic and motivation variables associated with Internet usage activities, *Internet Research: Electronic Networking Applications and Policy*, 11 (2): 125-37.

Uddin, M.N. (2003). Internet use by university academics: A bipartite study of information and communication needs. *Online Information Review*, 27(4): 225-37.

Woo, H. (2005). The 2004 survey at the University of Hong Kong libraries. *College and Research Libraries*.

Twenty-Four Hour Library Services in Kenneth Dike Library: Challenges and Prospects

Bolarinwa M. Adeyemi

Reuben Abiodun Ojo

Olalekan Abraham Adekunjo

The authors are at the Kenneth Dike Library, University of Ibadan, Ibadan, Nigeria. Bolarinwa M. Adeyemi can be reached at: Bmadeyemi@Yahoo.Com. Reuben Abiodun Ojo can be reached at: reubenojo2012@gmail.com. Olalekan Abraham Adekunjo can be reached at: blissing_adekunjo@yahoo.com

Introduction

By the beginning of the 20th century, there was definitely a paradigm shift from collection and preservation, to utility, and in response to this challenge, academic libraries began granting more access to faculties and students in respect of service delivery. The increase in use meant a need for more services, extended hours and more staff. As Institutions of higher learning took a more active role in funding library collections and creating sustainable and comfortable facilities that will guarantee effective

and efficient service delivery in order to bring into realization Teaching, Learning and Research(TLR) initiative , the library became less of a place to store dusty books and more of a place for dynamic learning which is globally accessible to all. In response to growing demand for library, Information Technology (IT) and quiet study spaces, particularly in the run up to exams and during assessment periods; libraries started extending their opening hours beyond the stipulated official hours. By extending the opening hours to cover seven days of the week (night and day inclusive), libraries have continued to develop and provide more flexible working spaces for the students and researchers who depend on the library services for their learning and research activities . The role of academic libraries, as a result of this development, has shifted from providing access the collections, to the library as a destination, that is a place for studying, researching, meeting, and more importantly, a place where students and faculty members consume information. For today's academic libraries to attract value to itself and stay relevant in the current dispensation, it must continue to evolve in order to meet the expectations of the users in terms of comforts and demands because library should be made accessible to students and researchers alike, anytime any day, particularly during the session.

The advancement in technology available to libraries and users of libraries has created a whole new set of issues. Among these is finding the right number of hours during which the library is available to users. We are told that consumers have different values to which we must respond: convenience, timeliness, cost effectiveness, and speed among others. For libraries, customer, values are expressed in demands for hours that meet individual needs for timely, and indeed, nontraditional access to facilities and services. As a result, academic libraries need to study library hours more regularly and closely than they have in the past to determine where changes need to be made to meet demands. Extending hours is now a common practice in international academic libraries, hence academics libraries in the developing countries are also trying to trail the blaze in offering this service to its communities.

The interpretation of extended hours varies from being open until 2 a.m. during exam periods to being open twenty-four hours per day, seven days per week, and most days of the year. However defined, it is clear that in the latter part of the last decade, libraries began to respond to new demands/opportunities and established library hours beyond the traditional schedule.

Most of the responding libraries extend hours between Sunday and Thursday nights in the academic year, choosing to provide more traditional hours Fridays, Saturdays, and during break periods. Exam periods are another popular time to extend hours. There is great variation in the combination of hours, days, and times of the year-all pointing to the creative attention being directed to establishing library hours that meet local demands. However, provision of 24/7 access in all or part of the library are still in the minority.

The implementation of twenty four hours library services commenced in Kenneth Dike Library, University of Ibadan, Ibadan in July, 2011 as a means to expand the scope of information service delivery to all the potential library users. This paper is therefore intended to present documented experiences of all the stakeholders (The management, Staff and students) involved in its implementation for the past one year. The following primary influential factors which can either positively or negatively influence the successful implementation of twenty four hours library services in Kenneth Dike Library will be exhaustively dealt with in the write up:

- Security- The protection of people, collections and facilities.
- Staffing- The services provided and staff to support them must be linked together.
- Funding- Long term funding must be determined. A dedicated source of funds must be identified, with a long-range commitment from its source on the part of the management. It is a fiscal responsibility that must not be lost sight of.

- Students' Attitudes- Uncooperative attitudes with respect to engagement in excesses on the part of the students.
- Management's Attitude- Not fulfilling their own portion of the implementation plan. Goal post shifting activities

Also, the challenges so far will be highlighted and solutions on the way forward will be proffered.

Rationale for Expanded Hours

A survey by ARL, reported by Steele and Walters (2001) found that most of the responding libraries established a practice of examining library service hours on a regular basis, using gate counts, circulation data, and other measures to indicate how and when the library is being used. Within available resources, efforts were made to adjust hours as generously as possible.

Overall, students' requests have been the overriding reason to extend hours (49 responses or 94%) – a measure of both student interest and influence. Requests from library administrators (25%) and faculty (19%) have also influenced this decision according to an ARL survey on extended hours in academic libraries (Steele and Walters 2001). To a lesser degree, the decision has been swayed by requests from library staff, affiliated researchers, and campus administration. Opening a new library that has high demand services and equipment provided an impetus – and support – for greatly expanded hours for some libraries. Occasionally, requests were accommodated through the availability of special grant funds or access to new students' fees or tuition. KDL extended hour was at the request of a former Vice Chancellor in 2010 who wanted the opening hours on Saturday to be extended from 1p.m to 6p.m during exam periods. The extended hour thereafter has gone full circle, operating 24/7; seven days a week except on public holiday and semesters break

Libraries and information centers have the obligation to provide information services to support the educational, recreational, economic informational needs of their users. This obligation can be met by acquiring adequate collections and facilities, man power and opening hours in order for the user to have unhindered access to such information and services. This traditional library organization according to Ojedokun (2008) cited in Saka (2010) focuses on simplifying work for the staff and not necessarily for the customer and this is increasingly becoming a barrier to quality services.

Increasingly, the provision of 24 - hour service in libraries is becoming an expected component of the academic library program. Demand and demonstrable need guide most decisions to expand hours while the availability of new money is less a factor (Steele and Walters, 2001). Safety is a clear element in planning and implementing extended hours and most campus partnerships relate to security issues. It is expected that more experimentation with library hours and perhaps the physical reorganization of libraries to accommodate safe use at a minimal cost. As library users come to expect increased hours of access to library study space, it will be interesting to see if their expectations expand to include more access to higher-level services

Statement of the Problem

The implementation of twenty four hour library services started in Kenneth Dike Library, University of Ibadan, Ibadan in the year 2011. There has been stories of successes and failures in respect to this laudable initiative by all the stakeholders that are involved directly or indirectly in its implementation which are worthy of documentation. This will enable the management review her strategies for the purpose of making amends where necessary so that its sustainability can be assured. This forms the crux of this research and will be addressed in the course of this research work.

Objectives of the Study

This research work is guided by both the general and specific objectives.

General Objective: To evaluate documented experiences of all the stakeholders (The management, staff and students) involved in the implementation plan of twenty four hours library services initiative in Kenneth Dike Library, University of Ibadan, Ibadan.

Specific Objectives:

- To examine the security implications of implementing twenty four hours library services in Kenneth Dike Library, University of Ibadan, Ibadan.
- To elicit information about staffing implication
- To highlight the responsibilities of the various stakeholders in the successful implementation of twenty four hours library services.
- To investigate the excesses of students in the implementation of twenty four hours library services in Kenneth Dike Library
- To highlight the role of management in the implementation of twenty four hours library services in Kenneth Dike library

Methodology

This survey was designed to provide a description of how Kenneth Dike Library (KDL) is responding to demands for greater hours of access and service. It attempts to answer questions about staffing, security needs, which specific library areas would require when, opened for additional hours as well as special funding to support the extended hours. It also describes how Kenneth Dike Library is evaluating extended library hours which started in the year 2011 and how the services could be improved upon. The study used survey research method that covered all categories of library staff involved in the twenty four hour services as well as users of Kenneth Dike Library. The population for the study consists of selected registered library users in the University of Ibadan on one hand, and selected members of staff of the library on the other. A questionnaire known as Twenty Four Hour Library Services (TFHLS) was developed and used as the primary instrument while data from library log book was also obtained. 100 respondents were purposively selected from the population of library users while 20 members of staff were randomly selected from the library staff. The data collected from the questionnaire was analysed using simple percentages and frequency counts.

Sample

Table 1 Demographic Information of Respondents

	Staff		Users	
	No Distributed	No Returned	No Distributed	No Returned
Male	13	10	55	43
Female	7	5	45	32
Total	20	15	100	75
Return rate	75%		75%	

Results : These were presented in tables and figures as shown below:

Table 2a: Challenges faced by library staff

S/N	Items	Frequency
1	Inadequate Funding	22(24.4%)
2	Security	5(5.6%)
3	Inadequate staffing	35(38.9)
4	Inadequate provision of electricity	8(8.9%)
5	Delinquency on the part of users	5(5.6%)

Table 2a, revealed that among the challenges faced by library staff who are actively involved in the twenty four hour service in KDL, the most prominent was inadequate staffing with about 38.9% of the respondents while inadequate funding (24.4%) was rated second among the challenges confronting the services in KDL twenty four hour service. Delinquency on the part of users and security are both at the same level (5.6%) according to staff responses contrary to expectation. However, the information recorded in the transitional log book indicated that the most frequently faced challenge during the night hours was "theft cases of laptop computers" as well as "loss of bags and personal effects". The reason for this according to staff response is that there are not enough security personnel on duty during the night hours and this puts a lot of pressure on the library staff who are grossly inadequate for the service. This is further illustrated in the bar chart presented in figure 1 below.

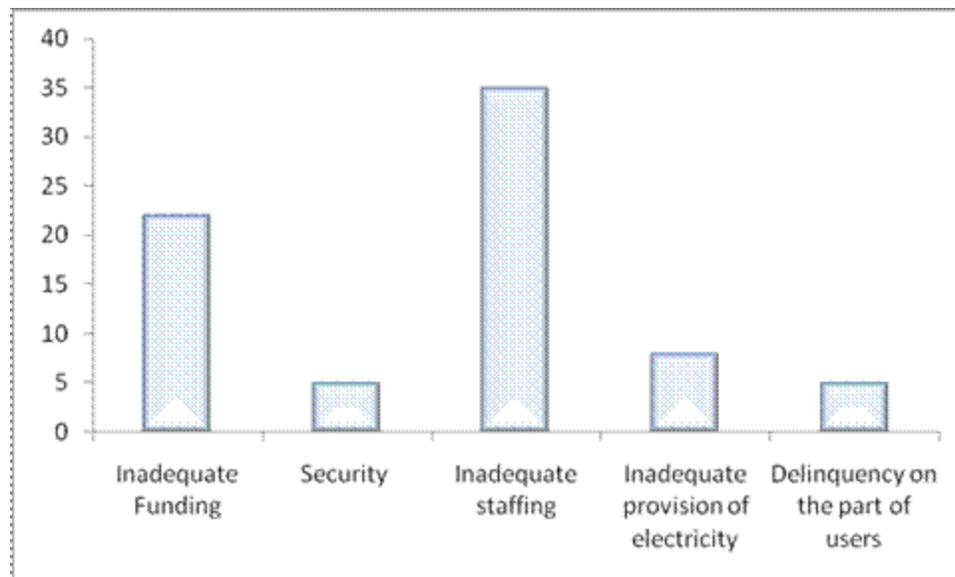


Figure 1: Challenges Faced by the Service

Figure 1 showed that inadequate staffing is the most prominent challenge faced during the twenty four hour library services in KDL. In fact one of the respondents asserted that "other challenges will be adequately surmounted and dealt with if adequate staff are provided for the services". Other problems encountered as recorded in the log book are 'emergency cases of sickness by readers'; 'over use of the toilet facilities during the night'; 'poor lighting situation of some reading areas'; etc.

On the other hand, the challenges faced by the user is summarised in table 2b and figure 2 below.

Table 2b: Challenges by users

S/N	Items	Frequency
1	Regular power failure	14(14.7%)
2	Disturbance from fellow readers	19(25.3%)
3	Non cooperation from library staff	10(13.3%)
4	Security	23(30.7%)
5	Lack of access to certain materials and services	21(28.0%)

Figure 2: challenges faced by users

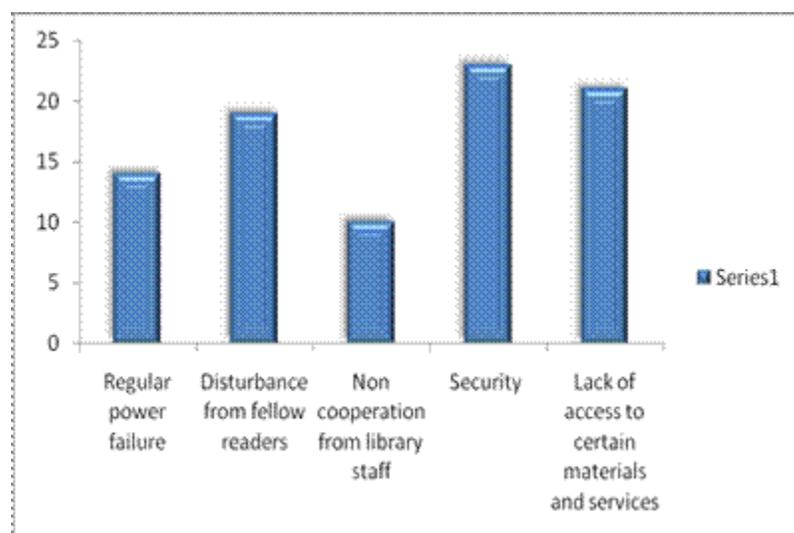


Figure 2 showed that about 23 respondents (30.7%) of the users were of the opinion that security is the most prominent challenge they faced during the night services. This is closely followed by lack of access to certain materials during night service with 21 respondents (about 28%).

Perception of Staff

Respondents were asked to rate their level of agreement to their perceptions of the extended library service. The result is as summarized in Table 3 below:

Table 3: perception of the services

S/N	Question	Frequency			
		Staff		User	
		Yes	No	Yes	No
1	Library services have improved due to long hours of opening	15(75%)	5(25%)	52 (69%)	23 (31%)
2	Adequate security provisions are made at night	14(70%)	6(30%)	32 (43%)	43 (57%)
3	I feel safe when working in the library at night	11(55%)	9(45%)	58	27

				(77%)	(23%)
4	Adequate facilities have been put in place for smooth operation during extended hours	8(40%)	55(60%)	16 (21%)	59 (79%)
5	KDL is not matured enough to run 24 hour services	13(65%)	7(35%)	21 (28%)	54 (72%)

The responses showed that most of the respondents both staff and users believed that library services have improved as a result of longer hours of services but they both believe that adequate facilities have not been provided to cope with the challenges associated with such services by the management concerned. This is indicated by 60% of staff and 79% of library users. Some in their suggestions believed that "the university should come to the aid of the library by funding the 24 hour services to enhance smooth operations". This is why 72% of users opined that KDL is 'not matured enough' to run 24 hour service. This is contrary to the opinion of staff in this regard as 65% of the staff surveyed believe that KDL is matured to run the services.

Expected Services During Extended Hours

In the course of the study, the researchers sought to know the services expected during extended services and the results is as presented in figure 3.

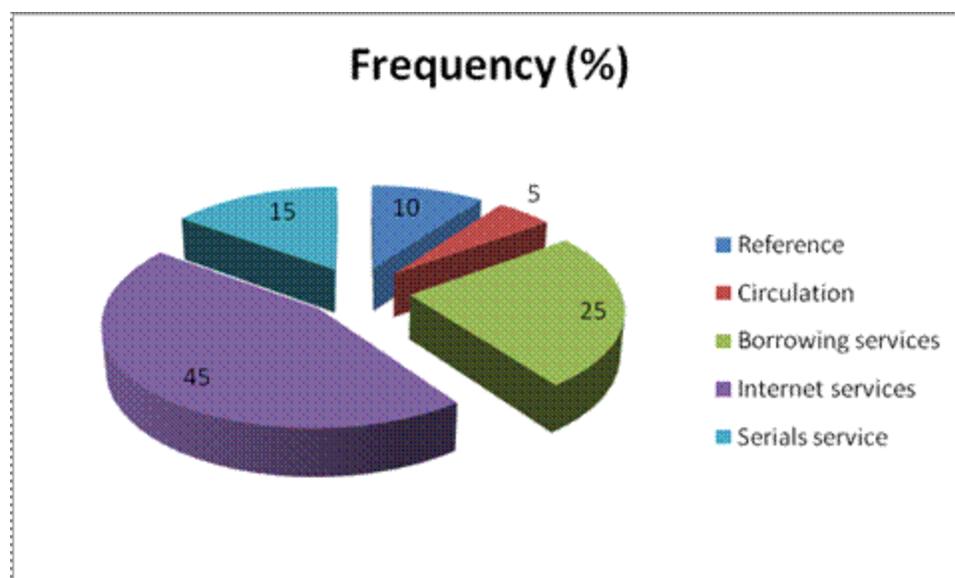


Figure 3: Chart showing services expected by users

From figure 3, it is clearly shown that the service required by most respondents is internet service 45% closely followed by borrowing service 25%. The least favoured service in this category is serial service and this could be due to the fact that if internet service is available, then users can access online journal services available in KDL.

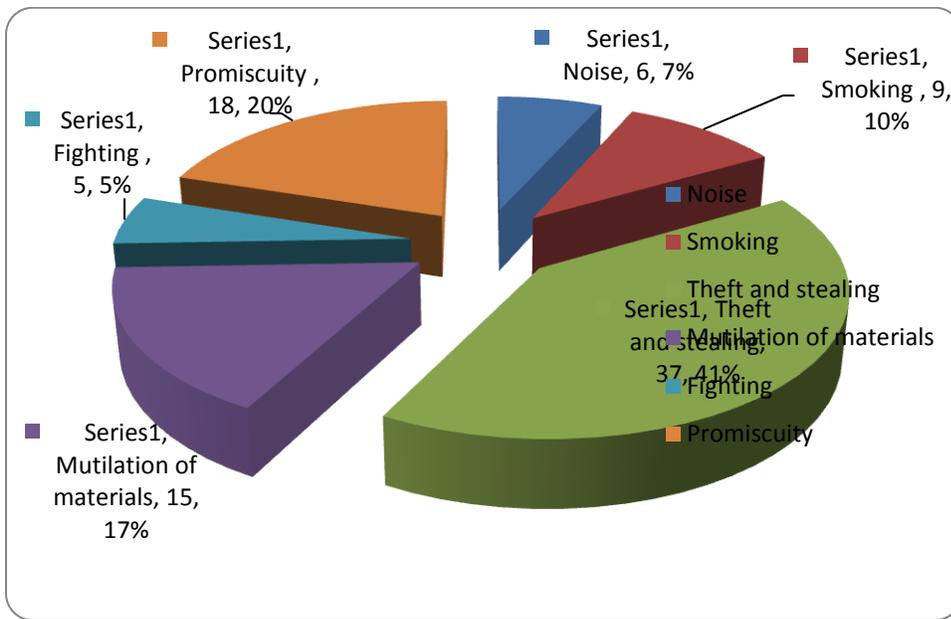
User's excesses during the extended hours

The staff were asked to identify the common excesses of students during the extended services and the result is summarized in table 4 and illustrated in figure 4 respectively.

Table 4: students' excesses

S/N	Items	Frequency %
1	Noise	6
2	Smoking	9
3	Theft and stealing	37
4	Mutilation of materials	15
5	Fighting	5
6	Promiscuity	18

Figure 4: Users' Excesses



The illustration in the figure 4 clearly showed that theft and stealing ranked highest (37%) among the excesses of students during the night hours of service. Mutilation of material as well as promiscuity followed in that order. Fighting and noise making was 5% and 6% respectively.

Suggestions for Improved Services

Respondents were asked to suggest ways of improving the services in the 24 hours services project of KDL. The suggestions made for improved services include that 'the library should extend regular library services such circulation and reference services to night duty services'; 'the library should boost staff strength to complement the present one'

Discussion of Findings

There is no doubt that a lot has happened since inception of twenty four hour services in KDL since 2011 when the service commenced. The result of the findings showed that there is acute shortage of staff needed to effectively manage the teaming library users who turn up in the night to make use of the

library. The finding is in line with McCarthy (2001) but is contrary to what is generally required that staff should be transformed in line with shaping of libraries in order to meet with challenges of information services anytime, anywhere.

Furthermore, it was also found that library users expected some services to be included in the twenty four hour service scheme. Prominent among this is the internet and e-library services. This is in line with the assertion of Kumar (2009) who noted that academic libraries are changing dramatically by adopting new means of technology in all activities of print to e-environment where a variety of manual method, are replaced by computerized system which provides opportunity for online accessibility. Increasingly, the provision of 24 - hour service in libraries is becoming an expected component of the academic library program. Demand and demonstrable need guide most decisions to expand hours as found in this study and supported by Curry (2003) and Okiy, (2005). Safety is a clear element in planning and implementing extended hours and most campus partnerships relate to security issues. It is expected that more experimentation with library hours and perhaps the physical reorganization of libraries to accommodate safe use at a minimal cost will be a good omen for the smooth operation of the services.

Conclusion

The foregoing discussion has revealed some grey areas which are needed to be looked into by any academic library willing to embark on twenty four hour service by evaluating the staff implication vis a viz the other requirements and types of the services to be rendered as well as putting necessary security measures in place. However, it is high time academic libraries in Nigeria adopted 24/7 library services in order to meet the demands of the present day paradigm shift in library services the world over.

Recommendations

The following recommendations are hereby made based on the findings of this study.

- In order to enhance effective service delivery in the implementation of twenty four hour services, the library should increase the staff strength to meet the demands of the users on one hand and to protect library materials on the other hand.
- Internet facilities as well as e-library services should be made available 24/7 in order to promote access to online databases available in KDL in particular and other academic libraries in general.
- There should be security surveillance as well as the use of closed circuit television monitoring system to curb the excesses of users in terms of book mutilation, material theft and stealing as well as other anti library acts which are common in the night.
- Dedicated funds with long term commitment should be made available by the university management to boost the services and cater for logistics involved for the smooth running of the extended services as this will require additional cost from the conventional opening hours.
- Remunerations for staff participating in twenty four hours library services should be made attractive in order to encourage them.

References

Curry, A. (2003). Opening hours: The contest between diminishing resources and a 24/7 world. *The Journal of Academic Librarianship* 29 (6): 375-385.

Darch, G. (1995). Overnight study facilities. *Cape Librarian* 39(4): 42

Kumar, M. (2009). Academic Libraries in electronic environment: Paradigm shift. A paper presented at the International Conference on Academic Libraries (ICAL) held at the University of Delhi, India. P. 105

McCarthy, J.J. (2001). Integrating Library services into the e-learning environment at Queensland University of Technology. *Australian Academic and Research Libraries* 32(3): 222-238

Okoye, R.B. (2005). Funding Nigerian libraries in the 21st century: will funding from alternative sources suffice? *The Bottom Line: Managing Library Finances*, 18(2), 71-77.

Saka, H. T. (2010). Extended hours in academic libraries: A case study of the University of Ilorin. *PNLA Quarterly* 75(2). Available: <http://unllib.unl.edu/LPP/PNLA%20Quarterly/saka75-2.pdf>.

Singh, J., & Kaur, T. (2009). Future of academic libraries in India: Challenges and opportunities. A paper presented at the International Conference on Academic Libraries (ICAL) held at the University of Delhi, India. P. 52

Library Use among Lagos State University Students

Solomon Olanrewaju Makinde, PhD

Omawumi Orighomisan Makinde

Solomon Olanrewaju Makinde is in the Department of Language, Arts, and Social Science Education in the Faculty of Education of Lagos State University, Lagos, Nigeria. He can be reached at: lanremakinde05@gmail.com. Omawumi Orighomisan Makinde is at the Fatiu Ademola Akesode Library, Lagos State University, Lagos, Nigeria. She can be reached at: wummymak@gmail.com

Introduction

Lagos State University (LASU) was established in April 1982 under the regime of the first democratically elected Governor, *Alhaji Lateef Jakande* but it actually took off in October 1984, At inception, it was a non-residential institution with initial student enrolment of 375 undergraduates and about 200 pre-degree science (PDS) students. However, within two decades of its existence, the University has grown in student population from about 500 to over thirty thousand (Leigh, 2005). As of now the University is made up of seven faculties, one college of Medicine, four schools (Communication, Postgraduate, Transport and External System) four centres (Environmental and Science Education, Planning Studies and General Studies), four main campuses, and nine campuses under the External System.

In the recent past the University had been labelled negatively due to the deviant, antisocial behaviour of some students especially cultic activities which often paralyzed academic activities. In those days, you could easily count the number of students that patronized the library. However, very recently especially in the last three years, a sudden surge in the presence of students in the library has been observed and this spans through the entire session. Undoubtedly, LASU has witnessed an unprecedented growth and development in terms of physical structures and academic status. Improved performance in teaching and research through staff training, undergraduate scholarships, services of lecturers among others were equally observed (Hussain, 2009).

On the undergraduate scholarship award, any student with a Cumulative Grade Point Average (CGPA) of at least 4.0 at the end of a session is awarded the scholarship which covers full fees, extra cash gift of ₦20,000.00 for books etc, and the beneficiary is addressed as "University Scholar" such student will continue to enjoy the scholarship as long as he or she maintains good character and maintains a CGPA of at least 3.50 at the end of each subsequent session (Hussain, 2009). This no doubt is a motivating factor for any student to strive to be a beneficiary of the scholarship award. It is therefore assumed that the sudden surge in library patronage is due to the various reforms in the university under the administration of Prof. Lateef Akanni Hussain. This therefore spurs the researchers to action in order to subject the situation to empirical analysis.

The Academic Library and Its Services

Academic libraries are libraries attached to higher institutions of learning like the College of Education, Monotechnic, Polytechnic and Universities (Okusaga and Akalunbe, 2006). Idowu, (2009) describes what an academic library should be as follows:

Academic research libraries are not just buildings anymore. They are vast collections of online resources that users can access from campuses, offices, cyber cafes, anywhere and everywhere around the world... They contain computer laboratories, 24/7 reading rooms, coffee bars and multimedia group study areas. They provide spaces for quiet independent study group projects consultation between instructors and students and even relaxation p7).

Other facilities available in an academic library according to her include exhibitions, tele conferences, concerts, lectures, screenings and symposia. Such libraries are wired and wireless to enable users access the internet from any part of the buildings.

An academic library is set up to perform the following:

- Provision of learning materials for every academic discipline in the university.
- Ensuring a conducive atmosphere for study activities for staff and students
- Lending textual and non-textual materials to its clientele,
- Educating fresh students on the needed library skills for effective use of the library
- Acquisition of very recent and current publications to meet the research, teaching, and learning needs of members of the university community.
- Training of academic staff in the development of bibliographic knowledge for carrying out their teaching and research activities.
- Serving as a reference point for consulting university publications and
- Cooperating with other universities in the area of resource sharing (Okusaga and Akalume, 2006; Makinde, 2007).

Lagos State University Library is comprised of the main library in Ojo Campus (Fatiu Ademola Akesode Library), four (4) branch libraries (Teslim Olawale Eitic Law Library, Ojo; Medical Library, Ikeja; Adebola Adegunwa School of Communication library at Surulere; Faculty of Engineering library, Epe) and 10 other libraries under the Lagos State University External System viz: Agege, Anthony, Anthony Annex, Badagry, Festac, Ikorodu, Ikoyi, Isolo, Jibowu, and Lekki. The largest of these libraries is the Fatiu Ademola Akesode Library and all the other libraries are co-ordinated from this main library by the University Librarian.

The main library equally benefited from the reforms of the present administration. Apart from renovating and rehabilitating the entire library, the library had been expanded to include an e library. More students than before now could use the library satisfactorily. As earlier indicated this study sought to examine

those factors that have been responsible for increase in the number of students that patronize the library within the last three years.

Hypotheses

The following null hypotheses were formulated and tested at .05 level of confidence.

H Φ 1: There is no significant relationship between students' levels and library patronage.

H Φ 2: There is no significant relationship between University Scholarship Awards and library patronage.

H Φ 3: There is no significant relationship between students' reading interest and library patronage.

H Φ 4: There is no significant relationship between motivational factors and library patronage.

H Φ 5: There is no significant relationship between students' home factors and library patronage.

Materials and Methods

Participants: The study involved a total of 207 students from six faculties of Lagos State University viz, Arts 40, Education 15, Law 05, Management Science 20, Social Science 31, Science 96. Of this number, 104 were males while 103 were females.

Measuring Instrument: A questionnaire titled '*Patronage of the University Library*' (PATUL) was constructed and validated by experts librarians and educational measurement in Lagos State University. To establish the reliability of the questionnaire, 25 copies were administered to university students in a neighboring university, using the split half procedure. A reliability co efficient of .73 was established. Meanwhile, the questionnaire had two sections. Section A had 10 items on respondents' demographic data, while Section B is made up of 23 items on patronage of the library.

Procedure

230 copies of PATUL were randomly distributed among students in one day. 207 copies were however retrieved, scored and analysed using simple percentage, Pearson's Product Moment Correlation Co-efficient.

Results

H Φ 1: There is no significant correlation between students' levels and patronage of the library.

The analysis is presented in the table below:

Table 1a: Levels and Number of Students

Level	No	%
100	80	38.8
200	50	24.3
300	36	17.5
400	41	19.4

Total	207	100
-------	-----	-----

Table 1b: Correlation of Students' Levels and Library Patronage

Variables	N	R	Sig. (2-tailed)	Decision
Students' Levels and Library Patronage	207	.206	.000	P<.05 *Significant

Table 1 a shows the number of students per level while Table 1b displays the correlation of students' level and library patronage. The r value of .260 was found to be significant at .05 level of probability. This indicates that there is a significant relationship between students' levels and library patronage. The null hypothesis is therefore rejected.

H Φ 2: There is no significant relationship between award of University Scholarship and Library Patronage.

The analysis is presented in the table below:

Table 2a: Students Awarded University Scholars

Students	No.	%
Awarded University Scholar	71	35.3
No Award	136	64.7
Total	207	100

Table 2b: Correlation of University Scholars and Library Patronage

Variables	N	R	Sig. (2-tailed)	Decision
University Scholars and Library Patronage	71	.625	.000	P<.05 *significant

Table 2a shows that 71 respondents are University Scholars, while 136 were not. The r value of .625 was found to be significant as .05 level of probability. The null hypothesis is therefore rejected.

H Φ 3: There is no significant relationship between students' reading interest and Library Patronage.

Table 3: Correlation of students' Reading Interest and Library Patronage.

Variables	N	R	Sig. (2-tailed)	Decision
Students' Reading Interest and Library Patronage	207	.640	.000	P<.05 *significant

From table 3 above, the r value of .640 is significant at .05 level of probability. This indicates that there is a significant relationship between students' reading interest and library patronage. The hypothesis is therefore rejected.

H Φ 4: There is no significant relationship between motivational factors and students library patronage.

Table 4: Correlation of Motivational Factors and Students' Library Patronage

Variables	N	R	Sig. (2-tailed)	Decision
Motivational Factors and Students' Library Patronage	207	.688	.000	P<.05
				*significant

From table 4 above, r value of .688 is significant at .05 level of probability. This indicates that there is a significant relationship between motivational factors and students' reading interest. The hypothesis is therefore rejected.

H Φ 5: There is no significant relationship between students' home factors and library patronage.

Table 5: Correlation of Students' Home Factors and Library Patronage

Variables	N	R	Sig. (2-tailed)	Decision
Students' Home Factors and Library Patronage	207	.650	.000	P<.05
				*significant

R value above is found to be significant at .05 level of probability thereby indicating that there is a significant relationship between students' home factors and library patronage. The hypothesis is therefore rejected.

Discussion of Findings

In this study, findings reveal that there is a significant relationship between students' level and library patronage ($r = .650$; $P < .05$). The reason behind this is not far-fetched. Students are exposed to different learning environment and conditions. It is therefore not surprising that level is a determining factor of library patronage among students as the degree of library usage differs from level to level.

In hypothesis 2, a significant relationship between award of university scholarship and library patronage is reported ($r = .625$; $P < .05$) while in hypothesis 4, a significant relationship is established between motivational factors and library patronage ($r = .688$; $P < .05$). Award of university scholarship to undergraduates is no doubt one of the motivational factors influencing library patronage in Lagos State University. Indeed a further probe into students' response reveals that 127 (64.59%) students among the 207 respondents agreed that they patronized the library in order to become "University Scholars" that is a beneficiary of the university scholarship. The drive to become a university scholar is indeed a positive one because it will enhance students' mastery of subject area. This view is shared by Amoda, Odunaike and Oluwasina (2007) who observed that in academic task, students could adopt either mastery or performance goal or both depending on the commitment or brilliance of the students. Students who adopt a mastery goal are usually persistent in acquiring skills towards the mastery of a learning task. Such students attach intrinsic values to learning as they derive personal satisfaction as high achievers. On the other hand, students who adopt performance goal orientation according to Amoda et al (2007) could demonstrate or hide their abilities; they could also compare their abilities with other and this is inclined towards expectations of extrinsic rewards like praise, gift, power and status.

Onukaogu (2003) opined that "since social context in Nigeria are reinforced and sustained by celebrations, every reading event deserves to be celebrated ... a hug, a peck, on the cheek, the presentation of a reading achievement sticker etc, can be a way of celebrating a reading event o. 9)". It could therefore be said that motivational factors play important role in determining level of library patronage on the part of the students.

It is also found that reading interest, correlates significantly with library patronage ($r = .640$; $P < 0.05$). Onukaogu (2003) notes that the process of reading comprehension is an interaction between aspects of the reader as well as the text within a situational context for reading. On the aspects of the reader, motivation and interest are mentioned as indispensable factors in the process of reading comprehension. In this study, 181 respondents patronized the library to read newspapers, 184 loved reading novel in the library 109 were interested only in texts relevant to their course of study, while 97 of them read extensively any material that come their way. These findings agree with the view of Oden and Denga (1999) that reading interest in children should be considered while selecting books for them. Fayose (1995) also observed that Nigerian children read for a number of reasons like reading "to learn, to dream, to laugh, to enjoy the familiar or explore the unknown, to gather extra information for class work or special interest" (p. 102).

Home factors also correlated significantly with library patronage ($r = .650$; $P < .05$). For instance, 119 of the respondents responded that their homes were not conducive for reading, or serious academic activity. Parents have an important role to play in the early development of literacy in young children because they have an important role to play in helping them to achieve academic success (Mokotedi, 2006). Hunt (1995) and Mokotedi (2006) believe that children development of reading practices are influenced by their homes.

While emphasizing the importance of parental involvement in the educational development of the children, Kebalepile (2006) notes that it serves as a motivating factor for learners, it strengthens them, it motivates readers and ease their work; it creates harmony amongs parents and teachers as well as creating a platform for working together towards achieving national goal as well as bridging the gap between school and community. The finding of this study no doubt corroborates that of Nwosu (2006) who notes that the home it has a great role to play in the early formation of reading culture by the children that introducing children earlier to reading will likely result to a higher inclination towards reading as he grows.

Recommendations

Based on the findings of this study the following recommendations are proffered:

1. Parents should be sensitized on the need to make the home environment conducive for academic activities. They should make textual materials, newspaper, magazine and books available for both the adults and children at home.
2. Government should improve on the provision of infrastructural facilities especially electricity. Most of the respondents found it difficult to carry out serious academic activity at home due to lack of electricity.
3. Other higher institutions should emulate Lagos State University (LASU) by promoting library patronage in those institutions. Lagos State University is now peaceful and for the past four years has been free from the menace of cultists. University administrators could introduce intra university as well as inter-university academic competitions that will encourage students too read voraciously.
4. University Libraries should be made to provide all services that are expected of an academic library. Such libraries should be big enough to accommodate both the undergraduate and

postgraduate students. Textual and non-textual materials that are relevant to every programme run in Schools.

5. Teachers or lecturers should give take-home assignment to students from time to time to keep them busy, for the idle hand is the devil's workshop.

Conclusion

The study investigated library patronage among Lagos State University (LASU) and found that factors such as students' levels, scholarship award, motivational factors, students' reading interest and home factors correlate significantly with the library patronage. To this end, all stakeholders in the education industry should take a more critical look at the measures that will encourage students to be more academic and creative rather than being more prone to engaging in anti-social activities.

References

- Amoda, M.B, Odunaike, K.O., & Oluwasina, B.R (2007). Impact of Motivation on Job Satisfaction in a Stressful Working Environment in *African Journal for the Study of Educational Issues* 1&2, 36-41.
- Fayose, P.O. (1995). *Nigerian Children's Literature in English* Ibadan: AENL Educational Publishers.
- Hunt, P. (1995). *Children's Literature an illustrated History*. Oxford: Oxford University Press.
- Hussain, L.A. (2009). *My Achievement at Lagos State University from 2005-2009*. Lagos: Irede Printers Ltd.
- Idowu, A.O. (2009). E-Resources and Internet Accessibility: Challenges of Library Service in Nigeria. A paper presented at the 3rd Jire Olanlokun Memorial Lecture at the Nigerian Institute of Advanced Legal Studies, University of Lagos on June 01, 2009.
- Kebalepile, T. (2006). Realities about Parental Involvement in Remote Area School in the Gantsi District, Botswana Conference Proceedings on *Achieving Universal Basic/Primary Education in Africa 2015: Myth or Reality?* Held in University of Botswana 16th - 19th October. Botswana: The Department of Primary Education, pp 779-787.
- Leigh, A.O. (2005). *Welcome Address by the Vice-Chancellor*. In Oderinde, B.B. and Ekpo, O.E. (Eds). *Values Education*. Proceedings of the 19th Annual Congress of the Academy of Education held at the Lagos State University, Lagos, 22nd -26th November, 2004. Ibadan: Olu-Akin Printing Press. xi-xiv.
- Makinde, O.O. (2007). Literacy: Prerequisite for Optimal Benefits from Library and Information Science. *Medwell Journals: The Social Sciences* 2(2): 211-213.
- Okusaga, T.O. and Akalune, K.O. (2006). Historical Development and Types of Libraries. In Asaju, D.F. (ed). *General Studies: Book of Readings*. Lagos: Lagos State University Press pp 1-10.
- Onukaogu, C.E. (2003). Towards the Understanding of Reading in Onukaogu, C.E, Aruna, A.E. and Jegede, O.B.(Eds). *Teaching Reading in Nigeria: A Guidebook to Theory and Practice* 2nd Edition. 1-35.
- Oden, S.N. and Denga, H.M. (1999). Parental Guidance of the Child's Utilisation of the Resources of Literature for Sustainable National Development in *Literacy and Reading in Nigeria*. 8(1&2), 75-82.

Mokotedi, R.T. (2006). Challenges Faced by Botswana Primary School Teachers in Developing Pupils' Interest in Reading Children's Literature. In *Achieving Universal Basic/Primary Education in Africa in 2015: Myth or Reality?* Proceedings of the University of Botswana African Conference on Primary/Basic Education Held in University of Botswana Library Auditorium, 16th-19th October, pp 949-956.

Nwosu, C. (2006). Home-Aided Formation of Reading Culture: An Imperative for the Education of the Nigerian Child. In Ogomak, P.M.C., Onyejemezi, D.A. (Eds). *The Home, The Society, and the Education of the Nigerian Child*. 20th Annual Congress Book of Proceedings. Pp. 134-139.

Use of Electronic Resources in Health Sciences Institutions in Ogun State, Nigeria

Abayomi Ebenezer Adesoye

Oyintola Isiaka Amusa

Abayomi Ebenezer Adesoye is at the University Library, Olabisi Onabanjo University, Ago-iwoye, Nigeria and can be reached at: adesoyeae@yahoo.com. Oyintola Isiaka Amusa is at Nimbe Adedipe Library, Federal University of Agriculture, Abeokuta, Nigeria and can be reached at: Ishaqamusa@gmail.com

Introduction

Technological changes are posing several challenges to library and information services worldwide, and librarians especially those in the developed worlds have learnt the usage, and adoption of the information technologies. Information technology has been introduced to accomplish library function and provide innovative user services. Several libraries today have become equipped with appropriate hardware and software to accomplish library functions and services hitherto done manually. Also, information communication technology (ICT) an offshoot of information technology (IT) has brought about the concept of New Media into library and information services. New media are information-bearing media other than print. They are means for storage, communication and transmission of information with distinct advantage and added dimension over paper as a medium. Maharan, et al., (2004) concluded that the availability of new media also known as the electronic resources opens new vistas for teaching, learning and research. Their advantages are mainly in respect of density of storage, speed of access, searchability, and integration of text; images, pictures and sounds onto a simple medium: and rapid and reliable transmission over long distances.

Electronic resources (e-resources) hold many advantages over print library resources. They serve as storage media because digitized data permit compact storage of large volume of information. Also, information in digital formats allows data manipulation in ways that are not cost effective in other formats, that is, print. Beyond serving as storage media, electronic resources allow free access and Boolean searching. Downloading of information from electronic resources to a user's computer and being able to cut and paste, move, add, and delete as much as desired is possible. Other advantages of e-resources are convenience, timeliness, the ability to search text easily, and animation of graphics.

Furthermore, electronic resources have the following advantages over books, as observed by King (2002) they can be linked from and to indexing and abstracting databases; access to them can be from user's

home, office or dormitory whether or not the physical library is open; it affords the library opportunity to get usage statistics that are not (easily) available for print collection; they save space and are relatively easy to maintain.

Kidd (2002) identified ability to store article electronically, then printing out a portable print copy as the reason electronic resources appeal to frequent e-journal users. He also identified convenience and speed of access, access to a wider range of information, faster access to information and easy access to information as the reasons electronic resources are preferred to print ones.

Evans and Zarnosky (2000) decried electronic resources as a mixed blessing. In their words, electronic resources are popular; they provide more flexibility in searching than their paper-based counterparts and remote access at any time is a possibility. Although they do not reduce library-operating costs, they do present new challenges for public service staff. Electronic system can fail, as to power supplies, causing customer and staff frustrations. Also as everyone who has spent much time with internet-based services knows, "electronic" does not always translate into "fast". On the one hand, waiting for files to download, waiting to have a server accept your query, or being abruptly cut off in mid-session are sources of frustration that do not exist with paper-based resources. On the other hand, torn-out articles, misshelved or missing volume, or holiday library closure are not problems with the electronic resources, provided offset access to the required systems is available.

University of Oregon library digital collection programme provide the following categories of online electronic resources:

(a) Online Articles: e.g. with DOI assigned, article with DOI assigned, article freely available directly from publishers, preprint, and newsletter articles.

(b) other online materials: for example ERIC Document (PDF full text) website/page, online technical/research reports, electronic e-book/e-book chapter, online government/legal materials, online theses/dissertation, online reference materials (Wikipedia, etc.) conference/power point presentation (online), graphic representation of data generated from a data set/data bank, abstract of a work in online database, message posted to electronic mailing list, personal and other electronic communication (e-mail, menus, etc.)

(c) Serials journals for example, articles in professional journals, articles in popular magazine, newspaper articles, proceedings of meetings and symposia, personal and other communication (letters, menus etc.)

The above outlined categories of electronic information resources that are available for all academic disciplines and profession. There are CD-ROM databases, and online information sources on Agriculture, Business Management, Education, Governance, Healthcare, Law etc. Specific examples of these resources on CD-ROM databases are:

- AGORA: Access to Global Online Research in Agriculture
- AGRIS: International Information System for the Agriculture Science and Technology
- CARIS: Centre for Information Management for International Agricultural Research
- TEEAL: The Essential Electronic Agricultural Library
- ERIC: Educational Resources and Information Centre
- EBSCO Host Database on CD-ROM
- HINARI: Health Inter Network Access to Research Initiative
- PUBMED: Public Medicine, United States National Library of Medicine Search Service Initiative
- EOLSS: Encyclopaedia of life support systems

- Encyclopaedia Britannica on DVD
- SOSIG: Social Science Information Gateway
- e-TALL CDROM: Teaching aid at low cost
- MEDLINE CD-ROM: This is a database of life sciences and biomedical bibliographic information.
- MEDSCAPE: This is a free online resource for healthcare professionals that offer a variety of medical information.

There are also available online information resources being provided by publishers. These resources are made available at low cost to several African countries through a project called Programme for the Enhancement of Research Information (PERI) an initiative of the International Network for the Availability of Scientific Publications, (INASP) in conjunction with research partners, librarians and information scientists in developing countries. PERI databases include electronic publications from the following publishers: John Wiley, SpringerLink, Oxford University Press, Emerald Insight, Gate Thompson, EBSCO Host, Blackwell Publishing, Royal Society of London Journals, Cochrane Medical Library, Silver Platter, and African Journal online.

These online databases are rich in healthcare information sources that are of immense benefits to the healthcare practitioners and researchers. Besides PERI initiative, there is also INASP Health Links. This is gateway to selected website relevant to healthcare professionals and other associated people in developing countries. The database demonstrates the broad variety of healthcare information resources that are being made freely available online.

Information technologies, without doubts, have been of immense benefits to all facets of human life, education, communication, agriculture, engineering, medicine, etc and institutions especially academic institutions and libraries. There are now available electronic information sources to users and professionals which have greatly influenced library use. Consequently, this study focuses on electronic information resources available to healthcare professionals in Nigeria, and how they use them. The healthcare professionals will be limited to those working in the tertiary health institutions in Ogun State. Ogun State is in the South Western geopolitical zone in Nigeria and being the most educated and informed stated otherwise called Gateway state of Nigeria to Education and individual.

- (i) Identify the categories of health professionals using libraries in the selected tertiary health institutions;
- (ii) Find out the availability of information technology facilities in the institutions;
- (iii) Find out the respondents awareness and use of electronic resources;
- (iv) Find out reasons for using electronic resources

Statement of the Problem

Healthcare professionals require information for Clinical work, up-to-date knowledge, research and writing of papers, and for teaching (Khudiar and Cooke, 2008). These information needs are to a considerable extent met through Health Sciences Library and electronic information sources (offline and online). Also, Dzenowagis (2005) has observed that ICT is changing how healthcare is delivered and how health system is run. Today, ICT is fundamental for health systems to meet obligations to deliver care, pursue research, educate students, treat patients and monitor public health. ICT in its many forms is essential for coordinating complex activities, ensuring quality, fostering collaboration and sharing the growing body of knowledge in health. As a result of these findings, there is a need to conduct a study

into the extent of availability and usage of electronic information resources among healthcare professionals in Nigeria. The following research questions were raised

Based on the earlier identified objectives of this study, attempt was made to provide answers to the following questions through the data gathered.

- (i) What are the categories of healthcare professionals using the libraries in the selected hospitals?
- (ii) What are the information technology resources known to the respondents?
- (iii) What are the electronic information resources available to the healthcare professionals?
- (iv) What are the reasons for using electronic resources by the healthcare professionals?
- (v) How relevant are the contents of the healthcare databases to their studies?
- (vi) Are there constraints being faced by the respondents in the use of electronic health information resources.

Manda (2005) conducted a study into electronic resources usage in academic and research institutions in Tanzania. The study is based on a rapid assessment of conditions under which electronic resources are used in 10 academic institutions in Tanzania. His primary focus is on the use of electronic resources available through the Programme for the Enhancement of Research Information (PERI). Data was collected using face-to-face interview and questionnaires. Major findings of the study are: availability of basic technical and human resources for electronic resources access and use; limited access to PCs for student use; variations among institutions in accessing electronic resources. Other findings include problems in marketing electronic resources; inadequacy in end-user training; limited levels of use of PERI resources. Some identified challenges of using electronic resources are slow Internet connectivity; limited access to PCs; poor search skills to effective use electronic resources, and power cuts. The study in conclusion makes policy recommendations on training in the use and marketing of electronic resources for specific user groups and resources.

In an earlier study relating to PERI, Smart (2004) describes the programme for the Enhancement of Research Information (PERI), launched by the International Network for the Availability of Scientific Publications (INASP), and in particular the African Journals Online (AJOL) initiative, which supports journals published in Africa. PERI strengthens research capacities by bringing affordable global information to researchers in developing countries, by supporting publication and dissemination of in-country research findings, and providing information to researchers in developing countries, by supporting publication and dissemination of in-country research findings, and providing information and communication skills training for researchers, practitioners, librarians and publishers.

Johnson (2008) examines the impact of the Internet in three areas: the impact on academic and scholarly periodical publishing and the dissemination of information; the contribution to reference work; and the impact on recreational reading. The author concludes that the internet will be most useful in the publication and distribution of scholarly electronic journals and reviews recent trends in Internet published electronic periodicals and the problems requiring solution, particularly those relating to bibliographic description. Commercial publishers are taking a keen interest in these developments but it remains to be seen how the academic community will react, given their past criticisms of periodical publishers. He states that:

The design of electronic periodicals will probably be brought more into line with their printed counterparts. Screen layouts and display features will need to be improved to facilitate, skimming and browsing and, if the hypertext linking facilities are retrained, then a major breakthrough in readability will be achieved. Nevertheless the issue of authority, accuracy and currency of information remain to be solved.

Suleiman and Katsekor (2007) report on a survey on convenient access to, and use of electronic databases (CD-ROM and online) including full text journals and their effect on information seeking behaviour of health sciences faculty at the college of health sciences of the University of Ghana Medical School. The study documented preference between print and electronic resource use, and the specific databases and full text journals that faculty found useful. The findings reveal faculty lack of awareness and use of the two most resourceful full text journals databases available at the library (HINARI and PERI), hence they resorted to PUBMED as their source of access to full text journals to the traditional print indexes and abstracts, and hard copy publications; and paucity of time and distance from the library's Internet facilities have made the faculty members conducted their searches through intermediaries at the library. The authors among others recommend that:

There is need to reconsider and repackage the marketing and publicity strategies adapted by the library in promoting services and in particular, to promote awareness of the range of electronic databases and full text journals at the library. Creation of awareness by routing information to individual faculty members through Heads of Departments and notice boards has not yielded the desired results. Departmental seminars and training for a in database searching and electronic information access to attempt to circumvent this lack of awareness and utilization of the e-resources.

Watts and Ibegbulam (2006) look at the availability and uptake of electronic healthcare information resources in the medical library, college of medicine, University of Nigeria. They examined some of the barriers to providing these resources. Information gathered from a series of interviews with the librarians in the library identified the barriers as:

- (a) Lack of an adequate ICT infrastructure and affordable online access;
- (b) A need for library staff and library users to gain ICT skills and information seeking skills and;
- (c) Problematic cybercafe and prohibitive cost of using the cybercafé.

Moahi (2009) provides an overview of activities and initiatives underway in Botswana that aims to improve the provision and management of information in the health sector. Many of these initiatives are based on the use of ICTs. It considers the role that ICT plays in ensuring that health information is provided to health workers and consumers in support to health workers and consumer in support of the three health's related Millennium Development Goals (MDG). These goals are Reducing Child Mortality; improving maternal health; and combating HIV/AIDS and Malaria. The paper outlines these goals and considers whether there is more that needs to be done to ensure that health information is well managed and reaches those it should reach, at the right time and in the right form. The paper in conclusion recommends the following:

- Enhances the skill and knowledge of health care providers through education.
- Enhance the skills and knowledge of health care providers through providing relevant information
- Improve communication amongst healthcare providers.

- Improve the reporting from facilities and different health programmes to facilitate planning and resource allocation functions.
- Educate and create awareness of the public towards causes and prevention of the different illness (Health promotion and education).

AbuOuf (1995) conducted a study on "use of information resources by physicians in Jeddah Hospital Libraries". The study concludes that the physicians in the hospitals have access to diverse specialized medical and professional information sources from scientific societies; medical association, and professional organizations. These resources as well as resources available in the hospital constitute their information sources for research and other information needs. Related to this study is Aseel (1996) study of "Attitudes of physicians in the city of Jeddah Toward the use of Medline Databases on CD-ROM" physician in the three selected hospitals in the city of Jeddah were selected for the study.

The study found out that the selected hospital libraries publicized the services at their inception which attracted the respondent to use the resources, MEDLINE Database. This publicity drive eventually waned thus resulting into minimal use of the resources. The libraries also do not have user education programme for the physicians on how to use them.

Khudair and Cooke (2008) studied healthcare personnel's use of e-information sources in Riyadh government hospitals. The study focused on the use of e-information sources by healthcare personnel in the kingdom using questionnaire as data gathering instrument. Eleven (11) governmental hospitals study population. They study concludes that ICT has enabled a wide dissemination of information and a sharp increase in the magnitude of electronic information sources. The health care personnel have preference for using the e-information sources (the internet) due to their easy access and interactivity, and its combination with other features. However, the study identifies some obstacles to the use of e-information sources. These are:

- (a) Health personnel are overwhelmed with work load;
- (b) Low level of information literacy and skills programmes in formal education and in the health work environment;
- (c) Lack of information policy to ensure information access;
- (d) Limited awareness of decision makers of the importance of the availability, accessibility and use of electronic information sources.

On the Nigeria scene, the advent of information technologies in health care fields has undoubtedly facilitated and helped to ease health care management. However, healthcare professionals continue to face the daunting tasks of remaining fully informed of advances in their disciplines (Watts and Ibegbulam, 2006). Other studies on adoption of electronic healthcare resources in Nigeria espoused by Watt and Ibegbulam (2006) are those of Ajuwon and Others (2003) and Ogunyade and Oyibo (2003). Ajuwon (2003) carried out a study of uptake of ICTs by health science students at the University College Hospital, Ibadan. The study found out that large number of the respondents could not use computer and other ICT facilities. The study recommends the need for ICT literacy to be added to the curriculum, and the need for the establishment of adequate computer laboratories.

Ogunyade and Oyibo (2003) in their study examined the use of Medline – the database of life sciences and biomedical bibliographic information – by medical students at the University of Lagos. The study found that the use of the database was poor, due to lack of awareness, lack of access to computers,

insufficient training, and the high cost of provision. These studies identified the problem facing the adoption of healthcare ICT resources in Nigeria. Other problems inhibiting the adoption and usage of the ICT in general and healthcare e-resources as identified by several sources are:

- (a) Lack of adequate of ICT skills and training causes difficulties, both amongst staff providing access to ICTs and their users (Ashcroft and Watts, 2005).
- (b) Low basic information literacy levels amongst the Nigerian population (Ondari - Okenwa, 2004).
- (c) Inadequate funding (Okoye, 2005), describes the situation in Nigeria libraries which receive poor allocation from government
- (d) ICT users in developing countries gain access to Internet facilities through cybercafés which are sometime problematic and expensive. (Adomi, 2005).

Research Methodology

This study was designed to investigate the availability and usage of electronic information sources on healthcare in tertiary health institutions in Ogun State. Consequently, all the tertiary health institutions in the state are selected for the study. Healthcare services in the state and the country as a whole are classified into primary, secondary and tertiary health institutions. Primary health institutions are usually located in rural areas, and towns to take care of minor health issues. They also provide health education and diseases awareness campaign, maternity and maternal healthcare, and immunization services. Primary health centres are usually manned by general practice doctors, few nurses, midwives, and community health workers. Such health institutions are referred to as health centres or community hospitals.

Secondary health institutions are health facilities of status higher than primary health centres. They are usually established in cities and large towns to attend to health issues of higher magnitude than those being handled in primary health centres. Such health institutions are referred to as General Hospitals, or Medical Centres if owned by government, and Specialist Hospitals if owned by individuals. Medical personnel in such hospitals are usually consultants in all aspects of medicine and related fields. They are usually referred to as Surgeons, Cardiologists, Physicians, Radiologists, Anesthetists, Pharmacists, and Urologists etc. Other medical personnel in these health institutions are also of higher academic status and experiences.

Tertiary health institutions are similar to secondary health institutions. In addition to handling serious health issues that cannot be handled in secondary health institutions, they also provide training and conduct researches on healthcare and medicine. In a nutshell they serve as training arm of colleges of medical sciences. They are usually referred to as "Teaching Hospitals", and their personnel are highly experienced specialists and academics. All departments of teaching hospitals, Gynaecology and Obstetrics, Hematology, Radiology, Ophthalmology, Nursing Sciences, Pharmacy, Ear, Nose and Throat (ENT) Medical records, etc., provide medical services, training and researches. They are usually owned by state governments and the federal government in Nigeria. Also, there exist some General Hospitals, though not attached to Universities, and some privately owned hospitals but serve as training centres for medical science. In Ogun State, there are tertiary health institutions that fall into these categories. Five of such institutions are identified in the state. They are:

- (i) Olabisi Onabanjo University Teaching Hospital (OOUTH), Sagamu

- (ii) Federal Medical Centre (FMC), Abeokuta
- (iii) Ogun State Hospital Management Board (OSHMB) General Hospital, Ijaye – Abeokuta.
- (iv) Neuro-Psychiatric Hospital (NPH), Aro-Abeokuta
- (v) Sacred Health Hospital (SHH), Lantoro – Abeokuta.

It was difficult to obtain the population figures of the healthcare personnel in the above listed health institutions and as at the time of this study there was no such record available to the researcher. Consequently, the researcher decided to limited to study's respondents to graduate medical personnel, Nurses, pharmacists, Hematologists, Record Officers etc that provide training and health services. Specifically the respondents are:

- (i) Doctors – (for all specialized areas of medicine)
- (ii) Hematologists
- (iii) Pharmacist (for all specialized areas of pharmacy)
- (iv) Nurses (for all specialized areas of Nursing Sciences)
- (v) Medical laboratory technologists/officers)
- (vi) Medical Records Officers

The population of these categories of personnel was put at 300 in all the institutions selected. Consequently, questionnaires were produced and administered on the population sample.

This study is a survey and questionnaire is the instrument used to gather data. The questionnaires were carefully constructed to accommodate all the research questions set out for the study. 300 copies of the questionnaire were produced and administered during the visit to each of the selected institutions. Copies of the questionnaire were dropped in offices, laboratories, and consulting rooms for the respondents to complete and return. The exercise lasted 20 working days.

The rate of return was very encouraging: 258 copies of the questionnaire (86%) were duly completed and returned. The entire copies returned were found useful for the study. Table 1 depicts the analysis of questionnaire administration.

Table 1: Analysis of copies of the Questionnaire Administered and Retrieved

Health Institution	Copies Administered	Copies Retrieved	Percentage
OOOUTH, Sagamu	120	113	94
FMC, Abeokuta	70	63	90
OSHMB, Abeokuta	40	32	80
NPH, Abeokuta	40	29	73
SHH, Abeokuta	30	21	73

Total	300	258 (68%)	-
-------	-----	-----------	---

Data gathered via the questionnaire were analyzed using the statistical package for social science (SPSS). The data were presented by tabulation, frequency counts, charts etc.

Data Analysis and Discussion

The distribution of respondents by their job categories indicates that doctors are 53 (21%). Hematologists are 18 (07%); Pharmacists are 31 (12%); Record Officers are 26(10%); Nurses are 88 (34%); and Laboratory technologists/officers are 42 (16%). This analysis indicates that all categories of healthcare, personnel are represented in the study. Also, the respondents are quite experienced on their respective jobs. Majority of them, 96 respondents (37%) have spent over 10 years on their respective jobs; 51 respondents (20) have spent between 16 – 20 years; 38 of them (15%) have spent between 21 – 25 years; 33 respondents (13%) have spent below 10 years; and the remaining 40 respondents (15%) have garnered experience over 25 years. These findings are as presented in the Table 2.

Table 2: Respondents years of Job Experience

Health Institution	Frequency	Percentage
31 35 years	13	05
26 30 years	27	10
21 – 25 years	38	15
16 – 20 years	51	20
06 – 10 years	33	13
0005 years	00	00
Total	258	100

Furthermore, the respondents are quite aware of information technologies, and electronic information resources. When asked to mention IT resources known to them, a synthesis of their responses reveal the following IT resources:

- (i) The Internet, World Wide Web
- (ii) OPAC – Online Public Access Catalogue
- (iii) CD-ROM database
- (iv) Local Area Network
- (v) Diskettes
- (vi) Compact Disc – writable and re-writable
- (vii) Computer and its accessories
- (viii) T-flash/Flash drive

These electronic resources mentioned by the respondents are in accordance to the examples of electronic resources provided by AACRS (2005). As such, one can conclude that the respondents know what the resources are, and what they can be used for.

There are branded electronic information resources on health and related fields. The respondents were asked to mentioned specific information resources known and available to them. Their responses are as listed in table 3.

Table 3: Electronic Information Resources Available to the Respondents

Health Institution	Frequency	Percentage
HINARI	258	100
MEDLINE/PUBMED	258	100
e-TALC	46	18
E-journal Website	58	22
MEDSCAPE	122	47
Internet Resources on Health	258	100
PERI DATABASES	33	13

However, one can observe that HINARI, MEDLINE and the Internet resources on health are very popular with the respondents. The entire respondents (258) indicated that they are aware of and use them. MESCOPE is another resources that they use more, followed by e-journal website (58 respondents) e-TALC (46 respondents, and PERI Databases (33 respondents). To further confirm the respondents' usage of electronic resources on health, they were requested to mention some website on healthcare they visit in the course of their professional and academic activities. The website mentioned by the respondents is listed below:

- (i) <http://www.hospitalweb.co.uk>-Hospital Web UK
- (ii) <http://www.hon.ch> - Health on the Net
- (iii) <http://www.nlm.nih.gov> - US National Library of Medicine
- (iv) <http://www.who.int> - World Health Organisation
- (v) <http://www.healthatoz.com> - Reference site on health
- (vi) <http://www.healthy.net> - Reference site on health
- (vii) <http://www.health.yahoo.com> - Yahoo health
- (viii) <http://www.heartinfo.org> cardiology site
- (ix) <http://www.abworld.co.uk> -Paediatric medicine
- (x) <http://www.babaycentre.com> - Paediatric medicine
- (xi) <http://www.ud.com> - Oncology and Radiology

- (xii) <http://www.mentalhealth.com> - Psychiatry
- (xiii) <http://www.onlinepsycho.com> - Psychiatry
- (xiv) <http://www.vh.org> - The Virtual Hospital
- (xv) <http://www.neuropharmacology.com> - Pharmacy
- (xvi) <http://www.druglibrary.org> - Pharmacy
- (xvii) <http://www.allnurses.com> - Nursing Sciences
- (xviii) <http://www.bmj.com> - British Medical Journal
- (xix) <http://www.integrammed.com> - Integrated medicine
- (xx) <http://www.naturemade.com> - Alternative medicine

The respondents expressed their preference of electronic resources over other information media. Their reasons for this are stated as follows that:

- (i) Electronic resources are user friendly, easy to use, and permit interaction.
- (ii) Access to preferred websites, electronic journals, databases etc are easy and relatively cheap
- (iii) Electronic information sources are accessible round the clock, and without limitation of location, space and time.

The above findings have clearly shown that healthcare professionals are quite aware of IT and electronic information sources on health and they make use of them accordingly. In order to further confirm these, the study attempted to find out the respondents' reasons for using e-information resources. Their responses revealed that they consult electronic information sources for:

- (i) Clinical work and patient care information
- (ii) Research (writing of academic papers), teaching, and publication.
- (iii) Examination purposes.
- (iv) General information on healthcare to update their knowledge
- (v) Job, research grants, and fellowship opportunities

On the issue of content relevance of the resources to the above listed information needs of the respondents. 178 respondents (69%) considered them relevant; 76 respondents (29%) perceived them fairly relevant, while the remaining 4 respondents (02%) did not respond. These findings revealed that the contents of the resources are relevant and useful to the respondents. Table 4 provides details of rating by the respondents.

Table 4: Electronic Information Resources Rating by the Respondents

Health Institution	Frequency	Percentage
Relevant	178	69
Fairly relevant	76	29
Not relevant	00	00
No response	04	02
Total	258	100

However, there are certain impediments to the smooth utilization of electronic resources on health. These constraints as mentioned by the respondents are listed below:

- (i) Inadequate coverage of health information sources from Africa, and Nigeria in particular.
- (ii) High cost of subscribing to the electronic databases and websites – many of them are not available free of charge.
- (iii) Problem of accessing the resources such as high cost of the Internet access, network failure, inadequate power supply, obsolete equipment etc.
- (iv) Lack of adequate skills in accessing the resources. Most of the respondent need basic advanced IT training on information findings/research, web searches, operation of IT equipment and trouble shooting.
- (v) Inadequate e-information resources. The facilities to access the resources are few when compared to the number of healthcare professionals who need them.
- (vi) Excessive workload. The respondents have heavy work load which limit their time to search for electronic information
- (vii) Since electronic information sources are not organized and classified, majority of the respondent lack adequate information skills to access them.

Conclusion and Recommendations

Electronic information sources provide opportunity for effortless access and use of health information (Khudair and Cooke, 2008). This statement is confirmed by this study. Healthcare personnel in the tertiary health institutions are quite aware of electronic information sources on health, and websites that provide health information. They make use of these resources, which they prefer to other information bearing media because of their ease of use, and availability round the clock without barriers of time and boundaries among others.

Also, healthcare personnel in tertiary health institution use the resources for their professional and academic practice. They make use of them for clinical work, research and teaching, and general information on healthcare to update their knowledge. Contents of the resources are also considered relevant to their information needs. As such it can be concluded that electronic information resources are crucial to productivities of the healthcare personnel in tertiary healthcare institutions. Availability, accessibility and usage of health electronic resources are being impeded by certain issues such as paucity of local contents (Nigerian contents) in the databases/websites; infrastructural problem, subscription

requirements and access right, and inadequate skills to access electronic resources on the part of the personnel.

In furtherance to the conclusion and findings of this study, the following recommendations are proffered.

(i) Government, professional bodies on healthcare, and IT specialists can float a programme of digitization of health information sources emanating from Nigeria. Journals and similar publications on health can be standardized, hosted on the Internet, and indexed in reputable databases on health. These will take care of the problem of paucity of local materials in electronic databases/online facilities.

(ii) To ameliorate the problems of subscription to databases and websites, libraries serving the health institutions and individuals can exploit cooperative subscription approach. The libraries and individuals in cooperation can subscribe to the resources and make them available to members through local area Network (LAN) or Wide Area Network (WAN).

(iii) Infrastructural problem such as inadequate information technology to access e-information, power supply, obsolete equipment, bandwidth, etc., can be addressed through adequate funding, and development of IT policy to ensure sustainable access to the technology.

(iv) Information literacy programme that is IT oriented should be floated and if possible be made part of the curriculum of medical and paramedical training. This will equip the participants with the necessary skills in accessing and using electronic information sources.

(v) Electronic information sources are not organized and classified; these make access to them a bit difficult. However, libraries serving the health institution can assist in content analysis of databases/websites, print abstracts or full-text articles for users, and subscribe to print copies of journals frequently used by healthcare personnel in the databases.

(vi) Excessive workload of healthcare personnel can hinder their use of the resources. This problem is very rampant in the State of Federation because of paucity of the personnel. However, this can be taken care of through time planning, acquisition of personal computer/laptop, and internet access. These will afford the personnel to access e-information resources at their leisure, and at any available free time in their offices and homes.

References

1. Maharana, B., Choudhury, B. K. and Dutta (2004). "Collection Development of Electronic Information Resources in the R &D Libraries of Kolkata City: A survey" *Library Trends*, Vol. 42 (No. 3) pp. 235 - 246.
2. Khudair, A. A. and Cooke, L. (2008). "Healthcare personnel's use of e-information sources in Riyadh government hospitals". *Journal of Librarianship and Information Science*, vol. 40: 207. Available at <http://Lis.sagepub.com/cgi/content/40/3/2007>.
3. Dzenowagis, Joan (2005). *Connecting for health: global vision, local insight: Report for the World Summit for the information society*. WHO. 36p.

4. Suleiman, S. B. and Katsepor, S. A. (2007). "Information seeking behaviour of Health Sciences Faculty at the College of Health Sciences, University of Ghana" *Information Development*, vol. 23 (63) Available at <http://idv.sagepub.com/cgi/content/abstract/23/1/63>.
5. Watts, Chris and Ibegulam, I. (2006). "Access to Electronic Healthcare Information Resource in Developing Countries: Experiences from the Medical Library, College of Medicine, University of Nigeria" *IFLA Journal* Vol. 32 (54) Available at <http://ifl.sagepub.com/cgi/content/abstract/32/1/54>.
6. AbuOuf, S. (1995). *Use of information resources by physicians in Jeddah Hospital Libraries*. Master of Science Education Thesis, College of Arts and Humanities, King Abdul Aziz University, Jeddah.
7. Aseel, G. (1996). *Attitudes of physicians in the city of Jeddah Toward the use of medicine databases on CD-ROM*/ Master of Science Thesis, College of Arts and Humanities, King Abdul Aziz University Jeddah.
8. Ogunyade, T. O. and Oyibo, W. A. (2003). "Use of CD-ROM MEDLINE by medical students of the College of Medicine, University of Lagos, Nigeria", *Journal of Medical Internet Research*, vol. 5 (1) Jan - March 7p.
9. Ajuwon, G. A., Odusanya, O. O., Bamgbala, O. A. Ogunyade, T. O. and Oyinbo, W. A. (2003). "Computer and Internet use by first year clinical and nursing students in a Nigerian teaching hospital". *BMC Medical Informatics and Decision Making*, Vol. 3 (10), e7. Available Online at <http://www.biomedcentral.com/1472-6947/3110>.
10. Ashcroft, L. and Watis, C. (2005). "ICT skills for information professionals in developing countries: perspectives from a study of the electronic environment in Nigeria". *IFLA Journal*, 31 (1) pp. 6-12.
11. Ondari - Okemwa, E. (2004). Impediments to promoting access to global knowledge in Sub-saharan Africa". *Library Management*, 25 (8/9) pp. 361 - 375.
12. Adomi, E. E. (2005). The effect of a price increase on cybercafés in Abraka, Nigeria. *The Bottom Line* 18 (2) pp. 78 - 86.
13. McKnight, C. Yu, L., Harker, S. and Phillips, K. (2000) "Librarians in the delivery of electronic journals: roles visited" *Journal of Librarianship and Information Science*. Vol. 32 (117). Available at: <http://lis.sagepub.com/cgi/content/abstract/25/3>.
14. Ramzan, M. (2004). Does level of knowledge impact librarians attitude toward information technology (IT) application? 2nd International CALIBER - 2004, New Delhi, 11-13 February.

The Use of Electronic Resources by Academic Staff at the University of Ilorin, Nigeria

Shuaib Agboola Olarongbe

Dauda Morenikeji Ibrahim

Shuaib Agboola Olarongbe is a Lecturer in the Department of Library and Information Science, Faculty of Communication and Information Sciences, University of Ilorin. He can be reached at: shittashuaib@yahoo.com and olarongbe.sa@unilorin.edu.ng. Dauda M. Ibrahim is a graduate of University of Ilorin, Ilorin, Nigeria. He holds Bachelor's Degree in Library and Information Science.

Introduction

The backbone of any university library is the variety of resources in its holding, without which it cannot lay any claim to providing the services required of it. This means that the functioning and functionality of a university library is largely determined by the size, range, depth and currency of its collection holdings, such as books, newspapers, journals and audiovisuals material. Meanwhile, recent advances in science and technology have introduced a new dimension to library collection as well as its building process. The technology has forced the library to digitize information because electronic resources have the advantage of being more current, and sometimes more comprehensive than print (Pelzer and Wiese, 2006). Given the fact that the introduction of e-resources in libraries was the by-products of scientific and technological advances, libraries certainly stands to gain a lot from embracing them in their holdings for such reasons as ease of access and multiplication of access by the users, better, faster and more accurate services delivery by the library personnel to users, greater efficiency in performance of the staff.

The term e-resources is taken to refer to library's information bearing materials that are in electronic form which include electronic books (e-books); electronic newspapers (e-newspapers); electronic journals (e-journals) as well as Internet resources.

However, electronic resources have placed themselves at the top priority in academic and research institutions, especially in developing countries (Sharma, Singh, and Sharma, 2011). E-resources are not only the necessity of the time but also have become the face value of any academic institution. The concept of the library is changing very fast due to the impact of e-resources. Now libraries not only have printed materials but also digital resources. University libraries have witnessed a great metamorphosis in recent years both in their collection development and in their service structures. University libraries are now using technology to improve the management of scholarly information to strengthen and speed access to scholarly information not held locally like the library consortium.

Dadzie (2005) writes that electronic resources are invaluable research tools that complement the print – based resources in a traditional library setting. Their advantages, according to her include: access to information that might be restricted to the user due to geographic location or finances, access to more current information, and provision of extensive links to additional resources related contents.

While libraries were at the crisis point in financing collection development, these new technologies offer possible ways to mitigate costs and revolutionize ways to scholarly information not held locally like the library consortium. Papatheodorou (2006), states that "the transition from print to electronic medium apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval". They also provide access to current information as these are often updated frequently. In addition, electronic resources are convenient to use since users are

able to access information from the library, Internet café, and offices or at times from the comfort of their homes at any time of the day. It is for some of these reasons that university libraries in Nigeria are being challenged to provide access to electronic resources to support teaching, research and learning. Use of electronic resource by academic and research scholars, therefore, is an important area of study in today's information environment. Electronic resource has now-a-days become an important component in academic institutions as it plays a pivotal role in meeting the information and communication needs of institutions. "It makes it possible to access a wide range of information, such as up-to-date research reports, from anywhere in the world. It also enables scholars and academic institutions to disseminate information to a wider audience around the globe through having web sites and a way to search them and organize the output" (Madhusudhan, 2007). Electronic resources are easily accessible in the remote areas. Electronic resources solve storage problems and control the flood of information. Print sources are being digitized. However, it is therefore imperative to study the use of electronic resources and investigate the factors that are a hindrance to their use in Nigerian universities.

Statement of the Problem

Because of the advancement in the world of technology, it is now common to find various electronic information resources in modern-day university libraries, providing access to quality scientific journal articles and other information materials suitable for teaching, learning and research. However, due to the needs of academics, students and research scholars for high-quality information, University of Ilorin was early adopter of electronic resources to provide information and services that will meet their needs. It is therefore against this fact that observations have revealed that in spite of the huge effort made by the university in providing access to electronic information resources, little efforts have been made in assessing the level of awareness and use of these electronic resources by the academic staff of the university. Thus, the study investigates the level of use and satisfaction of electronic resources by the academic staff at the University of Ilorin and the challenges that hinder the usage of these e-resources.

Objectives of the Study

The objectives of the study are to:

1. Examine the use of e-resources among academic staff at the University of Ilorin
2. Identify the purposes of using e-resources by the academics.
3. Find out where the academics do access e-resources.
4. Determine the perceived impact of e-resources on teaching and research.
5. Ascertain their level of satisfaction with e-resources.
6. Identify factors that hinder usage of electronic resources by the academic staff.

Research Questions

1. What is the purpose of using e-resources by academic staff?
2. Where do academic staff access electronic information?
3. What is the impact of e-resources on academic staff's teaching and researches?

4. What is the satisfaction level of University of Ilorin academic staff with e-resources?

5. What are the factors that hinder usage of e-resources by academic staff?

Review of Related Literature

Information technology has thrown a new challenge to the academic environment. Electronic information has gradually become a major resource in every modern university library. Electronic information has diversified the ways of communication, storage and retrieval of information, demands of users and information management system in the libraries.

Electronic resources are commercially-produced to deliver a collection of data, including text, image collections, other multimedia products. These may be delivered on CD-ROM, on tap via the Internet and so on. According to Klobas (1995); Tsakonas and Papatheodorou (2006) "electronic information resources are information resources provided in electronic form, and these include CD-ROMs, resources available on the Internet such as e-journals, e-print, and other computer-based electronic networks. Sukula (2010) defines electronic resources as "an electronic information resources that can be accessed on the web, on or off campus. User can get the information that he or she wants, when it is needed". Electronic resources have provided wider access to information in universities for teaching, learning, and research than the traditional print through the use of information and communications technologies (ICTs) by library patrons. "The transition from print to electronic medium, apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval" (Tsakonas and Papatheodorou, 2006). Through the use of Electronic resources, Nigerian researchers now have access to global information resources, particularly the internet for their scholarly communication.

Electronic resources according to Tekale and Dalve (2012) have the following features: available any time of the day; provide hyperlinks; huge information reservoirs; quick information; various search options; easy citations; ease in uploading and updating; ease in storage and dissemination; flexibility; time, space and cost are not major hurdles; ease of archiving.

Tekale and Dalve (2012) further describe the various types of electronic resources.

Electronic database: Electronic database consists of organized pieces of information placed in to records. Within an electronic database computer programme assists the user in selecting desired pieces of data. Electronic databases include products such as periodical indexes and abstracts, directories, encyclopedias, dictionaries, other reference work. Electronic databases provide search facilities to users by subject, type, and title or key word with Boolean logic.

Ya'u (2003) asserts that the virtual library has an opportunity to address the paucity of teaching and research materials in the libraries of higher institutions in Nigeria as well as giving room for sharing of research outputs with the global community amongst the institutions and the local researchers. It is an enhanced access to National and International library and information resources for teaching, learning, research and pleasure via the digital technology, thereby making Nigeria a true and active member of the global village polity. With Virtual libraries, electronic resources are made accessible to an unlimited audience at the same time, anytime and anywhere. Virtual libraries make electronic resources accessible to an unlimited audience at the same time, anytime and anywhere (Riccio, 2001). The virtual library provides access to databases, electronic journals, alerting services, online reference tools and quality-selected web resources that improves the quality of teaching and research. A virtual library is a strategy to booster learning and opens access to the electronic super highway in Nigerian schools. It is one of the best ways to provide an equitable education in a cost effective manner.

In summary, based on the reviewed literature, electronic resources is highly desirable and it leads to increased productivity of work, learning, teaching and research. It was clearly indicated that electronic information sources are increasingly important to today's scholars and researchers. Hence subscription and utilization of online databases and e-journals and other relevant electronic resources are seemingly not popular in our university system. It is on this note that this study aimed to assess the use of electronic resources among academic staff at the University of Ilorin in view of the paradigm shift from traditional or print information resources to electronic information resources.

Methodology

Research Design

Survey design was adopted in this study because it was considered appropriate as it allows the use of various data collections techniques such as questionnaires, interviews and observations, and it had been used in earlier related studies (e.g., Egberongbe, 2011). It also allows the researcher to draw on a large sample that is representative of the total population (Babbie, 2004).

Population of the Study

The population of the study consisted of the academic staff at the University of Ilorin, Nigeria, whose total number as at the time of this data collection was 847 (University of Ilorin 2010/2011 Annual Report). This total spreads across the twelve (12) faculties in the university. The faculties are:

1. Faculty of Agriculture
2. Faculty of Arts
3. Faculty of Basic Medical Sciences
4. Faculty of Business and Social sciences
5. Faculty of Clinical Sciences
6. Faculty of Communication and Information Sciences
7. Faculty of Education
8. Faculty of Engineering
9. Faculty of Law
10. Faculty of Pharmaceutical Sciences
11. Faculty of Sciences
12. Faculty of Veterinary Medicine

Sampling Methods

From the total population of 840 academic staff, a sample of 200 was taken using the simple random technique which gives every respondent in the population the equal opportunity of being selected. According to Israel model, it states taking sample size for $\pm 3\%$, $\pm 5\%$, $\pm 7\%$ and $\pm 10\%$ for Precision Levels where Confidence Level is 95% and $P=.5$. Going by the model, if ± 7 was taken for precision when the population is 840, the sample should be 163. This justifies the sample used in this study which is 200.

Data Collection Instrument

Questionnaire was the instrument used for data collection. The closed ended questionnaire was the instrument used and it was divided into two sections, A and B. Section A was designed to gather the respondents bio-data information while section B was administered to collect data on the level of use of e-resources. Section B was sub-divided into five parts. Parts i, ii, iii, iv, and v were based on the objectives and research questions of the study: Part i: Purpose of use of electronic resources; Part ii: Place of access to electronic resources; Part iii: Impact of electronic resources; Part iv: Satisfaction level; Part v: Hindrances to the use of electronic resources.

Validity of the Instrument

The instrument was validated to ensure both the content and construct validity. The instrument was given to two experts whose research areas of interest include electronic resource, for scrutiny and expertise judgment. This was done to check the appropriateness of the instrument before administration.

Reliability of the Instrument

To achieve the reliability of the instrument used for data collection, a split-half reliability method was used. The instrument was administered to twenty (20) academic staff from within (2) faculties in the university. Responses collected were subjected to Cronbach's alpha. The overall reliability of the questionnaire returned is $r = 0.51$ which is very reliable.

Data Collection Procedure

The questionnaire was personally administered to the respondents in their respective offices. The assistance got from colleagues also helped in the administration. It took two weeks to administer the questionnaire. Out of 200 copies of the questionnaire administered, 184 (92%) were completed and returned.

Data Analysis

Descriptive statistics including frequencies count and percentages were used in analyzing the collected data. Descriptive statistics was adopted because it is simple to use and understand.

Results

Demographic Data

Table 1: Distribution of respondents by faculty

Faculty	Frequency	Percentage
Agric	16	8.7
Art	20	10.9
Basic Medical Sciences	20	10.9
Business and Social Sciences	20	10.9
Clinical Sciences	20	10.9
Communication and Information Sciences	19	10.3
Education	19	10.3
Engineering and Technology	17	9.2
Law	15	8.2
Sciences	18	9.8
Total	184	100

Table 1 shows that 8.7% of the respondents were from faculty of agriculture, 10.9% from faculty of arts, 10.9% from faculty of basic medical sciences, 10.9% from faculty of business and social sciences, 10.9% from faculty of clinical sciences, 10.3% from faculty of communication and information sciences, 10.3% from faculty of education, 9.2% from faculty of engineering and technology, 8.2% from faculty of law, while 9.8% were from faculty of sciences. This shows that academics from the faculty of Art, basic Medical Sciences, Business and social sciences, Clinical sciences, Communication and Information Sciences, and Education have the highest percentage due to their high response to the research while academics from the faculty of Agriculture and most of communication and information sciences, 10.3% from faculty of education, 9.2% from faculty of engineering and technology, 8.2% from faculty of law, while 9.8% were from faculty of sciences. This shows that academics from the faculty of Art, basic Medical Sciences, Business and social sciences, Clinical sciences, Communication and Information Sciences, and Education have the highest percentage due to their high response to the research while academics from the faculty of Agriculture and most especially faculty of Law have lower percentage because the academics didn't respond well to the researcher.

Table 2: Demographic Information of Respondents

Demographics	Frequency	Percentage
Gender		
Male	121	65.8
Female	63	34.2
Total	184	100
Age		
20-30	16	8.7
31-40	51	27.7
41-50	67	36.4
51-60	38	20.7
60 and above	12	6.5
Total	184	100
Academic Rank		
Professor	13	7.1

Associate professor	21	11.4
Senior Lecturer	40	21.7
Lecturer I	38	20.7
Lecturer II	35	19.0
Assistant Lecturer	25	13.6
Graduate Assistant	12	6.5
Total	184	100
Educational Qualification		
PhD	85	46.2
Masters	71	38.6
Bachelor Degrees	28	15.2
Total	184	100

The demographic information of respondents who took part in the study in Table 2 shows that 121 (65.8%) were male while 63 (34.2%) were female. This indicates that more male than female took part in the study. Moreover, on the age distribution of respondents, the results indicates that the majority 67 (36.4%) were aged 41-50 years. This is followed by those between the ages of 31-40 years, numbering 51 (27.7%). Respondents between 51-60 years of age were 38 (20.7%), while 12 (6.5%) of the respondent were 60 and above. 16 (8.7%) of the respondent were between the ages of 20 part in the study in Table 4.2 reveals that 121 (65.8%) were male while 63 (34.2%) were female. This is followed by those between the ages of 31-40 years, numbering 51 (27.7%). Respondents between 51-60 years of age were 38 (20.7%), while 12 (6.5%) of the respondents were 60 and above. 16 (8.7%) of the respondents were between the ages of 20-30 years.

Regarding the academic rank of the respondents, the result reveals that 40 respondents representing (21.7%) were Senior lecturers, followed closely by Lecturer I 38 (20.7%) of the population and Lecturer II 35 (19.0%) of the population. The results also reveal that 25 (13.6%) and 21 (11.4%) of the respondents are Assistant lectures and associate Professor respectively, while 13 respondents representing (7.1%) were Professors while Graduate Assistants were 12 (6.5%) of the population. The table also shows that 85 (46.2%) are Doctorate degree holders, 71 (38.6%) hold masters degree, while 28 (15.2%) hold bachelor degree as their educational qualification.

Table 3: Purpose of using e-resources

To achieve this objective, respondents were asked to indicate their purpose of using electronic resources. The result obtained is presented in the table below.

Purpose	Yes	No
Curriculum Development	124 (67.4%)	60 (32.6%)
Research work	163 (88.6%)	21 (11.4%)
Entertainment	54 (29.3%)	130 (70.7%)
Self educational development	118 (64.1%)	66 (35.9%)
To meet technological growth	72 (39.1%)	112 (60.9%)
Others	19 (10.3%)	165 (89.7%)

Table 3 shows that the majority 163 (88.6%) of the respondents are using electronic resources for doing research work and 124 (67.4%) for curriculum development in their specialization, followed by 118 (64.1%) of respondent are using it for their self educational development. Whereas, 72 (39.1%) use

electronic resources to meet technological growth, similarly 54 (29.3%) of respondent use it for and less percentage (10.3%) of the respondent are using electronic resources for other purposes. The respondents which are 19 specifically use electronic resources for teaching purpose. (10.3%) of the respondent are using electronic resources for other purposes. The respondents which are 19 specifically use electronic resources for teaching purpose.

Table 4: Place of access to e-resources

Respondents were asked to indicate where they get access to electronic resource and how often do they access the resource. The results obtained were presented in the table below.

Place of access	Frequency (Yes)	% (Yes)	Frequency (No)	% (No)
University e-library	89	48.4	95	51.6
University library website	58	31.5	126	68.5
Search engines	123	66.8	61	32.2
Private subscription	108	58.7	76	41.3
E-databases	57	31.0	127	69.0
Others	6	3.2	178	96.8

The above table shows that the majority 123 (66.8%) of the respondents access electronic resources through search engines and 108 (58.7%) get access through private subscriptions. Followed by 89 (48.4%) of respondent get access in the e-library of the university. Whereas, 58 (31.5%) and 57 (31.0%) of the respondent get access on the library website and electronic databases respectively. Other place of access was the internet identified by 6 (3.2%) of the respondents.

Table 5: Frequency of e-resources usage

Variables	Frequency	Percentage
Daily	110	59.8
Weekly	36	19.6
Fortnightly	5	2.7
Monthly	1	0.5
Occasionally	26	14.1
Others	6	3.3
Total	184	100

The responses are grouped under six frequencies as depicted above table 4.7. Analysis of the consolidated responses reveals that, 59.8% of the respondents use and access e-resources and databases daily, while 19.6% use and access electronic resources weekly. Followed by use of e-resources occasionally with 14.1%, while 3.3% use and access e-resources when need arises. The result also shows that 2.7% access and use e-resources fortnightly, 0.5% of respondent only use and access e-resources monthly. These attitudes of respondents to daily usage and access may be due to easy access to free electronic resources via internet connectivity provided by the University authority for all academic and non academic staff, which is accessible in various faculties.

Table 6: Impact of electronic resources on the respondents

To achieve this objective, respondents were asked to indicate the impact of electronic resources on their discipline and their commonly used e-resources. The results obtained were presented in the table below.

Category	Frequency (Yes)	Percentage (Yes)	Frequency (No)	Percentage (No)
Aids research	181	98.4	3	1.6
Improve teaching ability	158	85.9	26	14.1
Brings academic to the fore front of your profession	128	69.6	56	30.4
Helps the development of the education system	157	85.3	27	14.7
Helps to foster relationship among academics	131	71.2	53	28.8
Others	8	4.3	176	95.7

Table 4.6 shows that, 181 (98.4%) respondents stated it aids research. Similarly, 158 (85.9%) expressed that e-resources improve teaching ability has an impact, and 157 (85.3%) indicated it helps the development of the educational system. However, 131 (71.2%) respondents stated fostering relationship among academics, while 128 (69.6%) expressed it brings academic to the fore-front of their profession. Others indicated access to current up-to-date information and broadening of horizon is the benefit of using electronic resources.

Table 7: Commonly used e-resources

E-resources	Frequency (Yes)	% (Yes)	Frequency (No)	% (No)
E-books	169	91.8	15	8.2
E-journals	159	86.4	25	13.6
E-magazines	60	32.6	124	67.4
E-newspapers	105	57.1	79	42.9
E-reference books	97	52.7	87	47.3
CD-ROM	33	17.9	151	82.1
E-dictionaries	101	54.9	83	45.1
Online reference databases	82	44.6	102	55.4
OPAC (Online Public Access Catalog)	54	29.3	130	70.7

With regard to most commonly used e-resources as presented in the above table, it shows that e-journals and e-books are more commonly used among the respondents with 169 (91.8%) and 159 (86.4%) respectively. 105 (57.1%) of the respondents use e-newspapers, while e-dictionaries are used by 101 (54.9%) of the respondents. E-reference books are also used by 97 (52.7%) of the respondents. Even though e-magazines, CD ROM, online reference databases and OPAC are in use but they constitute only less than 50% each of the total response with 32.6%, 17.9%, 44.6, and 29.3% respectively.

Table 8: Level of Satisfaction

Variables	Frequency	Percentage
Very satisfied	39	21.2
Satisfied	92	50.0
Unsatisfied	20	10.9
Do not know	33	17.9
Total	184	100

The table shows that 50.0% of the respondents were satisfied, while 21.2% were very satisfied with e-resources they use in the university. 17.9% and 10.9% of the respondents were neutral and not satisfied on the e-resources they use in the university.

Table 9: Hindrances to electronic resources usage

To achieve this objective, respondents were asked to indicate the factors that contribute to or hinder them from using electronic resources. The result obtained is presented in the table below.

Variables	Frequency (Yes)	% Yes	Frequency (No)	% (No)
Lack of awareness of e-resources	41	22.3	143	77.7
Lack of technical know-how	51	27.7	133	72.3
Slow Internet service	110	59.8	74	40.2
Lack of online access	78	42.4	106	57.6
Inadequate computers	25	13.6	159	86.4
Lack of materials relevant to your field	19	10.3	165	89.7
Dislike of reading from a screen	50	27.2	134	72.8
Lack of constant power supply	88	47.8	96	52.2
Other	3	1.6	181	98.4

Table 9 shows factors limiting use of the electronic resources. Slow internet service (59.8%), lack of constant power supply (47.8%), and lack of online access (42.4%) were major factors hindering the usage of e-resources. Similarly, other constraints like, lack of technical know-how, dislike of reading from a screen and lack of awareness of e-resources are also often affecting the use of e-resources with 27.7%, 27.2% and 22.3% respectively. Other less limiting factors were inadequate computers (13.6%), lack of materials relevant to your field (10.3%) and others which stated not readily available e-resources information and difficulty in using user name and password given to staff as means of getting access to electronic databases subscribed to by the university (1.6%). (59.8%), lack of constant power supply (47.8%), and lack of online access (42.4%) were major factors hindering the usage of e-resources. Similarly, other constraints like, lack of technical know-how, dislike of reading from a screen and lack of awareness of e-resources are also often affecting the use of e-resources with 27.7%, 27.2% and 22.3% respectively. Other less limiting factors were inadequate computers (13.6%), lack of materials relevant to your field (10.3%) and others which stated not readily available e-resources information and difficulty in using user name and password given to staff as means of getting access to electronic databases subscribed to by the university (1.6%).

Discussion of Findings

The analysis of findings revealed that majority of the academic staff use e-resource for doing research, curriculum development and self educational development. It was also revealed that the usage of e-resources for teaching purpose is low due to lack of infrastructure to implement it. These findings were confirmed by the study of Omotayo (2010), who studied the access, use, and attitudes of academics toward electronic journals at Obafemi Awolowo University, Ile Ife, Nigeria. Based on the findings also, search engines and private subscription were the most avenues used to access electronic information. The University e-library is slightly used by academic staff. The reason was due to the constraint faced when they want to access electronic information. This corroborates Ramayah (2006).

The study also revealed that being up-to-date in educational information has been an impact of electronic resource in their discipline. The research identified e-book, e-journals, e-newspapers, e-reference and e-dictionaries as the popular electronic resources among academics at the University of Ilorin. This finding is related to Mulla (2011) in his survey on Use of Electronic Resources by Faculty Members in HKBK College of Engineering, Bangalore, India. The study further revealed that the majority of the respondents were satisfied with the e-resources. The findings also revealed that only few academics were not satisfied with the e-resources available within university environment, this was due to their attitude towards it. This finding is confirmed by the study of Ansari and Zuberi (2010).

The analysis of findings further revealed that academic staff members are hindered by slow internet service, lack of constant power supply, not readily available e-resources information, and lack of online access. It also revealed difficulty in using user name and password given to staff as means of getting access to electronic databases subscribed to by the university constituted a constraint to usage of electronic resources. This is in harmony with the study of Oduwole and Akpati (2003) who investigated the accessibility and retrieval of electronic information at the University of Agriculture Library, Abeokuta, Nigeria. The survey of Ojo and Akande (2005) which examined student's access, usage and awareness of electronic information resources at the University College Hospital (UCH) Ibadan, Nigeria also confirms this finding.

Conclusion

Electronic resources are the best means of getting current and up-to-date information. Academics use these electronic resources, but this invaluable information sources have not been fully utilized by these academic staff as shown from the above findings due to slow internet service, lack of constant power supply and lack of online access. While a majority of academics are quite satisfied with electronic resources, they still prefer to use print version of the resources. Electronic resources are mostly used for research, curriculum development and self-development, but it has not been fully implemented for lecturing purpose. Electronic resources have also impacted academics in ways like being up-to-date, research and improvement in teaching ability. Although, majority of the respondents are aware of the existence of electronic e-resources in the University, the rate at which the respondents depend on search engines and private subscription for electronic resources shows that the internet facilities provided by the University authority is serving the academic staff to a reasonable and useful point. This research finding corroborates with Ansari & Zuberi (2010) in similar studies at the University of Karachi.

Recommendations

Based on the findings of this study, the following recommendations were made, that:

- The internet facilities of the university should also be improved to facilitate easy access to the e-resources of the University in other to encourage more usage.

- Re-orientation of academic staff of the University on how to access the electronic resources/databases subscribed to by the University is strongly recommended. This will facilitate effective and efficient usage of the resources.
- Every academic staff should be provided with a computer plus Internet access in their offices.
- The university library should provide more of online journals and electronic resources.
- The problem of lack of constant power supply should be addressed urgently.

Suggestions for Further Research

This study has been able to assess the usage of electronic resources by academic staff at the University of Ilorin by identifying the purpose, place of access, impact, satisfaction and hindrance of use these resources. Further research relating to this study could be Usage and acceptability of e-resources in University of Ilorin; to emphasize the use of e-resources by lecturers and students in the University community. Furthermore, study relating to Perception and usage of e-resources and the internet by academics in Kwara State can be conducted to find out how academics compare e-sources with print sources and how they perceive the advantages of e-sources and problems for accessing them.

References

- Ansari, M. N. & Zuberi, B.A. (2010) Use of electronic resources among academics at the University of Karachi. *Library Philosophy and Practice*, 4-5.
- Aramide, K. A., & Bolarinwa, O. M. (2010). Availability and use of audiovisual and electronic resources by Distance Learning Students in Nigerian Universities: A case study of National Open University of Nigeria (NOUN), Ibadan Study Centre. *Library Philosophy and Practice*
- Babbie, E. (2004). *The practice of social research* (10th ed.). Belmont, CA: Thomson/Wadsworth.
- Chakravarty, R. & Singh, S. (2005). E-resources for Indian universities: New initiatives. *SRELS Journal of Information Management*, 42(1), 57-79.
- Dadzie, P. S. (2005). Electronic Resources: Access and usage at Ashesi University College. *Campus-Wide Information Systems*, 22(5)
- Egberongbe, H. S. (2011). The use and impact of electronic resources at the University of Lagos. *Library Philosophy and Practice*
- Fabunmi, B. A. (2009). Challenges and prospects of virtual libraries in universities in Nigeria. *European Journal of Scientific Research*, 33(1), 202-208
- Hardy, R., Oppenheim, C., & Rubbert, I. (2002). Pricing strategies and models for the provision of digitized texts in higher education. *Journal of Information Science* 28(2), 97-110.
- Haridasan, S. & Khan, M. (2009). Impact and use of e-resources by social scientists in National Social Science Documentation Centre (NASSDOC), India. *The Electronic Library*, 27 (1), 117-133.
- Israel, G. D. (2003). Determining sample size. *Fact Sheet PEOD-6*, Florida Cooperative Extension. Retrieved from <http://www.edis.ifas.edu>

Klobas, J. E. (1995). Beyond information quality: Fitness for purpose and electronic information resource use. *Journal of Information Science*, 21(2), 95-114.

Kumar, B.T.S. & Kumar, G.T. (2010). Perception and usage of e-resources and the Internet by Indian academics. *The Electronic Library*, 28(1), 137 - 156

Macias-Chapula, C. (1995). Development of a soft systems model to identify information values: Impact and barriers in a health care information system. *Journal of Information Science* 21(4), 283-288.

Madhusudhan, M. (2007). Internet use by research scholars in University of Delhi, India. *Library Hi Tech News*, 8, 36-42.

Mulla, K.R. (2011). Use of electronic resources by faculty members in HKBK College of Engineering: A survey. *Library Philosophy and Practice*.

Oduwole, A.A., & Akpati, C. B. (2003). Accessibility and retrieval of electronic information at University of Agriculture library, Abeokuta Nigeria. *Library Review* 52(5), 228-233

Ojo, R.A., & Akande, S.O. (2005). Students' access, usage, and awareness of electronic information resources at the University College Hospital, University of Ibadan, Nigeria. *Lagos Journal of Library and Information Science* 3(1), 16 - 24.

Omotayo, B.O. (2010). Access, use, and attitudes of academics toward electronic journals: A case study of Obafemi Awolowo University, Ile Ife. *Library Philosophy and Practice*. Retrieved from <http://unllib.unl.edu/LPP/omotayo.htm>

Papatheodorou, C. (2006). Analysing and evaluating usefulness and usability in electronic services. *Journal of Information Science*, 32(5), 400-419.

Pelzer, N.L. & Wiese, W.H. (2006). Veterinary medical libraries in the twenty-first century.

Ramayah, T. (2006). Interface characteristics, perceived ease of use, and intention to use an online library in Malaysia. *Information Development*, 22(2), 123-33

Riccio, H.M. (2001). The virtual library: Past, present, and future. Retrieved from: <http://www.llrx.com/features/virtuallibrary.htm>

Sharma, C. (2009). Use and impact of e-resources at Guru Gobind Singh Indraprastha University (India): A case study. *Electronic Journal of Academic and Special Librarianship*, 10(1), 3-8

Sukula, S. (2010). *Electronic resource management: What, why, and how*. New Delhi: India Ess Ess Publication.

Thanuskodi, S. (2010). Use of Internet and electronic resources for medical science information: A case study. *Journal of Communication*, 1(1), 27-44

Tsakonas, G., & Papatheodorou, C. (2006). Analysing and evaluating usefulness and usability in electronic services. *Journal of Information Science*, 32(5), 400-419.

University of Ilorin. (2011). *University of Ilorin Annual Report 2010/2011*. Ilorin, Nigeria.

Ya'u, Z.Y. (2003). Towards a Virtual Library for Nigeria. Retrieved from http://portal.unesco.org/en/ev.phpURL_ID=16043&URL_DO=DOPRINPAGE&URL_SECTION=201.html

The Importance of Open Access Initiatives to the Serials Crisis in Nigerian Academic and Research Libraries

K. N. Igwe

R. O. Oyewo

S. M. Yusuf

K.N. Igwe is in the Department of Library and Information Science, School of Communication and Information Technology, Federal Polytechnic Offa, Kwara State, Nigeria, and can be reached at: knigwe@yahoo.com. R. O. Oyewo is Librarian I, at the College Library, Oyo State College of Agriculture, Igbo-Ora, Oyo State, Nigeria. She can be reached at: oyerachael@gmail.com. S. M. Yusuf is Head, Library and Media Resource Centre, Premiere Academy, Lugbe, Abuja, Nigeria and can be reached at: onikunkewu1@yahoo.com

Introduction

Academic and research libraries (ARLs) are established to support the mission and goals of their parent institutions in the areas of teaching, learning and research, through the provision of information resources and information services. One major way these (ARLs) have been executing their functions is through subscriptions to serial publications, especially scholarly journals in different fields of knowledge. However, due to inadequate funding, and continuous rising cost of many journals, these libraries have not been able to maintain constant annual subscriptions in order to meet the ever-growing information needs of their users such as lecturers, researchers, scholars, postgraduate students, undergraduates and administrative personnel. This led to the concept of serials crises, which is described as chronic increases in the subscription cost of scholarly journals and declining library budgets. Serials crises is a global issue, as libraries in developed countries are equally experiencing it. A case in point is that of famous Harvard University Library in the USA, as the Director, Robert Danton complained that it could no longer afford the price hikes imposed by many large journal publishers (Kolawole and Igwe, 2012). It is however, more pronounced in developing and underdeveloped nations.

Serials crises have continued to generate a great deal of concern among academic and research libraries. Mason (2007) points out that the problems faced by academic librarians in effort to maintain their serials collection include explosion in academic research, budgetary cutback, lack of storage space, increase in price of academic publications, cost of binding and exchange rate. As a result, librarians find it difficult to maintain subscription to all the journals that their scholars and users want to have access to. Nigeria is one of the developing countries in the world that have the above challenges hindering serials acquisition. The survey of users by Anunobi, Nwakwuo and Ezejiofor (2010) revealed that some academic and research libraries are not providing the needed serials to their users, owing to the identified challenges.

Developments in Information and Communication Technologies (ICT), especially the Internet and the World Wide Web have made possible an unprecedented collaboration in the production, dissemination and exchange of information by people all over the world irrespective of their geographical locations. This development has given rise to various movements aimed at enabling free and open access to information resources by people across the globe. One of such movement is the open access (OA) initiatives that started a decade ago. OA is seen as a new model of scholarly communication with emphasis on free availability of scholarly literature on the public Internet to scholars, researchers and the general public across the globe in order to facilitate scholarly communication and enhance scholarly research. Scholarly communication has to do with ways through which scholars and researchers disseminate their research findings to colleagues and the general public, mainly via publication in journals, presentations in conferences and academic seminars.

According to Christian (2008), the open access movements and initiatives emerged in response to increasing legal and economic barriers by commercial scholarly publishers, which made access to research output and information difficult, especially to people in developing countries of the world. It is in response to the need for alternative publishing mechanism for scholarly literature that attempts to circumvent the high subscription prices associated with publishing by publishers across the globe. It also seeks to accommodate the natural desire of academicians to share their research findings with others and to build on what their colleagues are discovering. This paper discusses the concept of OA and its development, examines the state of AO adoption in Nigeria through review of recent literature, provides brief description and uniform resource locator of some of OA serials, and provides workable strategies which academic and research libraries in Nigeria can adopt to take advantage of the OA initiatives in order to overcome serials crises.

The Concept of Open Access (OA) and its Benefits

According to Budapest Open Access Initiative (BOAI), the concept of Open Access (OA) refers to "the free availability on the public Internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself" (BOAI, 2002).

The Bethesda Statement (2003) defines OA, where "The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship as well as the right to make small numbers of printed copies for their personal use".

Suber (2010) states, "OA literature is digital, online, free of charge, and free of most copyright and licensing restrictions" stressing that open access contents are not restricted only to peer-reviewed research articles; they can be in any formats from texts and data to software, audio, video, and multi-media. Thus, it has the following characteristics:

- Free availability of scholarly publication.
- Free of copyright and licensing restrictions.
- Materials are available online or on the internet.
- Material is full text.
- Material can be accessed by anybody from anywhere without any discrimination.
- Materials can be freely used by anyone.

OA contents can be in any format from texts and data to software, audio, video, and multi-media, scholarly articles and their preprints. It also provides numerous benefits and opportunities to virtually all sectors and stakeholders in the society. In the area of research and publication, through OA researchers have wider visibility and usage of their research findings. They have a significantly larger and more diverse audience. Increased exposure to research also increases citation rate. It provides an avenue to connect with a global society more easily and researchers can publish without printing costs. On the part of teaching staff and students, by putting rich and poor on an equal footing, OA provides free articles for teaching and learning. To authors, OA gives authors a worldwide audience larger than that of any subscription-based journal, no matter how prestigious or popular, and demonstrably increases the visibility and impact of their work (Willinsky, 2010, Suber, 2010). Thus, readers around the globe can have barrier-free access to the latest literature and research findings of authors.

OA is also beneficial to the society. Society as a whole benefits from an expanded and accelerated research cycle in which research can advance more effectively because researchers have immediate access to all the findings they need. For journals and publishers, OA makes their articles more visible, discoverable, retrievable, and useful. If a journal is OA, then it can use this superior visibility to attract submissions and advertising, not to mention readers and citations (Suber, 2010). To funding agencies, OA increases the return on their investment in research, making the results of the funded research more widely available, more discoverable, more retrievable, and more useful. Thus it provides fairness to taxpayers by providing open access to the results of publicly-funded research (Suber, 2010). In addition, governments benefit from OA as funders of research and OA also promotes democracy by sharing non-classified government information as widely as possible. To the citizens, OA gives them access to peer-reviewed research, which is unavailable in public libraries, and gives them access to the research for which they pay taxes. It accelerates not only research but the translation of research into new medicines, useful technologies, solved problems, and informed decisions that benefit everyone (Suber, 2010). OA also benefits nations. It incorporates local research into all interoperable network of global knowledge; increases impact of local research, providing new contacts and research partnerships for authors; removes professional isolation and strengthens economies through developing a strong and independent base.

On the part of libraries and information centres, OA solves the pricing and permission crisis for scholarly journals. OA also serves library interests in other indirect ways. Librarians want to help users find the information they need, regardless of the budget-enforced limits on the library's own collection. Academic librarians want to help faculties increase their audience and impact, and help their institution raise its research profile (Suber, 2010). To tertiary institutions, they benefit from their researchers' increased impact and increase their visibility. OA reduces their journal expenses and advances their mission to share knowledge.

Thus, open access provides several benefits to researchers, educators, journals, publishers, funding agencies, government and academic institutions around the world. It is an effective vehicle to information exchange between all countries (Jain, 2012).

The Growth and Development of Open Access Initiatives

According to Jain (2012), in 1994, Steven Harnad created interest in OA in the academic and publishing world through "The Subversive Proposal", which called authors to deposit their work on Internet File Transfer Protocol (FTP) servers. In 1998, Dr John Willinsky founded the Public Knowledge Project, which was an international research initiative promoting publishing alternatives for scholarly journals, conferences, and monographs. Later, three groups took initiatives towards the birth of open access: the Budapest Open Access Initiative (BOAI), Bethesda Statement and Berlin Declaration. The Budapest Open Access Initiative (BOAI) took place in 2001, where the term "open access" was coined and the two strategies of Green OA (self-archiving) and Gold OA (open access publishing) were devised. The "golden

road" of OA journal publishing is where journals provide OA to their articles (either by charging the author-institution for refereeing/publishing outgoing articles instead of charging the user-institution for accessing incoming articles, or by simply making their online edition free for all). The "green road" of OA self-archiving is where authors provide OA to their own published articles, by making their own e-prints free for all.

Another initiative was the Bethesda Statement on Open Access Publishing in 2003, which continued to promote a gradual transition to open access publishing within the biochemical community. It stated that "open access will be an essential component of scientific publishing in the future and that works reporting the results of current scientific research should be as openly accessible and freely useable as possible. Libraries and publishers should make every effort to hasten this transition in a fashion that does not disrupt the orderly dissemination of scientific information" (Bethesda Statement on Open Access Publishing, 2003).

In 2003, the Berlin Declaration further emphasised on the Open Access to Knowledge and stated, "Our mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society. New possibilities of knowledge dissemination not only through the classical form but also increasingly through the open access paradigm via the Internet have to be supported" (Berlin Declaration on Open Access, 2003).

Other endeavours shaping the open access initiative are Organisation for Economic Co-operation and Development's (OECD) Declaration on Access to Research Data from Public Funding, 2004, as well as the International Federation of Library Associations and Institutions' (IFLA) Statement on Open Access to Scholarly Literature and Research Documentation, 2004. In 2007, the Canadian Institutes of Health Research (CIHR) announced an open access mandate for CIHR-funded research. In a similar vein, in January 2008 the National Institute Health (NIH) released the text of its new open access mandate for NIH-funded research. The mandate requires all NIH funded researchers to deposit their article into PubMedCentral - an open access archive (Christian, 2008). On April 10, 2012 at Washington, the World Bank announced that it will implement a new OA policy for its research outputs and knowledge products, effective July 1, 2012. The policy will also apply to the Bank's research published with third party publishers including the institution's two journals: World Bank Research Observer (WBRO) and World Bank Economic Review (WBER), and will be freely available at www.openknowledge.worldbank.org. (Kolawole and Igwe, 2012).

State of Open Access Adoption in Nigeria

Open access model of scholarly communication is yet to be fully adopted by researchers and other stakeholders in Nigeria. A study by Christian (2008), shows that more than 73% of respondents in academic and research institutions in Nigeria are completely unaware and unfamiliar with the open access initiatives, let alone its adoption. In another study of academics in two first generation Nigerian universities by Utulu and Bolarinwa (2009), findings revealed insignificant use of OA resources among the academics. According to Gbaje (2010), in an effort to popularize open access initiative in Nigeria, a 2-day workshop in collaboration with Electronic Information for Libraries Network (www.elf.net) on "Open Access Repositories: New Model for Scholarly Communication" was organised in 2008 at Ahmadu Bello University, Zaria, 89 participants comprising: policy makers from universities and research institutes, scholars and researchers, editors-in-chief of peer review scientific and scholarly journals, university librarians and systems librarians as well as university and ICT research experts from 45 different institutions participated. Discussions on the importance of OA initiatives to the academia and society at large, strategies for formulating appropriate policy for implementing and sustaining open institutional repositories, copyright issues, open content licenses and strategies for the promotion and marketing of institutional repositories were deliberated. In November, 2009 a follow-up workshop was

organized by the organizer of the first workshop with the theme "Open Access: Maximizing Research Quality and Impact". Two years after the first workshop, participants attributed the slow pace of the adoption of OA in their institutions to lack of ICT infrastructure such as dedicated server, bandwidth, technical staff and top management apathy.

Recent studies by Ivwighrehweta and Onoriode (2012, a, b, c) revealed major constraints to the adoption and use of OA journals. A good percentage of the lecturers surveyed at the University of Benin and Western Delta University Oghara, as well as postgraduate students of the University of Ibadan lack knowledge of open access journals. Other identified factors were unavailability of Internet facilities and lack of Internet search skills among the respondents.

Open Access Serials and their Uniform Resource Locator (URL)

Directory of Open Access Journals (DOAJ - www.doaj.org). DOAJ is a free full-text quality controlled (peer-reviewed) scientific and scholarly journals covering all branches of knowledge. It is a digital online resource centre that parades a lot of e-journals from different parts of the world. It can be accessed by title or subject of the journal. The subjects covered are in virtually all fields and subjects with the following categorizations: agriculture and food sciences, arts and architecture, biology and life sciences, business and economics, chemistry, earth and environmental sciences, general works, health sciences, history and archeology, languages and literature, law and political science, mathematics and statistics, philosophy and religion, physics and astronomy, general science, social sciences, technology and engineering, Library and information sciences, media and communication, education, sociology and anthropology, psychology and sports science are under social sciences. The aim of DOAJ as contained in its URL is to increase the visibility and ease of use of open access scientific and scholarly journals thereby promoting their increased usage and impact. At present, DOAJ has over 7,700 academic journals with over 791,000 articles in various fields of knowledge.

Public Library of Science (PLOS) - www.plos.org. PLOS is leading a transformation in research communication. It advocates for free distribution of science and medical published articles. It publishes seven peer-reviewed OA journals - PLOS one, medicine, biology, genetics, computational biology, pathogens and neglected tropical diseases with their respective websites for easy retrieval.

Academic Journals - www.academicjournals.org. It provides free access to over 100 journals to the international community without financial, legal or technical barriers. Categories of its journals include medical sciences, social sciences, biological sciences, agricultural sciences, physical sciences, engineering, legal studies, arts and education, and others.

OMICS Publishing Group - www.omicsonline.org. It is an open access publication model for the dissemination of research articles to the global community. It has many journals in various fields and sub-disciplines such as medical and clinical science, pharmaceutical sciences, engineering, chemistry, environmental, life sciences, management and ICT.

Bioline International (BI) <http://www.bioline.org.br/> BI is a specialized OA collection that offers open access to over 55 bioscience journals, reports and other special publications published in developing countries (www.bioline.org).

Other OA journals and initiatives include:

Oxford Journals - www.oxfordjournals.org/oxfordopen/

Multidisciplinary Digital Publishing Institute (MDPI - www.mdpi.com). It publishes over 70 diverse peer-reviewed electronic open access journals.

Scientific Electronic Library Online (SciELO - www.scielo.org) with collections that are organized geographically.

Open J-Gate - <http://openjgate.org/>. The Open J-Gate is an electronic gateway to global journal literature in open access domain.

Open Access Central - <http://www.openaccesscentral.com/> links to BioMed Central, Chemistry Central and PhysMath Central.

Basic open access websites (www.lib.unconn.edu/about/publications) - provides many links to open access issues and publication.

ABC - Chemistry: Directory of Free Journals in Chemistry - www.abc-chemistry.org

Directory of Open Access Repositories - OpenDOAR (<http://www.opendoar.org>). It presently has over 2,000 archives.

Directory of Open Access Books (www.doabooks.org). At present, DOAB has over 854 academic peer-reviewed books from over 25 publishers, and is growing. DOAB can be searched by three major access points - title, subject and publisher.

Strategies for taking Advantage of the Open Access Initiatives for Serials Crises in Nigerian Academic and Research Libraries

Many academic and research libraries in Nigerian especially in polytechnics, colleges of education, colleges of agriculture, schools of health technology, institutes, and research centres are very far from the realities of the digital age. There is hardly any available computer terminal linked to the net for users. OA journals and other initiatives can provide relief from the serials crisis and give library practitioners the opportunity to build their collections without the cost associated with purchasing serial titles, and still retain the interests of their users. OA journals and collections by OA initiatives offer unique perspectives. For example, studies show that the information in international journals is often geographically-based and specific to the local regions in which the journals are published (Hazen, 2004). One study notes that the "researchers from a specific geographical region have better access, understanding and expertise on plants in their geographic area ... these journals provide unique and specialized knowledge available only from these sources" (Sweezie, Caidi, and Chan, 2007). The unique, locally-based research materials published in these journals may not be otherwise available to other researchers if not via OA.

For Nigerian academic and research libraries to take advantage of OA initiatives, they should consider and implement the following:

Provision of a separate unit in the library for Open Access Resources with Internet connectivity: This unit, when created may be tagged 'Open Access Resources Section'. It should have at least fifty sets of functional computer systems with other necessary peripherals that are linked to the Internet with higher bandwidth. This unit should be manned by an ICT compliant librarian that is knowledgeable about the trends in online resources and digital librarianship.

Creation of Library Portals: Library portal is a single web access point to the resources and services of a library on the Internet. The content of portals includes links to full-text e-journals, e-books, e-zines, online catalogues, digitized special collections, government documents, electronic reference sources, online information literacy instructions and digital versions of traditional library services. Such portal should have links to OA journals and other collections. The library portal should be structured in a way that URL of both available and recent OA collections will be added for easy retrieval of full-text content by users.

Formation of consortium among academic and research libraries: This has always been advocated for as a strategic means of achieving collective goals at reduced cost. Such consortium can be for the procurement of ICT components, deployment of higher Internet bandwidth, contracting of consultants/specialists in ICT-based services, sharing information on recent open access serials, innovative projects for service delivery and so on.

Delivery of Information Literacy Education: Provision of access to e-resources requires corresponding information literacy instructions to users for full exploitation of information resources. Library portal is a tool for delivering online information literacy education. Packaged content and tutorials on such a course can be placed on the portal for easy accessibility by patrons. In addition, making information literacy education a compulsory course for all fresh students in academic institutions will position them to be information literates as well as make them to be well informed on the strategies of and ethical issues in information resources utilization.

Conclusion

There is no gainsaying the fact that academic and research libraries that still rely on traditional services alone are on the verge of extinction. As such, they will no longer attract the interest of techno-savvy information users that always need desktop access to information resources. With the announcement by Encyclopedia Britannica, after 244 years, in The New York Times to discontinue print version and focus primarily on online versions is an indication that e-resources is the future direction of information services. This calls for a wake up on the part of library practitioners to the global trends. Also, there are many subject-based open access journals and publications on the Internet from different tertiary institutions, organisations, publishers, scholars and open access advocates across the globe, which librarians in academic and research libraries should be aware of. In addition, many print-based subscription journals are converting to open access. Librarians should conduct regular online search for the website of these OA resources and make them available to their users. Links to the journals should be properly classified according to subjects and made available on the library portal for easy retrieval of content. A library that provides access to the afore-mentioned open access journals and other e-resources will definitely overcome serials crises thereby satisfying the information needs of users in the digital era.

References

Anunobi, C.V., Nwakwuo, O.P., & Ezejiolor, V.O. (2010) Serials acquisition problems in Nigerian university libraries. *International Journal of Library & Information Science*, 2 (7):137 - 142.

Berlin Declaration on Open Access (2003). Berlin Declaration on open access to knowledge in the sciences and humanities. <http://oa.mpg.de/openaccess-berlin/berlindeclaration.html>

Bethesda Statement (2003). Bethesda statement on open access publishing. Available at: <http://www.earlham.edu/~peters/fos/bethesda.htm>

Christian, G.E. (2008). Issues and challenges to the development of open access institutional repositories in academic and research institutions in Nigeria. A research paper prepared for International

Development Research Centre, Ottawa, Canada. Available at:
<http://idlibnc.idrc.ca/dspace/bitstream/10625/36986/1/127792.pdf>

Gbaje, E.S. (2010). Open access journal publishing in Ahmadu Bello University Zaria, Nigeria. Paper presented at the 76th General Conference and Assembly of the International Federation of Library Associations and Institutions (IFLA), 10 -15 August, 2010, Gothenburg, Sweden.

Giarlo, M.J. (2005). The impact of open access on academic libraries. Available:
<http://lackoftalent.org/michael/papers/532.pdf>

Harnad, S. (2010). Open access archivangelism. Available: <http://openaccess.eprints.org/>

Hazen, D. (2004). International information and the postmodern academy. *Collection Management*, 28 (1 & 2): 147 - 180.

Ivwhighrehweta, O., & Onoriode, O. K. (2012a). Open access and scholarly publishing: Opportunities and challenges to Nigerian researchers. *Chinese Librarianship: an International Electronic Journal*, 33. URL:
<http://www.iclc.us/cliej/cl33IO.pdf>

Ivwhighrehweta, O., & Onoriode, O. K. (2012b). Awareness and use of open access journals by Lecturers at Western Delta University, Oghara, Nigeria. *Library Philosophy and Practice*. Available at:
<http://www.webpages.uidaho.edu/~mbolin/ivwhighrehweta-onoriode2.htm>

Ivwhighrehweta, O., & Onoriode, O. K. (2012c). Awareness and use of open access journals by LIS Students at the University of Ibadan, Nigeria. *Library Philosophy and Practice*. Available at:
<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1793&context=libphilprac>

Jain, P. (2012). Promoting open access to research in academic libraries. *Library Philosophy and Practice*. Available at: <http://www.webpages.uidaho.edu/~mbolin/jain.htm>

Kolawole, A.A., & Igwe, K.N. (2012) *Online resources and virtual libraries for information services in the digital age*. Offa: Wumi Commercial Press. 208p.

Mason, M. K. (2007). Academic research, scholarly publishing and serials crisis. Available at:
http://www.mayak.com/papers/journal_crisis.html.

Suber, P. (2010). Open access overview: Focusing on open access to peer-reviewed research articles and their preprints. Available: <http://www.earlham.edu/~peters/fos/overview.htm>

Sweezie, J, Caidi, N. & Chan, L. (2007) Library adoption of open access journals: a case study of Bioline International. *Proceedings of Conference on Electronic Publishing at Vienna, Austria, June, 2007*. Available at:
<http://open.utoronto.ca/images/stories/doc>

Utulu, S.C.A., & Bolarinwa, O. (2009) Open access initiatives adoption by Nigerian academics. *Library Review*, 58 (9): 660 - 669.

Willinsky, J. (2010). The access principle: The case for open access to research and scholarship. Available at: <http://mitpress.mit.edu/catalog/item/default.asp>

TEI and So Can You: Corpus Linguistics and the Text Encoding Initiative

Lindsey A. Halsell

Lindsey A. Halsell can be reached at: lindseyhalsell@gmail.com

Introduction

The Text Encoding Initiative (TEI) is a metadata encoding and interchange format that exists to support the humanities research community. TEI came into being in 1987 and has since undergone a number of version updates, leading up to the current iteration: TEI P5. Managed by the TEI Consortium, TEI offers a series of guidelines (notably it is a *guideline* and not a *standard*) to facilitate the organization of research (Ide & Sperberg-McQueen, 1995). While TEI has been adopted by researchers throughout the humanities, this paper will focus on how the TEI has been used in projects within linguistics; specifically, how it has been employed for organization, interchange, and encoding of linguistic corpora. After reviewing many corpus linguistics projects, the question was raised: how does a linguist learn how to implement the TEI guidelines in a meaningful way? Or, how does a linguist transition to a metadata expert? It is proposed that the bulk of information that one requires is readily available online for those who know how to look. Linguists and librarians have been sharing their knowledge on the Web for years, resulting in a significant amount of resources for the canny searcher.

Literature Review

The following is a literature review of how researchers have used the TEI to support projects in corpus linguistics. Throughout this research, a number of trends emerged; the most notable being that corpus linguistics work with the TEI has evolved significantly since it was introduced in the late 20th century. Work with the TEI schema has progressed from being a largely ad hoc affair to being one with more fully defined guidelines and standards. Additionally, there has been a great emphasis on the need for portable and interchangeable encoding that is accessible to the wider academic community.

The encoding strategy for the British National Corpus (BNC) was discussed in Dunlop (1995) and has become a well-cited article, providing a model for other work with corpora. The BNC is a 100 million word corpus of modern British English created to facilitate linguistic research (p. 85). Its primary goal "is that it should be interchangeable between archive and user sites" (p. 86). Since the corpus focuses on modern English they had to make a concerted effort to "[trace] copyright holders and [obtain] permission for a number of types of worldwide use" (p. 86). In terms of the TEI header, the BNC made a number of decisions particular to their project. For example, their file description section does not list all the texts in the corpus, but instructs users to consult the headers of individual texts for additional details. They also chose to forgo the publisher statement (since there are so many publishers represented) in favor of the <resp> element, which is used to identify relevant archival sites (p. 88). Within the <encodingDesc>, there is a <projectDesc> element that "gives a prose description of the British National Corpus project" (p. 89). Finally, the language usage element has a level of uniformity to it, since the entire corpus is based on modern British English; thus, no special challenges were found there (as there typically would be in a linguistics corpus).

In 1995, Nancy Ide gave a speech about the need for standards in encoding large scale linguistic datasets. While she does not discuss any particular corpora, she states that, "The upsurge of interest in empirical methods for language modelling has led inevitably to a need for massive collections of texts of all kinds." She also suggests that there should be a variety of base tagsets for working with a variety of types of corpora. This is part of a continued emphasis on moving away from ad hoc encoding systems. However

in retrospect, it seems inevitable that TEI projects at the time would be ad hoc, since there was little, if any, precedent for researchers to emulate.

Romary, et. al. (1999) present another example of adapting TEI to their particular linguistic needs. Their project, SILFIDE (Serveur Interactif pour la Langue Française, son Identité, sa Diffusion et son Etude), is not described as a corpus; however, it is a "platform designed for the dissemination of standardized data and tools relating to the French language" (p. 33). They found that it was difficult to consistently develop an appropriate TEI header for all of their documents, and thus chose some fields that were mandatory for all SILFIDE resources and permitted a wide range of acceptable options for other TEI elements (p. 35). Although it was difficult to develop a system within the TEI that worked for this project, the researchers appreciated that TEI offered the "opportunity to share a kind of philosophy in the encoding of textual documents" and they predict that it will be particularly valuable when they are ready to exchange resources (p. 37). Again, one finds the focus on sharing linguistic data and working towards an methodology for encoding linguistic information.

Snapshot is a project that takes "snapshots" of the web and encodes them into a corpus of web documents; thus far, it has curated a collection of over 10 million "tokens" (Walker, 1999, p. 186). This project "is primarily concerned with extracting textual data from Web documents and providing a relevant context for it" (p. 187). One challenge faced by the project is defining what constitutes a document. Is a web page a complete document? Is a website considered an anthology? These are the sorts of questions that arise from insufficient encoding standards for the medium of the Web. Snapshot uses TEI-Lite for re-encoding websites as tokens in their database (p. 186). Interestingly, this project is faced with "encoding-encoding," since web sites are already encoded in HTML, they have to figure out which parts of the encoding are relevant to their corpus, and which parts of the HTML are, for example, merely stylistic (p. 186). A standard for encoding corpora had not yet emerged in 1999, however, Walker used Dunlop's (1995) work on encoding the British National Corpus as a paradigm for Snapshot, which shows the importance of making one's academic work available for the community, so standards and best practices can be developed as soon as possible.

Gu (2006) discusses a corpus of "situated discourse," that is, a corpus that consists of multimodal (typically video) documents. This is corpus linguistics from the perspective of social situations and discourse analysis, rather than that of morpheme/sentence/utterance-level considerations. By focusing on the video "text," the consideration of a number of new elements is enabled (p. 127). The encoding is done with XML and TEI P4. They chose to tag analytic units as <element>, and included a <situation> attribute to encode data on how the situation is perceived by participants, the situational goal, and activity type, which allows for "a dynamic configuration of [the text's] constituents" (p. 158). There had not been any standard for multimodal linguistic corpora, thus, Gu's work is another contribution to the evolving standard within the field.

In a case involving a Spanish language dictionary, Suárez, et. al. (2006) consider the encoding standards for dictionaries (which can be considered a type of corpus). They note that the TEI does already have guidelines for encoding "mono- and multilingual dictionaries with human beings in mind," including the elements <entry> and <entryFree> (p. 947, 953). Their team settled on using a complex algorithm that blended existing TEI syntax with their needs for dictionary creation in order to "define and structure information included in the electronic dictionaries" (p. 956). Again, one begins to trace the emerging standard for work with a large body of linguistic information. It is likely that the reason that this team did not need to make an exceptional amount of changes to the guidelines is that dictionaries are a longstanding part of linguistic "corpora," in contrast to the corpus of the previous article (Gu, 2006).

In another instance of Romance linguistics, Carruthers (2007) dealt with organizing a corpus of oral French storytelling. She discusses the difficulties in deciding how to chunk the text, since the tags are

intended more for written text than spoken. Furthermore, she discusses finding ways to work with issues like encoding when the storyteller is using the narrator's voice or a character's voice and the challenges in coding things like audience response (p. 113). Despite the difficulties, it was noted that one of the best things about the TEI is its "international currency and the fact that the Guidelines are suitable for a wide variety of text types" (p. 116). This attitude is an exemplar of the drive for portability and interchangeability within the TEI-related research community.

Nyhan (2008) also discusses working with dictionaries, although this dictionary is for a minority language (p. 3). The dictionary in question is the *Dictionary of the Irish Language* and it is "a scholarly historical dictionary of Old, Middle, and Early modern Irish ... widely accepted as the most authoritative reference work of its kind available for the Irish language" (p. 4). Although it is definitive, it has some problematic structural limitations related to its now-outdated orthography and lack of searchability. The project to encode this is related to the Corpus of Electronic Texts (CELT) at University College Cork, which is "an online corpus of multilingual texts that are encoded in TEI conformant SGML/XML" (p. 3). The data is encoded in a "transitional DTD," and uses an XSLT as part of its post-processing to convert it to TEI (p. 6). Nyhan found that using XSLT transformations, rather than encoding directly in TEI, increased the accuracy of the encoding, so she developed a pattern matching system and implemented this method across the project. She also employed the <egForm> and <modifier> elements to group "related grammatical information associated with any morphological item" and "to markup 'different linguistic items that modify the meaning of the headword,'" respectively (p. 8). Additionally, the element <mut> was introduced to handle the encoding word initial mutations that frequently occur in Irish (particularly nasalization, gemination, and lenition) (p. 8).

Boot (2009) documents the efforts to apply the TEI to the annotations of parallel text corpora. Like the other researchers, Boot found it necessary to adapt the TEI guidelines to the needs of his research. The main change he made was to introduce an element called <dataSection>, which contains "the data about the alignment and annotations" of the parallel text" (p. 351). Additionally, his scheme "extends the TEI" by adding two other elements, using existing elements as "atomic features" and allowing a head within the <linkGrp> element (p. 356). Including data about one's encoding rationale is a recurring trend within corpus linguistics. One expects this is a method that linguists use to increase the portability and accessibility of their research to the larger community, and to allow the interchange of data across archives with a variety of encoding standards.

The Corpus Diacrónico del Español de Chile (CorDECh)—or Chilean Spanish Diachronic Corpus—discussed in Seitz (2009) offers a perspective on corpus linguistics from a language other than English. The CorDECh is important because many other Spanish language corpora are focused on Latin American Spanish, with little attention given to the Spanish of South America. The project uses TEI coded in XML (p. 128). It also uses a number of tags in Spanish, rather than leaving the tags in English (p. 132). This represents the portability of TEI itself, as it is able to be adopted by linguists in many environments, working in many capacities.

Witt, et. al. (2009) consider issues related to the problem of overlapping hierarchies in linguistic encoding. They discuss that XML traditionally has a "tree" structure, but that linguistically annotated corpora "may contain crossing edges," which require a more complex structure (p. 364). Their solution is Generalized Architecture for Sustainability of Linguistic Data (GENAU), which offers a "specific approach to handling and processing several corpus representation formats" (p. 364). This multiple-encoding approach is meant to allow for the encoding of linguistic data from a variety of perspectives (morphological, syntactical, semantic, etc). Two attributes are introduced: <fs> (feature structures) and <f> (feature) to deal with the overlapping hierarchies issue. Additionally, the "multi-rooted trees" can be used in conjunction with TEI P3, which was adopted in ISO 24610-1:2006 and "allows for the merging of all annotation information into

a single XML document instance," (p. 366). Here one sees that corpus linguistics has finally begun to approach an accepted standard.

The Coruña Corpus is a corpus of English scientific writing, containing non-medical scientific texts dating from 1650 to 1900 (García & Fandiño, 2010, p. 154). One project within this corpus is CETA – Corpus of English Texts on Astronomy – which reflects the pivotal role that astronomy has played in scientific literature over the years. The TEI encoding of this corpus "includes encoded information about spelling, paragraphs, page numbers, abbreviations and notes as well as information sources" (p. 158). Their goals include creating a corpus that is machine readable, authentic, and representative, which mesh with the goals of many of the aforementioned corpus encoding projects.

Bingenheimer, et. al. (2011) use a corpus of more than 1,300 biographies of Buddhist monks to create a sort of social network visualization for historical persons at the time. Their corpus is TEI-encoded, and while the original intent of the corpus was to "support spacio-temporal analysis," the researchers realized that they could use the encoded data to correlate the people and places within the corpus. They use the target attribute within the <link> elements to relate people who existed in the same place or time, terming these correlations "nexus points" (p. 272). Their goal was "to show that social networks can be 'visualized' from marked-up texts almost as a by-product," which is a function of having portable, accurate data that is shared in a common format (273).

Finally, Erjavec (2012) considers a multilingual dataset comprised of engineering research in Central and Eastern European languages (including Slovak, Russian, and Macedonian, for example) and focused on the morphosyntactical level of linguistic data (p. 131). In contrast to some other corpus projects, its goal is "the adoption and promotion of encoding standardization" (p. 132). The corpus is encoded in TEI P5 (the most current iteration of the TEI guidelines) and takes its specifications from the Expert Advisory Group of Language Engineering Standards (EAGLES); it also uses SGML encoded with CES – the corpus encoding standard. In terms of the linguistics, it encodes things such as a word's gender, number, and case (p. 133). Interestingly, the corpus employs English as its "hub" language, which means that all element and attribute names are in English (p. 135).

Research Question

Clearly, linguists have learned to adapt the TEI to their needs, but how do they find out what to do and how to do it? One can assume that not all linguists are also highly trained in using metadata; therefore, one must also assume that there are resources for linguists working to organize corpora. How do linguists learn TEI and what resources are available for them? What level of knowledge of TEI is required before one can begin making professional judgments about what can be altered or added? Are most linguists collaborating with metadata experts? In short, how do linguists move from the linguistic aspects of their work to the librarianship aspects?

In order to find a sense of how it feels to be in this position, I have imagined that I am working with a linguistic corpus. I have heard about the utility of TEI and read about projects that use it, but I want to know how I can use it for myself (obviously, this will not be too much of a stretch to imagine!). For the purposes of my research, I will pretend that I am working with a corpus of Arabic poetry. This means I will need to consider features such as title, author, editor, anthology, meter, rhyme scheme, poem type, historical or cultural context, year published, etc. How can I find out how to use the Text Encoding Initiative to appropriately encode my corpus?

Methodology

I approached this as a linguist looking into the TEI. I started by compiling a literature review of corpus linguistics projects that have used the TEI. This gave me a sense of when and how the TEI is used in corpus linguistics. Then, like researchers everywhere, I googled for answers. I wanted to find things that were not necessarily academic papers; things like tutorials, blogs, newsgroups, etc. Quite simple keywords yielded significant results – of course, due to the constant fluctuation of the Web, it should be noted that replications of these searches may not render the exact same results. I started with "learn TEI," then googled "learn TEI linguistics," and finally "learn TEI corpus linguistics" – the last of which I found the least useful. I followed the hyperlinked paths before me somewhat organically; resources frequently link to each other and I clicked around until I found resources relevant to my interests.

Discussion

There are many resources on the Web for learning TEI and for keeping up on current TEI and linguistics happenings. For the sake of organization, I have divided this section into types of resources: tutorials, mailing lists and groups, project documentation, and seminars and workshops.

Tutorials

The TEI consortium maintains a page that links out to tutorials, guides, and materials from workshops (Text Encoding Initiative). Unfortunately, it does not specify how frequently the page is updated, but even so it does have many useful resources. The page's "generic tutorials" section has tutorials for XML – useful for newest of beginners – and for the current P5 TEI guidelines.

Since TEI is encoded in XML, I looked at the Introduction to XML for Text tutorial that was linked in the TEI's tutorials page (Hawkins, 2012). This site explains what XML is and why it is useful. It presents examples of encoding, introducing terms such as "attributes" and "elements." Hawkins shows several ways that users can conceptualize XML's hierarchical "tree structure" and also discusses how files are read. While this is a good general introduction to XML, it leaves me, as a researcher, wanting more. To learn more about XML, I would also investigate books, likely choosing something from O'Reilly Media.

The most comprehensive tutorial on the Web for TEI itself is found at TEI By Example (Van den Branden, Terras, & Vanhoutte). This site includes actual tutorials, examples, tests, exercises, and a TEI code validator, all of which are amazing resources for the novice coder. The modules are helpfully organized by media type, such as prose, poetry, or drama – the poetry modules will be perfect for learning how to organize my corpus of Arabic poetry. TEI By Example's success lies in the fact that the creators recognized that TEI and XML are hidden languages. Thus, the authors have provided examples of the otherwise difficult to find code. Learning from example is a truly powerful tool.

Mailing Lists and Groups

The mailing list of choice for linguists working with TEI appears to be TEI-LINGUISTICS@listserv.brown.edu. The *tei-l*, as it seems to be known, is also available as an archive that can be accessed online from multiple interfaces (*tei-l*). Notably, the archive is useful because users can search for past questions – and answers! – to problems they may be trying to resolve themselves. For linguists who are not working on a particular project, monitoring the listserv activity can preemptively answer questions that they did not know they had. The *tei-l* listserv appears to be the Web's hub for all linguistic and encoding needs.

In fact, the *tei-l* is an offshoot of the TEI's linguistics special interest group (SIG). The group's goal "is to provide a common, uniform set of recommendations for the encoding of Language Resources with TEI markup" (Text Encoding Initiative, Linguistics SIG). The LingSig group maintains the aforementioned

listserv, as well as a presence on SourceForge (<http://sourceforge.net/p/lingsig/wiki/Home/>) and on Zotero (<http://www.zotero.org/groups/tei-lingsig>) to share documents.

Project Documentation

Chapter 15 of the TEI P5 Guidelines are specific to working with linguistic corpora (Text Encoding Initiative, 2012). This page explains how the TEI treats corpora in general ("as composite texts rather than unitary texts") and explicates a number of tags that are available for work with corpora. In particular, there is the <teiCorpus> element, "intended for the encoding of language corpora," and the page goes on to describe which attributes relevant to corpora come under each section of the TEI header. This page would be useful for figuring out what elements are available to me as I begin my research.

There are many corpus linguistics projects that are fully realized and live on the Web where anyone can find them. By looking through completed (or ongoing) work, researchers can figure out what decisions were made and how they affect the corpus. Especially if the researcher can find a published article to pair with the corpus itself, it is easy to deduce what happened and why. I located a number of linguistic corpora online that could be useful for working out the practical matters of applying the TEI to a corpus, including the Corpus of Spoken Language in Interaction (<http://oracc.museum.upenn.edu/doc/developer/tei>), the MLCD Overlap Corpus (<http://www.balisage.net/Proceedings/vol8/html/Huitfeldt02/BalisageVol8-Huitfeldt02.html>), and TEI for Oracc (<http://oracc.museum.upenn.edu/doc/developer/tei>).

Seminars and Workshops

Another way to learn TEI is to attend seminars, workshops, or other professional development events. The most challenging part of finding workshops is locating *future* workshops, since most searching uncovers notes from seminars past.

- Balisage: The Markup Conference is held annually in Montréal, Canada. It is "devoted to the theory and practice of descriptive markup and related technologies" (<http://www.balisage.net/>).

- Linguistic Annotation Workshop (The LAW VI) is a peer-reviewed conference sponsored by the ACL Special Interest Group for Annotation. It appears to be held annually (<http://cemantix.org/workshop/law-v/law-v.html>).

- TEI Conference and Members' Meetings are "the gathering point for the TEI community." Meetings are held annually as academic conferences that feature peer-reviewed papers, small group meetings, and demonstrations (<http://www.tei-c.org/Membership/Meetings/>).

Plan of Action

Having read through the documentation, I now have a plan to encode my corpus of Arabic poetry. I would start with the basics: reading up on XML through tutorials and books, and work my way through the TEI By Example tutorials. I would next read through the P5 guidelines on working with corpora and make notes about which elements would work the best for my corpus. Next, I would sign up for the tei-l listserv so that I could stay current on TEI/linguistic questions and answers. I would search through the project documentation for corpora that are similar to mine and I would also revisit papers that were considered in my literature review to gain insight into the thought process behind encoding decisions.

Finally, as I began to work on encoding my corpus, I would be sure to take thorough notes so that I can publish my work and give back to the TEI/linguistics community, with the end goal of presenting at one of the TEI conferences in the future.

Conclusion

One of the most important things for a novice encoder to remember is that not everything has to be done from scratch – you are not re-inventing the wheel, so to speak. Reviewing the work of others through reading papers or exploring existing corpora will benefit the novice greatly by providing working examples of how the code may be used. Because TEI is a format that is still evolving, it is important to not rely entirely on any one source, but rather, a bricolage of resources will lend itself to a fuller view of the field today. Truly, this cross-section of the linguistic field shows that it is critical to communicate with one's colleagues to move forward within the discipline, as seen by the continuous activity on the listserv, for example. As a researcher starting out, I expect it would be most beneficial to work directly with someone at one's institution to learn how things are done and to gain greater insight into the thought process behind many encoding decisions. This field is still in its infancy. Over time, more papers will be published, more conferences will be held, more tutorials drafted, and hopefully, more books written to aid the beginner throughout her or his work. For future work, it would be beneficial to work through the plan of action and then write about the lessons learned from learning how to wield TEI effectively. It would also be helpful to have a comprehensive book on the subject. Most languages or standards have books (or larger collections of tutorials, at a minimum) to help beginners learn most of what there is to know and also offer a range of exercises so readers can test themselves. This is something that is acutely lacking within the tei-l community and that I would particularly like to see at the community grows and matures.

References

- Bingenheimer, M., Hung, J., & Wiles, S. (2011). Social network visualization from TEI data. *Literary and Linguistic Computing*, 26(3), 271-278. doi: 10.1093/lc/fqr020
- Boot, P. (2009). Towards a TEI-based encoding scheme for the annotation of parallel texts. *Literary and Linguistic Computing* 24(3), 347-361. doi: 10.1093/lc/fqp023
- Carruthers, J. (2007). Annotating an oral corpus using the Text Encoding Initiative. Methodology, problems, solutions. *French Language Studies*, 18, 103-119. doi: 10.1017/S0959269507003183
- Dunlop, D. (1995). Practical considerations in the use of TEI headers in a large corpus. *Computers and the Humanities* 29, 85-98.
- Erjavec, T. (2012). MULTEXT-East: Morphosyntactic resources for Central and Eastern European languages. *Lang Resources & Evaluation* 46, 131-142. doi: 10.1007/s10579-011-9174-8
- Gu, Y. (2006). Multimodal text analysis: A corpus linguistics approach to situated discourse. *Text & Talk* 26(2), 127-167.
- Hawkins, K. S. (11 November 2012). Introduction to XML for Text. Retrieved from: <http://www.ultraslavonic.info/intro-to-xml/> (9 December 2012).
- Ide, N. (1995). Encoding standards for linguistic corpora. *Language Technology: Proceedings of the TELRI European Seminar*, September 15-16, 1995. Tihany, Hungary (speech).

- Ide, N.M., & Sperberg-McQueen, C. M. (1995). The TEI: History, goals and future. *Computers and the Humanities*, 29(1), 5-15.
- Nyhan, J. (2008). Developing integrated editions of minority language dictionaries: The Irish example. *Literary and Linguistic Computing*, 23(1), 3-12. doi: 10.1093/kkc/fqm038
- Romary, L., Bonhomme, P., Bruneseaux, F., & Pierrel, J. (1999). Sulfide: A system for open access and distributed delivery of TEI encoded documents. *Computers and the Humanities*, 33(1/2), 31-38.
- Ron Van den Branden, Melissa Terras & Edward Vanhoutte. TEI by Example. Retrieved from: <http://www.teibyexample.org> (9 December 2012).
- Seitz, M. C. (2009). Hacia la constitución de un corpus diacrónico del español de Chile. *Revista de Lingüística Teórica y Aplicada*, 47(2), 111-134.
- Suárez, O. S., Riudavets, F. J. C., Figueroa, Z. H., & Cabrera, A. C. G. (2006). Integration of an XML electronic dictionary with linguistic tools for natural language processing. *Information Processing and Management* 43, 946-957. doi: 10.1016/j.ipm.2006.08.005
- tei-l. Retrieved from: <http://tei-l.970651.n3.nabble.com/> (9 December 2012).
- Text Encoding Initiative (25 October 2012). P5: Guidelines for electronic text encoding. Retrieved from: <http://www.tei-c.org/release/doc/tei-p5-doc/en/html/CC.html> (9 December 2012).
- Text Encoding Initiative. TEI for Linguistics SIG. Retrieved from: http://www.tei-c.org/Activities/SIG/TEI_for_Linguists/ (9 December 2012).
- Text Encoding Initiative. Teach Yourself TEI. Retrieved from: <http://www.tei-c.org/Support/Learn/tutorials.xml> (9 December 2012).
- Walker, D. (1999). Taking snapshots of the web with a TEI camera. *Computers and the Humanities*, 33, 185-192.
- Witt, A., Rehm, G., Hinrichs, E., Lehmborg, T., & Jens, S. (2009). SusTEInability of linguistic resources through feature structures. *Literary and Linguistic Computing* 24(3), 363-372. doi: 10.1093/lc/fqp024

PNLA Quarterly
302A Love Library
PO Box 884100
13th & R St
University of Nebraska – Lincoln
Lincoln NE 68588-4100

