EDUCATION:

BUILDING A SOUND MIND
AND SOUND BODY

BOOK OF READINGS

IN HONOUR OF

DR. OLU AYODABO

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A Publication of the Faculty of Education,
Lagos State University, Ojo.

Foreword

It has become traditional in the Faculty of Education, Lagos State University to honour our retiring colleagues with a befiting academic package. The choice of titles and foci have always been easy because our colleagues have been men with distinguished achievements in their various areas of specialization. This is not a different case.

The intellectual is basically a trader in 'body and mind'. When man struggles to unraffle the laws of science, spirituality and change, he trades in the relationships between the mind and epistemology, and when he querries and explores the state of the thinking being and other beings, he examines the body, i.e. its state of health and mental acceptability. The business of education is about intelligent thoughts, methods, processes and contents. Thus anyone who is not thoughtful, methodical, process-minded and content-laddened cannot come to the business, of education. This is the terrain our retiring colleague, Olu Ayodabo has transversed successfully in the last thirty five (35) years with an emphasis on sports administration, and rising to the enviable position of an Associate Professor.

There are thirty-eight (38) original essays and research reports in this collection. They have been drawn from four disciplines: Foundations and Counseling Psychology, Curriculum Studies, Educational Management, and Physical and Health Education, not because this was the administrative structure of our Faculty between 1984 and 2008- when Olu Ayodabo held sway as an erudite scholar and agile young man, but because the arrangement is convenient and familiar!

Here is a good book on our hands. We must congratulate the scholars, editors, managers and typists who made it happen.

However, it must be reiterated that all academic and intellectual errors in the works here belong to the authors as is conventionally done in bourgeoisie.

We must commend Olu Ayodabo for providing us with a cross-cutting personality in the faculty. The faculty wishes Dr. Olufunmi Ayodabo a fulfilled retirement from active service in both the Faculty of Education and the university.

Prof. S. O. A. Olaniyonu
Dean of Education

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APPLICATION OF ICT FOR LIBRARY SERVICES AMONG PATRONS OF HIGHER INSTITUION IN LAGOS STATE

CHAPTER **8**

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ABSTRACT

The study sought to determine the ICT, resource support for library services among patrons of higher institutions with particular reference to the University of Lagos (UNILAG) and Lagos State University (LASU).Specifically, the study investigated the internet services most frequently use by patrons, purpose for which its used and constraints encountered. The population for this study consisted of 400 respondents sampled in two universities in Lagos State during the 2008/2009 academic session. The respondent reacted to the ICT tagged Patrons used of Internet Questionnaire (PUIQ) constructed and validated by the researcher with a reliability coefficient of 0.68. Data collected were analyzed using frequency count and simple percentages. Result showed that: the worldwide web (www) and e-mail services were the most preferred Internet Services enjoyed by library patrons. And that the most recurring purposes for which patrons use the library Internet Services are to search for journal and articles, to access reference materials, to conduct research activities and for e-mail among others. The major constraints to the use of Internet Service in this study were lack of adequate knowledge, difficulties in finding relevant material, inadequate power supply, resource support and poor internet services. Based on these, it was suggested that managements of higher academic institution libraries should invest more on current ICT resource support that will promote e-library services and training programs.

INTRODUCTION

The use of information and communications technology (ICT) is rapidly advancing and taking wide and varied dimensions in many countries of the world including Nigeria. In education, ICT's have become tools for pedagogical practices, means of obtaining learning resources and personal development of users including the academic staff.

Adejumo, (2007) said that, breakthrough and development in information and communication technologies (ICT have increasingly reshaped the way libraries and librarians' access, retrieve, store, manipulate and disseminate needed information to their actual and potential users. The use of CD-Rom, online databases, e-mail, facsimile, internet, OPAC and other technologies that facilitate virtual communication have contributed vastly to knowledge creation, development and access. "The whole universe of the global information super highway has become a human resource and heritage, including library which all that have the necessary infrastructure capabilities can tap for their development, this made possible only by consortia" (Idowu, 2008).

The volume of data and information generated by the human race and the need to survive through the sharing of knowledge and ideas is simply too much for the class room environment to cope with. As a result, the traditional method of library service delivery can no longer meet the demand for education especially in Africa (Bank, 2001 in Afolabi, Adedapo and Adeyanju, 2005). ICT is a powerful tool for the management of information explosion and has helped in shifting the role of the librarian from that of sole information provider for a veritable vehicle for service delivery in tertiary institutions. It can make library services more efficient and productive through provisions of variety of tools to enhance and facilitate patron activities in several ways. Edafiogho (2007) listed some of these ways as e-learning, on-line learning information literacy, digital literacy, digital virtual library and assessment.

Library being the nerve centre of any academic organization (for information process, storage, retrieval and dissemination) is charged with such responsibilities of making information available in any format both print, non-print and electronically to the wider and dispersed patrons irrespective of time, space and geographical location at this digital age.

Today the concept of virtual libraries, referred to variously as digital library, network, or simply as library without walls made possible by ICT has become the in-thing that no library worth its salt can ignore. It is call 'virtual' because in a good electronic wide area network library user enjoy the euphoria of being in distance libraries and yet has not physical moved.

Akintunde (2004) explains that the role of ICT in the library can be understood as the application of digital equipment to all aspects of library work or services. According to him, "the use of computer and other technologies such as telephone to process, transport and transfer voice and other data singularly or mix with least interference or distortion of content is of great importance". Presently, there is a growing concern with how to make libraries relevant in the information age and at the same time sustaining their services especially in the universities where there are large bodies of scholars and patrons. Application of ICT resources in academic institutions library has its impacts, uses, drawbacks or constraints and this has been the experience of most university libraries in Nigeria, Idowu, (2002). affirms also that, academic libraries in Nigeria are at its best not to be left behind in this new trend.

UNILAG and LASU managements have made concerted efforts at automating their operations and providing electronic library services.
The achievements in this regard include:

- Provision of e-library consisting of state of the art facilities.
- Procurement of quality computer hardware and software resources.
- Catalogue of documents, text material and special collection using computers.
- Training of users on the use of library
- Provision of uninterrupted power supply, and
- Procurement and installation of library software.

STATEMENT OF PROBLEM
It is worrisome that, many library users enter the library without having an idea or basic knowledge of what ICT resource support services are available. The internet is consulted by various users, and while there has been research attempt at showing how patrons in universities use this facility (Jagboro, 2003; Isah, 2005). There seems to be very scarce research efforts at determining the uses, purpose and constraints encountered by patrons for information

retrieval, processing and dissemination in Nigerian universities. This scarcity form the background and rational for this study.

RESEARCH QUESTION
1. What ICT resource support(s) are available for library services in the sample universities?
2. What are the most preferred internet services enjoyed among patrons in the selected universities?
3. What purpose do patrons use the library Internet services for in the sample schools?
4. What constraints are encountered in the use of Internet services by patrons of the sample universities?

METHODOLOGY
The design adopted in the study is a descriptive survey research design while the population comprised of 400 respondents male and female patrons of higher institutions selected for the study. In the census conducted, the subjects responded to the patron use of Internet questionnaire (PUIQ), which was constructed by researcher and validated by senior colleagues in the area of information processing and research. Using Kuder Richardson formula 21, reliability co-efficient of 0.68 was established for the instrument, 400 questionnaires were issued out to the respondents' library patrons through their respective heads. The same channel was used for retrieval of the 400 questionnaire. Hundred percent of return rate was thus recorded. Simple frequency count and percentage were used to compute the data and the results are as shown below;

DATA ANALYSIS
RQ1: What ICT resource support(s) are available for library services in the sample universities?

TABLE 1: ICT RESOURCE SUPPORT AVAILABILITY IN UNILAG AND LASU LIBRARIES

	UNILAG								LASU						
SECTION, OFFICES AND DEPARMENT	COMPUTER	LOCAL AREA NETWORK	INTERNET SERVICE	PRINTER	T.V	PHOTOCOPY MACHINE	SOFTWARE	SECTION, OFFICES AND DEPARMENT	COMPUTER	LOCAL AREA NETWORK	INTERNET SERVICE	PRINTER	T.V	PHOTOCOPY MACHINE	SOFTWARE
U.L. Office	6	6	6	3	2	1		U.L. Office	1	-	5	1			
	-	-	-	-	-	-			2	-	-	1			
DUL Office	4	-	4	1	1	1		DUL Office	2	-	-	1			
	3	3	3	1	1	-			2	-	-	1			
Admin. Dept.	10	10	10	11	12	24		Admin. Dept.	15	26	2	1			
Acquisition Dept.	20	20	20	2	-	1		Acquisition Dept.	49	-2	92	-2			
Technical Dept.	12	12	12	1	-	1		Technical Dept.	28		-				
Readers Dept.	37	37	37					Readers Dept.							
E-library/ Automation								E-library/ Automation							
Branch libraries								Branch libraries							
TOTAL 2	176	169	173	10	7	10			126	10	99	6			

Source: Survey Research Conducted November, 2008.

Note: UNILAG

- UL office comprises of administrative office.
- UNILAG library make use of Alice and _glasssoftware for its library operations Branch library comprises of library within the campus only.

Note: LASU

- UL office comprises of conference room and administrative office.
- Branch libraries comprises of other libraries apart from libraries in Epe, Ikeja, Surulere and faculties libraries.
- A LASU library uses Alice for windows for her operations.

Below is a list of ICT resource support/facilities in use at UNILAG and LASU libraries as revealed by survey carried out in December 2008.

DISCUSSION OF FINDINGS

It is evident from table 1 above that University of Lagos (UNILAG) has a total of 173 computers with 169 local area network (LAN) and 173 internet ready system (WAN) was recorded alongside with 10 numbers of printer of various sizes and capacities, 7 colour television set, 10 printers and glass software was in used to coordinate the library services rendered. However, appreciable level of ICT resource support was also revealed in Lagos State University (LASU) in term of ICT resource support with 126 computer system of various sizes and capacities with 10- local area network (LAN), 99 internet connection (WAN) and 6 printers, 6 colour television sets, 6 photocopiers all of various size and capacity depends on purpose of its use. Both libraries have ICT resource support for their operations. The level of ICT resource greatly depend on the available space and place for students' enrolment and the level of patrons attendance and need to support teaching learning and research purposes among other needs.

LASU and UNILAG managements in its awareness and quest for ICT for library services, LASU management recently established a 92 seatters capacity e-library section, and provides computers with internet services in all departments, sections and offices within the library with the state of the art ICT driven equipment system to facilitate on line searching, cataloguing, readers services among other purposes to boost the level of its ICT resource support. UNILAG has 123 internet ready systems at the automation library, with over 40 systems dedicated for on-line public assess catalogue (OPAC), and ICT resource support systems at the distance learning library section, with internet services in all the departments and offices of the library.

RESEARCH QUESTIONS TWO

What is the most preferred Internet services enjoyed among patrons in the selected universities libraries? The data is as contained in table 1 below;

TABLE 2: PREFERRED INTERNET SERVICES USED BY LIBRARY PATRONS IN UNILAG AND LASU

	LASU		UNILAG		TOTAL
Preferred internet service	Frequency	(%)	Frequency (F)	%	TN
www	114	7 1.	124	5 1.	228 65
E-mail	27	3	38	6	56
Chatting	15	1	41	1	56
Telnet	-	6. 8	03	5. 8	03
Frequently	02	9.4	03	17.1	05
ask questions. list server Discussion.					
File	11	1.3	11	1.3	22
Transfer	01		04		05
(FTP) service				1.3	
		6.9			
		0.6		4.6	
				1.6	
Total	160	100%	240	100%	400

Source: Survey Research Conducted in Dec 2008

FINDINGS

It is seen from the table that the most preferred library internet service used by patrons in sampled schools is the World Wide Web (www), because 228 out of the total respondents sampled representing 57% preferred it.

This is followed by e-mail with 65(16.5%) respondents internet, chatting with 56 (14%), list servers discussion with 22 population representing 5.5 percent. Telnet and others follow this with 05 (1.25%) each. The least preferred library Internet service is Telnet and file transfer protocol with 03 they 05 representing 0.75 percent.

DISCUSSION OF THE FINDINGS

The result of this study may be as a result of the opinion that Internet services are relatively new in the Nigeria society especially the application into library services such that most users take the internet to be World Wide Web (www) without knowing that there are other services on the internet. This may also not be connected to the low internet skills of library patrons. This study contradicts the findings of Jagboro (2003), Kumar and Kann, (2005) who both established from the study of Internet usage at Obafemi Awolowo University Ile

Ife and Engineering College of Pinjab respectively that e-mail was the most used internet service by the respondents. This research however established the World Wide Web as the most preferred internet service by the sampled respondents.

RESEARCH QUESTION 3

What are the most recurring purposes for which patrons in the sampled universities uses Library Internet Services?

Table 3: Below are the purposes for which patrons' uses Library Internet service

	LASU		UNILAG			TOTAL	
Preferred internet service	Frequency	(%)	Frequency	(F)	%	TN	%
To find articles for instructional/ academic purposes.	20 18 47	8.3 7.5 19.5	11 04 30	6 .9	31 22 29	7 5 1	
To exchange ideas with colleagues.	23 18 42	9.6 7.5 17.5	12 14 28	2 .5	35 32 70	8 8 8	
To access reference materials	72	30	61	18	132	1 5	
To conduct research activities				.37		3 3	
To e-mail friend and colleagues				.58			
To download materials				.81			
To search for journals and articles.					7 .538 .1		
	240	100%	160	100%	400	100%	

Source: Survey Research Conducted Dec 2008

FINDINGS:

It is observed from the table that library patrons used Internet services mostly to search for journal and articles in the library as 133(33.3%) opted for this purpose. This was followed in the second and third position by patrons "To access reference materials" 70(17.5%) and "To download material for teaching and learning process. 70(17.5%) respectively. The purpose of 'To conduct research activities and 'To e-mail friends, and colleagues and 'To find article textbooks for instructional/academic purposes' were rated forth 35(8.8%), fifth 32(8%) and sixth 31(7.8%) respectively while the purpose to exchange ideas with colleagues as 22(5.5%) was in seventh position.

The result of this research may be due to the fact that one of the major criteria for academic excellence is the promotion of reach, recent, quality and adequate scholarly materials

for pedagogy of instruction and research purposes. It is therefore, not surprising at all that the use of the internet by patrons to search for journal and articles for teaching learning process and for research purposes was the top-most rated item. This research study supports the earlier studies of Isah, (2005), Becker (2000) Kumar and Kaur (2005). balogun, (2008)) find out also that using Internet to access journal and write academic articles for publication and research was an important Internet usage.

RESEARCH QUESTION 4

What constraints are encountered in the use of Internet services by patrons.
To answer this question, respondents were expected to indicate the severity of each of the identified constraints. The summary of the data is as shown in table 4 below.

Table 4: Constraints Encountered in the use of library Internet Services by Patrons.

Constraints	UNILAG		LASU		TOTAL	
Lack of Internet services.	3	16.	1	6.	50	
Lack of adequate knowledge of	9	25	1	87	124	
the use of internet.	6	28.	5	35		
Difficulty in finding relevant	8	3	6			
information and time available.					76	
Inadequate power supply.				20	72	
No adequate ICT resource support	4	17	3	.6	63	
	3	91	3	15		
	4	19.	2	.3		
	6	16	6	15		
	4	18.	2			
	4	33	4			
	240	100%	160	100%	400	

Source: Survey Research Conducted Dec 2008

FINDINGS

From the table, it can be observed that the most inhibiting factor was lack of adequate knowledge of the use of internet resources for information sourcing as 124(31%) indicated the factor as being very problematic. This was followed by the difficulty in finding relevant information, which attracted a raw score of 76(19%).

The third most inhibiting factor was inadequate power supply with 72(18%) respondents. The forth-inhibiting factor to the use of Internet service was inadequate ICT resource support as 63(17%) indicated the factor as being problematic. Lack of internet services also attracted a raw score of 50(12.5%) as indicated by respondents was in the fifth position.

DISCUSSION OF FINDINGS

The result of this study can be attributed to the fact that the use of ICT for library services is not yet widespread in educational institutions in Nigeria. The situation is made worse by the erratic power supply by Power Holding Company of Nigeria and inadequate knowledge or competency skill among patrons is another impediment.

This research study is in consonance with the earlier studies of Okebukola (1997).

Amao (2003) who indicated that the computer and internet are not yet part of school classroom technology in 90% public schools in Nigeria not to talk of their library. Again, few out of over sixty Nigeria universities are linked to the Internet and using ICT for educational purposes. The result of this study also supports the earlier work of balogun, (2008) who indicated that the major constraints that limited Internet usage roughly ranked in order of severity were: Availability of Internet connections, Speed of the connections, Telephone cost and Internet subscriptions.

CONCLUSIONS

Based on the findings of this study, the following conclusions were drawn:
1. The most preferred Internet library services by patrons are World Wide Web (www) and electronic mail (e-mail).
2. Internet library services for patrons are mainly for accessing reference materials, down load reference materials, for pedagogy of instruction and for research purpose.
3. The major constraints to the use of internet by library patrons are lack of internet services, inadequate knowledge of the use of internet to source information, difficulty in finding relevant information, poor power supply and inadequate ICT resource support.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were proffered:
1. All academic libraries in Nigeria must provide patrons access to library data bases (internet). And to ensure that information from data base flow from Nigeria institutions to the global database for accessing through the internet.
2. Library management should continue to put pressure on organizational management and NGO's to invest more on the latest advancement of ICT equipment, that will promote library services in this millennium i.e. alternative and independent means of access to information super highway, through such means as millennium library complex quality, hard ware and software equipments, satellite communication, uninterrupted power supply, and training programs for users/patrons.
3. Libraries should mount e-awareness campaigns on their campuses.
4. A short (2 mins) internet usage proficiency text should be designed and used by libraries to gauge the need requirements and capability of their potential clients.

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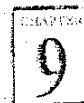
INNOVATIONS IN STRATEGIES AND RESOURCES FOR EFFECTIVE MATHEMATICS INSTRUCTION IN AN ICT ERA

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Abstract

The teaching and learning of mathematics in schools requires the teacher's ingenuity in selection of appropriate media and methods. The need to improve delivery of mathematics instruction is hinged on persisting report of decline in students' performance in mathematics and mathematics related subject in public examinations. This paper identifies innovative strategies and resource potentials available at the dispatch of mathematics teachers in an ICT era as an avenue for encouraging effective teaching and learning of mathematics in schools.

Introduction

Education is especially valued in developing countries. Not only is individual success dependent upon sound education, but national progress, too, turns ultimately on the aspirations and awareness of the populace. Unfortunately, although the needs of such countries are severe, so too are their problems. Developing countries have serious financial constraints often coupled with high birth rates, which tend to result in overcrowded, under-funded schools and an insufficient number of trained teachers. Moreover, such states are usually burdened by a highly centralized and conservative bureaucracy. This can give rise to an education system in which teachers are constrained to follow a detailed curriculum, the contents of which students are expected to learn, almost parrot-fashion, in order to succeed in highly competitive examinations. Despite widespread recognition of the system's failure to prepare students for a rapidly changing world which demands flexibility and independence of mind, innovation seems practically impossible.

Mathematics has been variously defined as a language which provides an indispensable means of investigating the nature of the things particularly those which are dealt with in the fields of science, technology, engineering and industry (Umaru, 1995). There can be no real technological development without a corresponding development in mathematics both as conceived and as practiced (Ezeilo, 1981).

This importance of mathematics to national development is recognized in the national policy of education (FGN, 2004; revised) which makes mathematics a compulsory and one of the leading core subjects in the primary and the secondary schools curriculum.

Despite the prominence given to mathematics as a school subject, and the increasing efforts of different government in Nigeria to provide material for its study, there have been several reports of decline in students' performance in the subject in public examinations (STAN, 1992). This calls for attention of all stakeholders to evolve ways of improving the teaching and learning of the subject.