THE INFORMATION TECHNOLOGIST
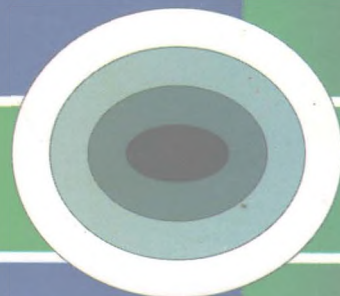
VOLUME 11, NUMBER 1
JUNE, 2014

An International Journal of Information and Communication Technology [ICT]

ICT

The pioneer ICT journal in Africa

Available electronically!

CONTENTS

ICT SKILLS OF LIBRARY PERSONNEL IN A CHANGING DIGITAL LIBRARY ENVIRONMENT: A STUDY OF ACADEMIC LIBRARIES IN OYO STATE, NIGERIA.

Samson O. Akande* Ph.D

*Dr. Samson O Akande is currently a principal librarian, Kenneth Dike Library, University of Ibadan Nigeria. He holds a Ph.D in Library and Information Science, University of Ibadan. His areas of research internet include: Skills Acquisition, Electronic Resources, Users Study and Conservation and Preservation of Library Resources. E-mail: nyakand@yahoo.com. Phone: 08078768060

Abstract

The survey examined ICT skills of library personnel working in academic libraries in Oyo state vis -a- vis level of competence and methods of acquisition. It also considered whether the personnel's ICT skills competence is related to their method of ICT skills acquisition. The sample used consists of 155 professional and para- professional library personnel working in government owned tertiary institutions in Oyo state. A questionnaire tagged ICTSQ with a Cronbach alpha measure of 0.91 was used to collect data. Two research questions were raised and one hypothesis was formulated for the study. The data collected were analysed using descriptive statistics of frequency counts, percentages, mean scores and standard deviation. Inferential statistics of Pearson correlation was used to analyse data for the hypothesis. The result showed that library personnel have acquired basic ICT skills for using the Internet, computer and e mail. However, they lacked skills for using advanced web-based ICT packages for web page design, troubleshooting and project management. Moreover, there was no significant relationship found between the ICT skills level and methods of ICT skills acquisition(r= -.165,P>0.05). The study made recommendations based on the findings of the study.

Key Words: ICT, skills, Library, Personnel, Digital, Environment.

Introduction

In recent years, the practice of information profession has experienced a dramatic change necessitated by the new emerging technologies. It is now common to see academic libraries responding in diverse ways using different channels, technologies and applications to meet patrons' needs. New web-based services like Virtual Reference Services, on line reservation services, Online Public Access Catalogue (OPAC), news clipping scanning services, and Internet services, are among the newly introduced services using ICT applications to respond appropriately to the changing information seeking pattern of library users. Similarly, provision of information in digital formats, like CD-ROMS, electronic databases, the Internet, electronic books (e-books), e-

journals, are gaining increasing popularity in our academic libraries.

Literature has shown that sustainable growth and development realized in developed countries in commerce, economy, business, education, and governance can be attributed to the adoption and application of ICTs. It is not a gainsay that ICTs has been universally accepted as the driving force of both doemstic and national life. The combination of information, communciation and technology have brought about a profound effect and better ways of delivering services in our libraries. Traditional library services and materials are now being replaced with digital services and formats in response to the demands of the changing digital library environment. According to Quadri (2012), today libraries are shifting their role from the custodian of traditional information resources to the provider of service oriented digital information resources. No institution or organization can still rely on only traditional printed information resources to perform effectively and efficiently.

Ramana (2006) described the new library environment as a global digital information environment which is challenging and technological. Mullins, Ferguson, and Houghton (2000) have reproted that the pressure on libraries to modernise the way of delivering their services is now intense and more demanding. The user expectations on libraries to deliver high quality, comprehensive, user-friendly new generation services have grown tremendously in recent years.

Provision of new services must engender acquisition of new skills. With adoption and application of new technologies and ICTs in academic libraries, ICT skills must not only be acquired but a plan and programme of training and re-training must be put in place to cope with the constantly changing modern technologies.

Review
Studies have been conducted in developing and developed countries on the changing library environment caused by the emergence of new technologies for handling and processing information.

This review will attempt to examine studies related to:
1. The changing Library Environment
2. ICT skills for Information Professionals.

The Changing Library Environment
A considerable literature has reported the changing library environment in which libraries now operate. A paradigm shift from provision of traditional library services to digital services and acquisition of information in digital format is a recent phenomenon in some Nigerian academic libraries. According to Chigbu (2013), application of ICT in academic libraries in Nigeria is increasing gradually in these recent tones.

Ramana (2006) remarked that LIS professionals are confronting challenging dynamic technological environment demanding the extensive and effective utilization of ICT in order to survive and meet the changing complex information needs of user community. Mullins, Ferguson and Houghton (2000) submitted that, today, the libraries are increasingly viewed as outdated and under rated with the use of modern web-based services. Libraries need to change quite dramatically to modernise almost every aspect of their operations, information resources, and services in order to meet the rising users' expectations of the modern world.

It is interesting to note that the changes that characterise library services and collections are rooted in the resolve of libraries to meet the changing users' information seeking pattern and behaviour. It is in this regard that Troll (2002) opined that academic libraries are changing in response to changes in the learning and research environment and changes in the

behaviour of library users. In the same vein, Lukasiewicz (2007) advised libraries to adjust and redesign their programmes to remain relevant. According to him, in order to remain a dynamic and important component of the university, academic libraries must embrace change and create digital resources that offer innovative reference services.

ICT Skills for Information Professionals.

The dynamic digital environment in which information professionals now operate has tremendous implications for assessment of their ICT skills and proficiency level. Studies that reported the skills for effective functioning of information professionals include Adedoyin (2006) which focused the ICT literacy level of academic staff in university libraries. The study found that the ICT literacy level of academic librarians in Nigerian academic libraries was low to be able to offer efficient services. Ramesh Babu, Vinayagamoorthy and Gopalakrishman (2007) noted that librarians in engineering institutions in Tamil Nadu, India, have acquired basic skills in ICT, but they lacked knowledge about network-based services and digital library services. Kusan and Baby (2012) studied the skills and awareness of library professionals in an electronic environment. The study which was based on academic staff in seven university libraries in Kerala, found that library professionals are moderately skilled in various technologies and applications, but the awareness level was low in the case of emerging web tools and services.

The study of Satpathy and Maharana (2012) about the ICT skills of LIS professionals in Engineering Institutions of India revealed that they are mostly computer literate and have acquired considerable basic ICT skills to manage the library. However, they lacked skills on library automation, e-resources management, content management,

developing and maintaining digital libraries/institutional repositiories and web based library services. Extensive study was carried out by Ashcroft and Watts (2005) on ICT skills for information professionals in developing countries. The study reported a significant skills gap amongst the information professionals.

The review of literature has shown series of studies documented on ICT skills of LIS professionals in developing and developed countries where library environment is being influenced by the emerging ICTs. In spite of this, there is need for an empirical study on ICT skills of LIS professionals working in academic libraries in Oyo state, Nigeria. This is necessary because, the result will reveal if there is actually a significant skills gap amongst the LIS professionals or not. It will also provide information on the levels of ICT skills possessed by the LIS professionals and the extent to which they are equipped with new skills required to render ICT-based services in a technologically changing library environment.

Statement of the Problem

In recent years, the library environment has been subjected to series of changes. The pressure on libraries to redesign their operations and services in response to users' demands have not only affected strategic planning and policy in libraries but also redefined the role played by information professionals. While the literature has reported LIS professionals working in academic libraries in developed countries as highly skilled in ICTs, and competent in application of modern information technologies to offer innovative web-based services, a significant skills gap has been reported amongst information professionals working in developing countries, including Nigeria. Therefore, this study seeks to investigate the skills level of LIS professionals in application of emerging

ICTs in academic libraries in Oyo state, Nigeria.

Objectives of the Study

The main objective of this study is to investigate the level of ICTs skills of LIS professionals working in an electronic environment. The specific objectives are to:-

i. evaluate the level of competence of information professionals in using ICTs.

ii. find out how the information professionals acquire their ICTs skills.

iii. investigate the relationship between information professionals' level of ICTs skills and methods of skills acquisition.

The study raised two (2) research questions and one (1) hypothesis which was tested at 0.05 level of significance.

Research Questions

1. What is the level of competence of the library personnel in application of ICTs.

2. What are the methods of acquisition of ICTs skills by the library personnel.

Hypothesis

1. There is no significant relationship between the information professionals' level of ICTs skills and methods of skills acquistion.

Methodology

This study is a survey and therefore, the appropraite design used was descriptive survey research design of the expo-facto type. This is because the various levels of ICTs which are excellent, good, average and poor have already existed in the respondents sampled.

Population and Sampling Technique

One hundred and fifty five (155) professional and para-professional library personnel working in six (6) government owned tertiary institutions in Oyo state constituted the population of the study. Total enumeration technique was used to enlist all the library personnel in the study. Although there are eight (8) tertiary institutions in Oyo state, six (6) owned by the government were purposively used for the study. This is because their mode of operation and management appears to be similar. For example, they are funded and regulated by the government. As a result, they will have almost similar policy and programme for staff training on ICTs skills acquisition. Since the entire population was used for the study, the sample size is the one hundred and fifty five (155) library personnel in the government owned tertiary institutions.

Instrumentation

Two instruments developed by the researcher were used to gather data for the study. The first instrument is ICTs Skill Questionnaire (ICTSQ) used to collect quantitative data. The second instrument used to collect qualitative data is ICTs Skill Interview Schedule (ICTSIS). The first instrument ICTSQ has two sections A and B. Section A sought information on questions related to the respondents gender, type of library where respondents are working, educational qualification, designation and section of work in the library. Section B of the questionnaire was designed to elicit information on the professional competence of library personnel in using ICTs for web-based services. It has response format of: Excellent = 4; Good = 3; Average = 2; Poor = 1 .The respondents were asked to tick appropriate column that described their level of competence in using ICTs tools for web-based services.

The instrument was given to experts in the field of Library and Information Science for correction and modification (content validity). Empirical validation was carried out by a pre-test and a cronbach alpha of 0.91 was established. This is a measure of internal consistency and construct validity of the instrument. The interview schedule was given to colleagues for face and content validity. A check-list was prepared with questions on level of application of ICTs in the libraries, issues of technical staff, skills acquisition, policy on training, funding and constraints to adoption and application of information technologies for library services.

Data Collection Procedure

Quantitative data were collected by using questionnaire. Data were collected from library personnel in six (6) academic libraries in Oyo state, Nigeria. The questionnaire was administered by the researcher and professional colleagues at a conference in Oyo town where members of the Nigerian Library Association, Oyo state chapter were gathered. Respondents were encouraged to fill and return the questionnaire before they left the venue of the meeting. Deliberate efforts were made to exclude the personnel in private universities from filling the questionnaire. Attendance register was used for identification and copies mistakenly filled were not used for analysis.

The researcher personally visited libraries to conduct interviews with heads of libraries and the system librarians/analysts heading the ICT units. Data were collected for four (4) weeks in December 2012. A total of one hundred and fifty five copeis of questionnaire were administered. 119 copies were filled and returned. This represents a response rate of 76.8%.

Data Analysis

Data gathered were analysed using simple descriptive statistics like frequency counts, mean, standard deviation and percentages. Inferential statistics of correlation analysis was used in testing the hypothesis.

Table 1: Questionnaire Administration and Retrieval

Libraries	No Administered	No Retrieved	% Retrieved
Kenneth Dike Library, Ibadan.	55	45	81.8
The Polytechnic Ibadan.	28	25	94.1
Ladoke Akintola University, Ogbomoso	27	16	59.3
Federal College of Education, Oyo	17	13	76.5
Emmanuel Alayande College Of Education, Oyo	15	10	66.7
Oyo State College Of Agriculture, Igbo-Ora	13	10	76.9
Total	155	119	76.8

Results

The tables below present the results of the analysis.

Research Question 1:

What is the level of competence of Library Personnel (Professionals and Para-Professionals) in application of ICTs for web-based services?

Table 2: Level of competence of Library Personnel in Application of ICTs Showing the Mean Scores and the Standard Deviation.

Items	Excellent	Good	Average	Poor	Mean	SD
E-mail	45 37.8	52 43.7	19 16.0	3 2.5	3.17	.78
Internet	55 46.2	41 34.5	11 9.2	12 10.1	3.17	.97
Computer	51 42.9	40 33.6	23 19.3	5 4.2	3.15	.88
Search	46 38.7	43 36.1	22 18.5	8 6.7	3.07	.92
Search Engines	38 31.9	55 46.2	20 16.8	6 5.0	3.05	.83
E-resources Search	39 32.8	45 37.8	26 21.8	9 7.6	2.96	.92
Use of OPAC	35 129.4	49 41.2	21 17.6	14 11.8	2.88	.97
Chafting	29 24.4	53 44.5	20 16.8	17 43.60	2.79	.97
Presentation	21 17.6	33 27.7	43 36.1	22 18.5	2.45	.99
Technology	15 12.6	41 34.5	41 34.5	22 18.5	2.41	.93
Project Management	14 11.8	38 31.9	37 31.1	30 25.2	2.30	.98
Trouble Shooting	5 4.2	40 33.6	48 40.3	26 21.8	2.20	.83
Web page design	18 15.1	26 21.8	33 27.7	42 35.3	2.17	1.08

Note; Figures in decimals are in percentages

Table 2 has shown the competence levels in ICT based applications and services. According to Table 2, E-mail has a mean score of 3.17 which signifies Good on the measurement scale; Internet, 3.17 (Good); computer, 3.15 (Good); Search, 3.07 (Good), search engines, 3.05 (Good). However, in using ICTs for presentation, the mean score is 2.45 signifying Average on the scale; Technology, 2.41 (Average); Project management, 2.30 (Average); Trouble shooting, 2.20 (Average); web-page design, 2.17 (Average). Table 2 has clearly shown that respondents are highly skilled in applciations of modern technologies for basic web-based library services. But, their skill level is average in some applications that require high level technological competencies and support of personnel with speciality in ICT.

Question 2: What are the methods of acquisition of ICT skills by Library Personnel

Table 3: Methods of Acquisition of ICT skills by Library Personnel

	ITEMS	Frequency	%
1.	Through self-development	64.0	53.80
2.	By attending workshops and seminars sponsored by the library	58.0	48.70
3.	By attending workshops and seminars sponsored by self	47.0	39.50
4.	By registering for ICT training courses on my own volition	43.0	36.10
5.	Through regular ICT training in the library	42.0	35.30
6.	By my training in the library school	42.0	35.30
7.	All the above methods	14.0	11.8

Table 3 reveals the means by which the Library Personnel acquire their ICT skills. Looking at Table 3, 64 (53.8%) of them acquire skills by self-development. 58 (48.70%) by attending workshops and seminars sponsored by the Library; 47 (39.50%) by attending workshops and seminars sponsored by self. Looking at Table 3, we can infer that majority of respondents have strong passion for developing their ICT skills. They manifested this by the sacrifices they made through personal efforts for self-development, sponsoring themselves for workshops, and registering for ICT training courses on their own. Although their libraries also contributed in boosting their ICT capacity, significant efforts were made through self-motivation.

Hypothesis 1: There is no significant relationship between the level of ICT skills acquisition of Library Personnel and methods of skills acquisition.

Table 4: Relationship Between the Level of ICT skills Acquisition of Library Personnel and Methods of Skills Acquisition.

Variables	n	X	SD	r	P
Level Of ICT Skills Acquistion	98	23.85	5.627	-.165	.10
Methods of skills Acquisition	98	26.93	7.405		

Correlation is significant at 0.05 level (2-tailed)

The hypothesis was analysed using inferential statistics and tested with Pearson Product Moment Correlation at 0.05 level of significance. As shown in Table 4, the mean score of level of ICTs skill acquisition by respondents is (X = 23.85, SD = 5.627) while the mean score of methods of skills acquisition is (X = 26.93, SD = 7.405). The result in Table 4 indicates that there is no significant relationship between the ICT skills level and methods of ICT skills acquisition (r = -.165, P>0.05). Therefore the null hypothesis was not rejected.

This implies that no particular method of skills acquisition could be recommended to be the best means of developing ICT skills by the Library personnel. All the methods are good enough to improve the ICT capacity of the personnel.

Discussion of Findings

The study has shown that majority of the information professionals have good basic ICT skills for using the Internet, computer and e-mail. However, least number of professionals are highly skilled in using ICT based applciation and services like well-page design, troubshooting and project management. The findings of this study corroborates Susan and Baby (2012)

findings which report that library professionals are moderately skilled in various technologies and applciations, but have low skills in the case of emerging web tools and services like web page designing. Similarly, Ugwuanyi (2009) has revealed that the level of ICT literacy skill among academic librarians in Enugu State is low though most of them indicated some element of computer literacy. The findings of the study also confirms Ramesh Babu, Vinayaga Moorthy and Gopalakrishnan (2007) study that reported that the librarians in engineering educational institutions in Tamil Nadu, India have acquired basic skills in ICT, but they lacked knowledge about network-based services and digital library services.

Another finding of this study is that majority of the information professionals acquired their ICT skills by self-development through informal training and education. This finding is in line with Safahieh and Asem (2008) which reported that majority of the librarians have acquired their ICT skills through informal channels. Similarly Tittel (2004) has remarked that although the traditional ways of acquiring knowledge and skills are still predominant, but new learning concepts which are self-directed and informal, have become increasingly popular.

This study has found that there is no significant relationship between the level of ICT skills acquisition and the methods of skills acquisition. This implies that various means could be adopted in acquisition of ICT skills. Some normal routes towards acquiring e-skills which are traditional could be employed like formal education, work experience, training (on-the-job or external); self-training or non-formal training. However, the acquisition of e-skills relies on natural abilities (personal attributes) (Cedetop, 2006).

Conclusion

The emerging digital environment in which libraries operate necessitates the development and acquisition of new technological skills by information professionals. The respondnets of this study appear to have adjusted and shifted from the traditional model of service delivery by their acquisition of skills for some ICT based applications and services. This study has shown that even though the information professionals are good in using some ICTs tools and performing some web based services, they still need to improve in their skills acquisition beyond their use of basic ICT skills.

Recommendations

Based on the findings of this study the following recommendations are suggested to improve the technological competencies of the library personnel.

1. An enabling web environment should be provided for the Library Pesonnel to develop their ICT skills
2. The Library Personnel must strive by all means to develop new skills and improve on their knowledge about new technologies
3. The Library Personnel should make themselves available for training in the acquisition of modern ICT skills when such opportunities arise.
4. The Library management should have an ICT policy that will systematically take care of regular training for staff whenever new technologies emerge.
5. Fund should be allocated for regular staff development in ICT through in-house training and attendance of workshops and seminars organized outside the workplace.

References

Adedoyin, S.O. 2006. ICT Literacy Among the Staff of West African Unviersity Libraries. A Comparative Study of Anglophone and Francophone Countries. The Electronic Library, 24(5), 694-705.

Ashcroft, L. & Watts, C. 2005. ICT Skills for Information Professionals in Developing Countries: Perspectives from a Study of the Electronic Information Environment in Nigeria. IFLA Journal/31 (1): 6-11.

Cedefof Dossier Series 13. 2006. ICT Skills Certification in Europe. Luxembrourg: Office for Official Publications of the European Communities.

Chigbu, N.M. An Evaluation of ICT skills Acquisition and Use. Retrieved January 15, 2013 from: http://dspace.futminna.edu.ng/jspui/handle.

Lukasiewicz, 2007. Exploring the Roles of Digital Academic Libraries. Library Review: 56:821-827. Emerald.Delhi University Library. Delhi.Retrieved from http://www.

Mullins, V. Ferguson, S. and Houghton, J. 2000. INFO 100. The Information Society and Future of Library and Information Services: Study Guide. Charles Sturt University, Wagga. P.5.

Quadri, G.A. 2012. Impact of ICT skills on the Use of E-resources by Information professionals: A Review of Related literature.

Available at http://www.webpages.uidaho.edu/il mbolin/Quadri.

Ramana, P.V. 2006. The Changing Role of Librarian in a Challenging Dynamic Web Environment. retrieved December, 5, 2012 from: http://ir.inflibnet.ac.in/dxml/bistrea m/handle.ining.

Ramesh Babu, B.P. Vinayagaamoorthy and Gopalakrishnan, S. 2007. ICT Skills Among librarians in Engineering Educational Institutions in Tamil Nadu, DES/DOC Bulletion of Information Technology, 27 (6), 55-64.

Safahieh, H. and Aseni, A. 2008. Computer Literacy Skill of Librarians: A Case Study of Isfahan University Libraries, Iran. In A. Abdullah (Ed), ICOLIS (pp. 51-58), 17-20 November, University of Malaya, Kuala Lumpur: LISU, FCSIT.

Satpathy, S.R. and Maharana, R.K. 2012 ICT skills of LIS Professionals in Engineering Institutions of Orissa, India: A Case Study. Retrieved, June 18, 2013 from: http://www.webpages.uidaho.edu/∩ mbolin/satpathy.

Susan, M.K. and Baby, M.D. 2012. Developing Technology Skills for Academic Libraries. A Study Based on the Universities in Kerala, India. Retrieved June 18, 2013 from: http://unlib.un/.edu/LPP/Mathew-baby.htm.

Tittel, E. 2004. Learning with Style: What is your Learning Personality? Certification Magazine, Available at http://www.certmag.com/articles/te mplatescmag.

Troll, D. 2002. How and Why Libraries are Changing. What we know and What we Need to know. Retrieved December 19, 2012 from http://repository.cmu.edu/cgi/viewc ontent.cgi?

Ugwuanyi, F.C. 2009. Information and Communication Technology (ICT) Literacy Among Academic Librarians in Enugu State. The Information Technologist 6(1). Retrieved November 13, 2013 from: http://www.ajo/info/index.php/ict/search/authors/view