ICT COMPETENCIES OF LIBRARY STAFF AT THE UNIVERSITY OF ABUJA, FCT AND UNIVERSITY OF JOS, PLATAEU STATE.

BY

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PG/MLS/02/33116

A PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS DEGREE (MLS) IN LIBRARY AND INFORMATION SCIENCE.

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This project has been approved for the award of MLS degree of the Department of Library and Information Science, Faculty of Education, University of Nigeria, Nsukka.

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CERTIFICATION

This is to certify that, Ngozi Ojiegbe, a postgraduate student in the Department of Library and Information Science, University of Nigeria, Nsukka with Registration Number PG/MLS/02/33116 carried out this research on “ICT Competencies of Library Staff at the University of Abuja, FCT and University of Jos, Plateau State”. The work presented in this project report is original.

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DEDICATION

This work is dedicated to Almighty God who gave me protection, strength and wisdom throughout the course of this research work.

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ABSTRACT

This study investigated the Information and Communication Technology (ICT) competencies of library staff in the University of Abuja, FCT and University of Jos, Plateau State. The objective of the study was to find how competent library staff are in using ICT facilities to do their job. Five research questions were formulated to guide the study on Areas of work staff use ICT, levels of competence, methods of acquiring competencies hindrances to competency acquisition and strategies to improve the situation. Data relevant to the study was collected using questionnaire design sampling technique. A total of 136 copies of questionnaire were distributed out of which were rightly completed and returned. Data were analyzed using percentages and mean scores. Findings revealed that many library staff in university libraries perform Microsoft Word based tasks like typing and printing of documents, can provide online searches using internet but cannot perform effective professional library related duties using ICT. Staff need ICT competencies in the areas that can assist them handle professional related duties, like internet skills, mastery of library softwares and technical skills. Library staff acquired ICT training mainly through personal practice, on the job training, seminars, conferences and workshops, but preferred training through library schools. The major problems that hindered ICT competency acquisition among library staff are lack of funding, higher authority not willing to release their staff to go for further training, lack of opportunities, lack of ICT training facilities and inadequate curriculum content for ICT in the library schools. Strategies to improve the ICT competencies of library staff are by provision of more ICT facilities in library schools, development of personal interest by staff to acquire ICT competencies, sponsorship and study grants, study leave to be granted to staff to go for Competency acquisition trainings, also the authority should be willing to release staff for studies and recruit more staff to reduce work load. Suggestions on areas for further studies on ICT competencies of library staff were also made.
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CHAPTER ONE

INTRODUCTION

Background of the Study

The use of Information and Communication Technology (ICT) facilities in performing library functions is becoming very useful in the Universities because it makes service delivery to users faster and more efficient. ICT provides speedy, accurate and precise information; it also has flexibility of usage by different users. With the presence of ICT facilities like the World Wide Web, and Internet connectivity, individuals can access information from unlimited sources. It also gives users opportunity to work at their own pace and according to their own needs. As noted by Adebisi (2009), in
Hinderson (1992), ICT in libraries ensures speedy and easy access to information from unlimited sources.

The term Information and Communication Technology (ICT) evolved from Information Technology (IT). Whereas Information Technology is used to refer to the latest trend and devices that enhance information processing and usage, Information and Communication Technology (ICT) on the other hand is used to represent the process or act of exchanging or sharing information using the existing technological facilities. Nwachukwu (2005) defines ICT as a device or tool that allows for the collection, storage, processing or the communication of information. It is a kit or equipment used for capturing, processing, storing and accessing information. (Ekoja, 2007). ICT devices or equipment which are used to acquire or impart information or knowledge are seemingly endless. They include calculators, photocopiers, computer related devices etc. Although ICT devices are many, for this project work, the emphasis is on computer related ICT devices.

The benefits of ICT in libraries generally and university libraries in particular are innumerable. Chisenga (1995) acknowledges that ICT applications improve service delivery in libraries and allied institutions responsible for information provision. Most library functions such as, Acquisition, Cataloguing and Classification, Reference services, previously handled manually are now performed electronically using ICTs. This has helped to reduce time spent on doing the jobs and with less mistakes. Nwalo (2000) lists some of the benefits of ICT to libraries as: being able to automate technical services; to provide efficient references and information services; to network operations such as cataloguing, authority control,
interlibrary loans and International bibliographic project. These functions become faster and less cumbersome to perform with the help of ICT facilities. Ajayi (2001) describes a library transformed into a new information service unit, providing electronic cataloging, On-line Public Access Catalogue (OPAC), electronic acquisition and serials control, electronic inter-library loan and electronic circulation functions.

The University library which has long been recognized as ‘the heart’ of every academic institution is one place where the benefits of ICT are prodigious. As the centre of intellectual activities of the university, it has an important role to play to make sure adequate information materials are provided and that adequate assistance is given by the library staff to ensure that the information needs of the staff, students and researchers of the university are met. Modern ICT facilities such as internet, can enable the university library provide content and information dissemination by means such as electronic thesis and dissertations, which students and researchers can benefit from millions of pages of relevant information on the web.

Edoka (2000) summarized some functions of the university libraries where the application of ICTs is imperative for better accomplishment. They are as follows:

a. to provide information materials required for the academic programme of the parent institution

b. to provide research information resources in consonance with the needs of faculty and research students

c. to provide information resources for recreation and for personal self development of users.

d. To cooperate with other libraries at appropriate level for improved information services.
e. To provide specialized information services to appropriate segments of the wide community

Following Edoka’s summary, the areas of library functions seem probably the aspects ICT resources can be employed to an advantage to improve the services of university libraries.

In recognition of the importance of ICT in the university library services with regards to the need for effective and efficient service, many universities with the assistance from the federal government have struggled to bring ICT facilities to their libraries. The Federal government of Nigeria through the National Universities Commission (NUC), The Educational Trust Fund (ETF) as well as individual universities’ efforts, has made ICT facilities available in some of the university libraries which Abuja and Jos are beneficiaries. Obviously, the provision of these facilities must have involved the expenditure of a huge amount of money. However, to successfully exploit the ICT facilities for full benefits, the library staff are the indispensable intermediary between the library materials and users. As a result, they must be able to use the facilities effectively. With the ICT facilities, the professional librarians, para-professionals and other staff working in the two university libraries who are the custodian and purveyors of information are challenged with new information to store, process and disseminate. The implication is that the library staff who are at the forefront of information provision in these university libraries must possess adequate ICT competencies to be able to maximize the facilities to full benefits. Abdulganry (2000) points out that the new information technology cannot be fully exploited if there is no adequate level of ICT competencies among the library staff. Given this, staff working in university libraries are now expected to be aware of and capable of using and
demonstrating emerging Information and Communication Technologies (ICTs). They must be competent in the use of some basic ICT packages like the MS Office, Online databases, internet searches etc. Similarly, Ikpaahindi (1999) advocates skills acquisitions requirement in the areas of knowledge of computer, how it functions; imputing and retrieval of information from it,… ability to organize and use ICT based resources. It is therefore pertinent for university library staff to develop the required competencies in the area of ICT to augment the traditional library services. They must develop expertise in and establish programme in knowledge search and management support of clienteles’ needs.

Competence is viewed as demonstrating the knowledge, skills, experience and attributes necessary to carry out a defined function effectively. It is the acquisition of knowledge, skills and abilities at a level of expertise sufficient to be able to perform appropriately a given task in a work place. Wojtezak (2000) defines competence in generic term as possession of satisfactory level of relevant knowledge and acquisition of a range of skills that include interpersonal and technical components at a certain point in the educational process. Such knowledge and skill are necessary to perform the tasks that reflect the scope of professional practices. It is a combination of theoretical and practical experience that makes an individual able and willing to take the right decision in daily working environment.

ICT competencies of library staff could therefore be viewed to be those relevant skills and knowledge to be acquired by those working in the library to be able to fully exploit information search, retrieval, and deliver using electronic format. The library staff working in the University of Abuja and Jos libraries are expected to possess the technique
for gathering, processing and disseminating information to users via the electronic format or skills required to effectively source information stored in electronic format, such as basic computer operating skills, internet and electronic document search skills and also storage and information skills. They should also be competent in the use some of library software packages that can enable them handle the professional technical operations in the library like cataloguing, classification and to generate user databases. For this research therefore, competencies and skills will be used interchangeably.

The University of Abuja library was established in 1988, to support teaching, learning and research programmes of the university. In addition to the main library located at the main campus, the university operates three branch libraries, namely: Law library, Agriculture library, Veterinary and the Medical libraries. All the branch libraries are administered from the main campus and their services were performed manually until 2005 when ICT was introduced into the library. This has made it possible to provide some of the services online. Through the Education Trust Fund (ETF) project and effort of the university, the library has acquired seventy (70) computer systems. It has an e-Library with sixty (60) sets of computers fully internet ready; a server where staff, researchers, undergraduate and postgraduate students use the internet facilities for their studies and also printing services are provided for users. The library through the Nigerian Universities’ Commission (NUC) virtual library subscribes to some foreign journal databases like the AGORA, HINARY, DOAJ, AJOL and Bioline International. These e-resources are made available to their users online via the library’s e-library laboratory. It is currently embarking on online cataloguing of its materials using Library of Congress free database; generating user database for circulation using the GLASS software. These
ICT resources are essential to services without which library users are not assisted satisfactorily to meet their needs. The e-library laboratory is managed by Higher Library Officer who only has ICT knowledge while the circulation, cataloguing and classification units are headed by professional librarians. The unit heads and some para-professional staff were given On-the-Job training to use LC database and GLASS softwares.

The University of Jos library started in 1975 at the same time with the university with a mission, just like every other academic library, to provide services to support academic activities of the parent institution. It has two libraries, the main campus library and mini campus library all with ICT facilities. Before the introduction of ICT into the library system, all the operations and services in the library were carried out manually. At present, the university library has two ICT laboratories with internet and printing facilities. It provides free internet services to their staff and student users. Also there is a wireless laboratory at the main campus library where users with their personal computers browse. The ICT department of the library is headed by a systems librarian who is a senior staff, a programmer, system technician and other junior staff who are expected to assist the users. Organization of functions in the University of Jos library is subject based and all the functions are provided by the aid of ICT facilities. The manual catalogues are being replaced by online catalogue (OPAC), also the library subscribe to many electronic journals and books. The university library provides word processing services to their users, that is, typing project work for students using the Microsoft Word. The university library also embarks on digitization of their thesis and dissertations, both retrospective and current ones, and it is hosted on the university’s website.

**Statement of the Problem.**
ICT is an indispensable tool for information service delivery in modern university libraries essentially for its speed, accuracy and high precision. With the aid of ICT, information is generated quickly with less mistakes and it ensures dissemination of precise and concrete information.

Though the ICT facilities have been provided, it is observed that they are not effectively utilized by staff in some university libraries. Therefore, uncertainty exists about whether library staff possess adequate competencies to operate ICT facilities effectively. The overall ICT objectives in university libraries can only be achieved if the library staff that use these facilities possess the right competencies. Where the needed ICT competencies are lacking in them, then university libraries in Nigeria would probably be cut off from the rest of the world in terms of globalization. This would further cripple the university’s basic objectives of teaching, learning and research.

To remedy this, there is an urgent need to investigate the ICT competencies of staff working in the Nigerian university libraries and how can these be improved, failing which millions of money spent in acquiring the ICT equipment will be a waste. This in fact is what this study is poised to do.

**Purpose of the Study**

The general purpose of the study is to examine ICT competencies of library staff in the Universities of Abuja and Jos libraries.

Specifically, the study will seek to:

1. Identify the areas in which library staff working in the University of Abuja and University of Jos use ICT.

2.Ascertain the levels of ICT competencies of staff in the two university libraries.
3. Determine the methods used in acquiring ICT competencies.

4. Identify constraints in acquiring ICT competencies by library staff.

5. Determine strategies for improving ICT competencies of library staff

**Research Questions**

The following research questions have been formulated to guide the study:

1. In what areas work do library staff in the University of Abuja and Jos libraries use ICT?

2. What is the level of ICT competencies possessed by staff in Universities of Abuja and Jos library staff?

3. What are the methods used in acquiring ICT competencies?

4. What are the problems hindering the acquisition of ICT competencies by the staff?

5. What are the strategies for improving ICT competencies of library staff?

**Significance of the Study.**

It is expected that the findings of this study when completed will be useful to practicing librarians by exposing them to know the type of ICT competencies they need to possess in order to perform optimally in the profession and develop their competencies in such area of ICT’s. It will also assist Curriculum Developers in the department of Library and Information Science to provide useful information about the type of professional training required by modern information workers. This will help them to plan a rich academic course content that will incorporate ICT competency training programmes.

The findings may motivate University Authority to provide the required quantity and quality of ICT facilities that will enhance teaching and learning of Library and
Information students. This will also give trainers and educators in the library school a re-direction on focused areas of training and also help them to develop their own competencies on such areas. And the library users will benefit from this because if the library staff are well trained, they will render better services to the users.

It will also contribute to existing body of knowledge in the area of library and Information studies that will be beneficial to future workers/researchers in the field of library and information science.

Scope of the Study

This study covers Information and Communication Technology (ICT) competencies of library staff in the Universities of Abuja in the Federal Capital Territory and Jos in Plateau State all in the North Central geo-political location of Nigeria. Although Abuja is treated as stand alone because of its status as the Federal Capital Territory, but in terms of location, it is situated within the North Central zone.
CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter intends to review literature of related works that have been carried out on the topic. Literature is reviewed under the following headings:

Conceptual Framework/ Theories

Concept of Information and Communication Technology (ICT)

Concept of Competencies

ICT work related areas by library staff

Levels of ICT competencies of staff

Methods of acquiring ICT competencies by library staff

Problems hindering the acquisition of ICT competencies by library staff.

Strategies for improving ICT competencies of library staff
Review of related empirical studies

Summary of review of literature

Conceptual Framework

Concept of Information and Communication Technology (ICT)

Information and Communication Technology (ICT) is a force that has necessitated not only the upgrading of academic libraries and their information systems physically, but also the staff skills development so as to provide the clienteles with efficient services. It is a conveyance of interest between electronics computing and communication all leading to the rapid development of micro electronics. UNESCO (2001) defines Information and Communication Technology (ICT) as the scientific, technological and engineering disciplines and management techniques used in information handling and processing. It is a concept which evolves from Information Technology (IT) when the processing of information with electronic technology was integrated with telecommunication. Computer, Information Technology and Communication are inseparable when ICT is discussed. These three form the major components of ICT device in the world today. In this view, Gurari (2009) defines it as simply a combination of technology of computer hardware and software and telecommunication such as telephone systems, CD-Rom, fax machine, sound satellite communication systems etc. Meyer (1997) sees ICT as the hardware, software, telecommunication technology, human skills and intellectual content that enable the study, design, development, implementation, support, management or use of intellectual expression. ICT encompasses hardware, software and all other forms of intellectual
contents and human skills that can enhance information gathering, processing and dissemination. Thus, the Nigerian National Policy on Information Technology (2004) takes IT to mean

*Computers, ancillary equipment, software and firmware (hardware) and similar procedures, services (including support services and related procedures. The term includes any equipment or interconnected or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information. (Federal Republic of Nigeria, 2004).*

Information and Communication Technology has fundamentally changed the practices and procedure of nearly all forms of endeavours both within business and the government sector because of the numerous benefits that accrues from its use. The imperativeness of ICT’s in modern librarianship can not be over emphasized. Ezeani and Ekere (2009) regard ICT as the highest medium by which the highest quality service in the library and information profession can be achieved and Nwalo (2000) opined that librarians are duty bound to apply ICT in the 21st century. Faulkner (1997); Ramana (2006) and Nwalo, (2009) are of the view that the use of ICT has tremendous impact on library operations, resources, services, and users. The use of ICT provides quality information handling, especially in academic libraries; it also builds strong and effective communication system. Adebisi (2009) referring Anachobi (2007) quotes that ICT provides libraries with capabilities for location, storage, retrieval and dissemination of information including those stored in other computers around the world in websites with the help of Internet. Okore (2005) furthermore adds that, ICT have potentials of ensuring the dissemination of precise and concrete information as well as facilitating effective link between different categories of people and institutions worldwide.
The advent of ICT in libraries has changed manual system of gathering, processing, and disseminating information to users and has also made information service as well as information access much easier and faster. Tiamuyi (2000) opines that ICT increases effectiveness and efficiency in performing basic data handling task there by reducing the unit cost of the various library operations. ICT has imparted on house keeping activities in libraries such as selection, acquisition, cataloguing and classification often referred as behind the scene services.

In the recent time, the university library services have been strengthened by the use of Information Communication Technology (ICT) facilities in providing required information to support the Teaching, Learning, and Research programmes of the parent institution. It is because of these immense benefits of ICT that National Universities Commission as the government agency charged with the coordination of University development in Nigeria has tried to create a mutually beneficial atmosphere for the Universities by creating the Nigerian Virtual Library project which University libraries in Nigeria are linked to. Through this project, the University libraries receive E-Resources and Online journals for the benefits of their users. Adebisi (2009) referring to Henderson (1992) enumerated some of the benefits ICT to library users. They are: Provision of speedy and easy to information, provision of remote access to users, provision of round-the-clock access to users, access to unlimited information from different sources and providing more current information. This has provided solution for the problem of delay in information access and use. It has made information sharing effective and efficient. With blinding speed the internet can link a lone researcher sitting on a computer screen to mountains of data all over the world which may otherwise be too expensive and too
difficult to tap. Emuhohwo and Abdullahi (2006) quoting (Gary 2004) write that Through ICT support services like www, network programming software, hardware items like CD-Rom, Diskette, flash diskette which can serve as good storage facilities for longer time and record can be reproduced from them at will, the problem of record keeping is reduced to barest minimum. Commenting on the importance of ICT to libraries, Ifidon (1998) commenting on the speed ICT works, quotes:

*the most important advantage of ICT is the is processing speed, therefore bibliographic checking, ordering, receipt, cataloguing and circulation operations are performed much more quickly. Thus, readers’ request are serviced soonest coupled with the fact that accuracy of records are significantly improved since errors are easily dictated when computer edits the inputs.*

Not withstanding the fact the ICT has greatly transformed the world of information, gathering, processing and information delivery positive in terms of speed, accuracy and reduced cost, it has some negative sides. Ekwe (2006) sites some negative sides of ICT as: influence on the moral and overall psychological development of student; time consumption and wastage on watching programmes, films, worthless video CD’s etc., logging on pornography and social bad behavior. These can bring negative influences on the users most especially the young users.

**Concept of Competencies**

Competence is viewed as demonstrating the knowledge, skills, experience and attributes necessary to carry out a defined function effectively. It is the acquisition of knowledge, skills and abilities at a level of expertise sufficient to perform appropriately in a given task in a work place. The UK Cultural Heritage National Training Organisation (CHNTO, 2004) refers competence to mean a test to the ability of an individual to do a
job or work to nationally agreed standards. According to them, a key concept in the idea of competence is linked to ability to:

- Perform activities within an occupation or function,
- Work consistently to agreed standards - a person’s performance must meet specific criteria before he or she can be termed competent,
- Transfer skills to a range of situations within, and even external to, the central occupational area.

Competence is seen as having dimensions of quality and scope. The desired quality of performance should be encapsulated into the performance criteria, whereas the scope of the competence can be found in the range statements which describe the different situations in which someone is expected to be able to work. According to Onasanya (1990), competence refers to specialized knowledge, skills, and attitudes which are necessary for effective performance in a position. It means the ability to carry out a given task effectively. According to Wojtezak (2000), such knowledge and skills are necessary to perform tasks that reflect the scope of professional practices; however, he warns that those competencies only are not equal to formal professional qualification. Similarly, Larzen (2006) agrees that it is a combination of theoretical knowledge, skills and practical experience that make an individual able to take the right action in the daily working environment. Regardless of training, competency would grow through experience and the extent of an individual to learn and adapt.

The UK Training Agency (1988) defines as:

... the ability to perform the activities within an occupation or function to the standards expected in employment. (This includes)... the ability to
transfer skills and knowledge to new situations... organisation and planning of work, innovation and coping with non-routine activities... (and the) personal effectiveness... to deal with co-workers, managers and customers.

This stems from an understanding (that) to perform effectively in a work role an individual has to combine performance of various technical and task components, overarching management of the various technical and task components to achieve the overall work function, management of the variance and unpredictability in the work role and the wider environment, (and) integration of the work role within the context of the wider organisation, economic, market and social environment.

Within a specific organization or professional community, professional competency is frequently valued. For every profession, organizations and communities, there are usually some competencies that must be required to perform some primary tasks and to retain a post or to remain valid in the system. Dreyfus and Dreyfus (1980) grouped these competencies into four general areas. These are:

a. Meaning Competency
b. Relation Competency
c. Relation Competency
d. Learning Competency

Meaning Competency: The person assessed must be able to identify with the purpose of the organization or community and act from the preferred future in accordance with the values of the organization or community.
Relation Competency: The person’s ability to create and nurture connections to the stakeholders of the primary tasks must be shown.

e. Learning Competency: The person assessed must be able to create and look for situations that make it possible to experiment with the set of solutions that make it possible to complete the primary tasks and reflect on the experience.
f. Change Competency: The person assessed must be able to act in new ways when it will promote the purpose of the organization or community and make the preferred future come to life.

These four competency groupings are most applicable in the Library and Information profession. In the library profession, there is a paradigm shift which has resulted from Information, Communication Technology (ICT) revolution. This has changed the traditional methods of library operations and services. The library staff are therefore required to have a change in the traditional professional competencies they have and incorporate the use ICT’s if they are to perform optimally and retain their position. They must learn the new methods of carrying out library functions using the new ICT technologies. It is on this competency grouping that the Abbots Model of Change and Bourdieus’s Change theories which act as guide to the present study take premise. These theories which explain how change can push people to acquire new competencies were analyzed by House and Sutton (1996). Change is a force that drives people to develop new competencies.

The Abbots Model of Change is regarded as “Professional Evolution Theory.” Abbot in his Model discusses how professional evolution is dictated by the development of new problems and new knowledge systems and therefore new tools and treatment for
these problems are necessary. He opines that a profession may work to retain jurisdiction of other professions over the problem to extend or change its jurisdiction over the newly treated problems or to pre-empt the jurisdiction of other problems. Knowledge according to Abbot is the currency for competition. (Abbots, 1988). The Library and Information profession is passing through evolutionary changes as a result of the introduction of ICT in to the profession. This has brought changes in ways library operations are handled and therefore the need for staff to develop competencies that can enable them work effectively with ICT if they are to retain their position. On the other hand, the The Bourdieu’s theory of Change is termed a “revolutionary theory.” The core concept in the theory is “the habitus”, a system of dispositions determined by past experiences, particularly by one class, education or profession. The theory explains how competitions among various professions can drive to learning new skills and developing competencies. Individuals compete for dominance within a profession or a field, they compete for success; they determine the rules and the standards by which success is determined. The players and even the boundaries of the playing field are determined in such a manner as to perpetuate their advantage and dominance.

The point here is that Library and Information profession is now operating on a very competitive environment set by the fast growing Information and Communication Technology (ICT). Library staff are facing stiff competition from new entrants from other related professions trying to infiltrate into information market which hitherto is monopolized by librarians. Library profession is not the only profession seeking to claim jurisdiction. Historical claims of jurisdiction are of limited value in the face of such competition. The question then is “what must library profession do to survive?” Diamond
and Dragich (2001), maintain that, real battle for professional recognition is waged in the market place and library staff need to deliver in terms of value, skills and competencies. These theories have two clear messages for library profession:

a. that information profession must wake up to acquire competencies, knowledge and skills to survive in the era of change.

b. That Library and Information profession must adapt to changes to survive being kicked out of the information employment which demands new skills and competencies for effective provision of library and information services and getting competitive advantage.

According to House and Sutton, (1996), the game itself is dynamic; competitors who believe that the roles are fixed are disadvantaged.

Some of the changes visible in the library and information profession demands technological competencies by library staff. Staff working in the academic libraries must develop competencies in ICT if they want remain effective in the sector. It is therefore imperative for academic libraries’ staff to follow trends of change relevant to their services. Such staff should always be equipped with knowledge, skill and competencies not only to manage change when it occurs, but also to predict change or be proactive to change. They need to acquire new competencies or update the old ones to manage change and information responsibilities in the prevalent environment. Danner (1998) points out that the way we can maintain our professional status is through doing well those things within our traditional or professional expertise. It is therefore important for library staff who have already mastered the traditional method of library services and operations to develop their competencies in the use ICT to update their traditional
competencies. This will help them to remain relevant in modern information service provision.

The use of competencies has been recognized as one means of providing a clear definition for the profession. ICT competencies of library staff in the university libraries are those skills, knowledge and experiences which if acquired will give the staff access to explore the use of modern ICTs to perform library operations effectively. Biddiscombe, (2001); Sharp, (2003) both assert that information professionals must be flexible and acquire skills to incorporate the required technological advances.

**Areas of work library staff use ICT**

Prior to introduction of ICT to functions and operations of library and information services, academic library services were basically manual and the information sources were predominantly in print. The infusion of ICT in library profession is an improvement on what already existed and requires development of added competencies to incorporate the new trends. Biddiscombe (2001); Sharp (2001) and Makera (2001) are of the belief that library staff must first possess adequate competencies in the traditional functions of the library using the technological advances to enhance the already existing competencies. Information professionals and library staff must be flexible to adapt traditional skills to incorporate the requirements for new technological advances. The current competences possessed by librarians are categorized according to the main functions of information profession. This Makara (2002) grouped into: acquisition of information, technical processing and organization of materials, storage of information materials, dissemination of information, and resource management.
Acquisition of Information: Staff involved in Acquisition need competencies in the use of Internet and other Electronic technologies. The format for selection, evaluation and locating electronic information sources differ from the physical format, therefore the staff need competency in the use of internet and electronic technologies.

Technical processing and organization: Library staff require competencies in the use of Metadata standards such as Uniform Resource Identifier and Dublin Core and various other abstracting and indexing techniques that are used in processing of online resources.

Storage of information materials: Sometimes electronic documents are removed from the internet after time. The library staff has need to store specific information they think the users would need in the future. To do this, the library staff need competences on how to store electronic file in such a manner that it can easily be retrieved. Such competencies like how to develop Subject Based Information Gateways (SBIG) and Subject Based Web Portals (SBWP).

Dissemination of Information: Competence in surfing the Web is highly needed among library staff working in academic library. Knowing that the internet contains so much information and that most of it may not be relevant to a user each time they carry out a search. The staff therefore need to know which search engines to use for specific searches, what electronic databases to search; search strategy for different search engines and databases; and the best format in which outputs should be repackaged. Eyitayo (2008) rightly points that lots of information are available on the internet; however, skills are required in order to be able to gather these information on the web, therefore library staff should be conversant with the search engines, metadata, and be able to access them effectively.
Resource management: Issues of access and preservation of information in modern ways such as digital format are becoming very crucial in libraries especially in the academic environment. The library staff therefore are required to have competencies to facilitate this, such competencies as digitizing an information collection.

Library staff who are the intermediaries between the users and information should be competent in the use of ICTs to enable them assist the users efficiently. Ramana (2006) highlights some important items of new technologies on which library staff and information professionals need to seriously think about in improving their competencies for effective utilization in delivering need-based high quality information services to the user community. These, according to him are: ICT trends; Metadata standards; Web technology; Search technologies; Digital Information Resources; Subject Gateways; Information Portals and Vortals; E-learning (Online learning); online Information Services; Digital Rights Management; Wi-Fi and RFID Technology. Likewise, Akintunde (2004) maintains that the staff in today’s libraries must be multi-skilled in the management of text, voice and graphics in completely new media of storage and access. He must be flexible enough to update his skills constantly with the ever-changing technology. For instance, the storage devices have undergone several changes in the last ten years – from magnetic tape, to low memory hard-disks, to 5½ floppy diskette, to 3½ floppy diskette, compact disk (Compact disc read only memory (CD-ROM), to higher capacity hard disk, remote servers, and now Universal Serial Bus (USB), and most currently hard flash drives. Similarly, Solomon (2002) identifies five competencies that are required for facilitators of on-line interaction, they include: understanding of online
process, technical skills, online communication skills, content expertise and personal characteristics.

Generally, all library staff working in academic libraries should possess ICT competencies so that they can adequately guide library users. Such competencies, Quinn (1992) opines should include:

*Expertise in the concept of the organization of knowledge; skills in information transfer theories; skills in synthesis of information; sensitivity to information transfer issues; appreciation of the use of information to gain competitive advantage; training in world wide information resources; experience in the techniques and skills of information dissemination; training in information dissemination and skills. (p.59 ).

Also, Csapo (2002) notes some basic IT competencies required for success in a work place. These include, using the computer and managing file, word processing, spreadsheet, databases, presentation, internet and E-mail. The knowledge of them is described as computer competency. (O’Leary and O’Leary 1994), Salaam (1999/2000), maintain that such knowledge is needed by librarians to enhance their performance in the variety of library functions such as, maintaining and providing access to catalogue of items in the collection; the acquisition of new items for collection; controlling of serial publication, retrieving of information from local files, searching external on-line information (database), sourcing literature and accessing full text document for reference. Oni (2004) summarizes these competencies as house-keeping functions and advices that library staff should be competent in the use of basic computer tools for efficiency and relevance in the library profession.

In the library environment, information and communication technology trends are at very high speed. New ICT’s are introduced and previous ones updated. Academic library staff are at the peak of information provision. Therefore they need to constantly
improve their competency level and adapt to the use of these modern ICTs. Smith (2000) and Massis (2003) opine that library staff currently need to be equipped with knowledge and skills for operating a virtual library, therefore requires such competencies in the latest search engines and fluent internet searching. For library staff and information professionals to meet the challenges, must be competent to adapt to the incessant technological advances and perform effectively in accordance with the technology-driven information need of users, it is imperative that they update their knowledge and technological skills for offering real-time service to patrons.

Having ICT competence is not a luxury in today’s society, it is essential skill in terms of employability. ICT competencies are prerequisites for achieving desired performance level. Koneru (2006) is of the view that employability skills today encompasses core key skills, such as communication, teamwork etc, he goes further to say that equipping the information professionals with ICT competence is necessary for: knowing how to use ICT to enhance efficiency; using ICTs to locate information for users; using ICTs to support users’ effective learning and development; and managing effectively the ICT-enabled services and resources. Cote (1989) analyzing job advertisement for the 1987-88 to identify what type of job market existed, and skills required for the jobs, concludes that employers now look for library staff that possess good computer and communication competence. The market demand for LIS graduates who have strong ICT competencies has expanded. Both public and private sector organizations do not necessarily want librarian with traditional perspective, rather they need versatile professional who is able to participate actively in relevant information service, providing access to relevant information sources, searching and synthesizing
data, repacking information and adding any other value that enhances the effectiveness of the organization. The librarian needs to be competent in the use of modern ICT tools to be able to achieve credibility.

**Level of ICT Competencies possessed by Library staff**

As more university libraries are adopting the use of Information and Communication Technologies (ICT) to augment the traditional services in the library, it is expected that the library staff have substantial skills and competencies needed to be able to offer high quality service to users visiting the physical library. Likewise it is expected that they have substantial level of knowledge, skills and competencies needed for developing and maintaining electronic services and for dissemination of relevant services and facilities required by web-users. International Telecommunication Union (2007) report on technical side described Africa as still having the heaviest concentration of countries with low ICT education and competencies.

Ekoja (2007) asserts that ICT competency acquisition among library staff in Nigerian universities are still below average. According to him many librarians and library staff working in the Nigerian university libraries are unable to use ICTs even when they are available. Only very few library staff who have made effort to acquire competencies in the use of ICTs have put them into practice. Library professionals work in the midst of knowledge repositories which give them abundant opportunities to learn and develop themselves. Noting that this opportunity is not used by library and information professionals, Kaula (2004) opines,

*It is unfortunate that librarians are no longer eager to study by themselves even though the library where they work is an agency for self-education. Even if they are professionally qualified, they*
seldom keep themselves in touch with the professional literature to know the new ideas, new theories, new techniques and new technologies introduced for rendering desired services (p.18)

If this assertion is true, then it is as a result of the nature of training they received in years past and failure of some to develop themselves by acquiring ICT competencies on the job. Many library staff in academic institutions rely only on the manual ways of discharging library services and do not bother acquire competencies to incorporate the fast growing technological trends in the profession.

As far as ICT is concerned, Okojie (2007) believes that a lot of grounds still need to be covered as regards the deployment of ICT to work by library staff. She maintains that many librarians in Nigeria still do not have even the most basic ICT skills and can not use the internet, despite all encouragements offered by the Nigerian Library Association to improve ICT competency development among librarians, through such awards as: Dr James O. Daniels award for best Library-based ICT Project and the Young Library and Information Professionals (YLIPs) by NLA to encourage creativity and innovation in the use of ICT among young librarians in Nigeria.

Discussing on the challenges faced by reference librarians, Anyaogu (2007), lamented that many reference librarians posses very low range of intellectual and professional competence to assist users. Also Ezeani and Ekere (2009) observe that ICT use is relatively low among practicing librarians especially the older librarians. There is usually inertia on their part. They advice that librarians must reinterpret traditional library skills and explore new ways of putting these skills to work through effective use of ICT. Librarians must be versatile in the use of ICT.

This does not suffice to say that library staff are not making effort to develop their competencies on ICT. As Anunobi (2004) notes, many librarians and library staff
especially the younger staff with lower years in service are not lagging behind completely in information technology. They have some knowledge of computer but the competence to use the application to perform general library tasks is lacking. Library operations in many academic libraries in the country are more or less manual. Because many university libraries presently lack even the basic ICT facilities, this contributes to the low level of competencies of library staff.

Methods of Acquiring ICT Competencies

ICT competency acquisition programmes are necessary for library staff in the university libraries if they are to work effectively using ICT’s. The technology is constantly growing rapidly and updates come up every now and then. The staff need to move along with the growing trend by constantly developing and updating their competencies in the use of these technologies. Cole (2002), asserts that any learning activity which is directed towards the acquisition of specific knowledge and skills for the purpose of an occupation or task is referred to as training. He further categorized training in to two broad methods: These are On the job and Off-the job methods. On the job method includes Job instruction, learning from experienced workmates, coaching/counseling, delegation, secondment while Of the job method includes lecture/talks, classroom instruction, programmed instructions, case study analysis and stimulation exercise. Through training, skills are thought and competencies are developed It is the process through which library staff develop new competencies that will transform them from the state of not being efficient to being able to do the do effectively. (Ugwu and Ekere 2010).
Many writers have emphasized the need for continuous professional development of library staff in the area of Information and Communication Technology. Nwakamma (2003) and Marmwin (1996), therefore advice that library staff must develop expertise in and establish programme of knowledge search and management in support of clienteles need. The staff must be trained and re-trained in the use of the technologies. This could be through formal or informal methods. Koneru (2006) opines that training is inevitable to bridge knowledge and skill gaps, so as to meet state of efficiency. An informed and better equipped staff guarantees efficient services to users, ultimately promoting a good library image. It is ICT training that enables academic libraries’ staff not only to be better equipped with competencies set desired but also to render information services effectively. Training in ICT helps the staff in building confidence; understanding ICT; exploiting the developments; and comprehending the capabilities and implications of new technologies. Aguolu and Aguolu (2002) opines that no library professional would be able to meet his responsibility if he does not take trouble to keep up with current literature in the field, develop himself through seminars, conferences, workshops, refreshers courses and through a conscious study of new developments in the field. He further recommends on the job training which according him is the employers responsibility to provide on the job training to their new employees as part of their orientation programme.

Ekoja (2007) notes that Librarians especially those that were trained in the traditional library schools must demonstrate that they are willing to be trained and be retrained in ICT skills if they are not to become irrelevant in the ICT age.
Formal education is only one means staff can acquire skills and develop competencies in the use of ICT facilities. The concept of “work place learning” signifies the inclusion of different kinds of development activities, both formal and less formalized and includes such activities as work-based mentoring (Valerie, 1999).

In their own view, Beckett and Hager (2002) and Babu (2007) outline some ways library staff can acquire and develop their ICT competencies. These methods are: through formal continuing education such as Masters programme, informal education (distance learning), education through colleagues, self study (learning by doing), training by suppliers, attending IT programmes, participation courses, workshops and conferences. Competency acquisition programmes can be internally, that is organized within the workplace, or externally, outside the workplace. Larsen (2006) acknowledges that all the different methods are good.

The outcome of participation in formal continuing education is quite simple to measure – a new degree. The outcome of training courses, conferences and seminars might be of very high value for the individuals, but the organizational training course organized locally or internally for the entire staff or a department was shown to have a measurable impact to stimulate new activities. Also participation in external networks for knowledge exchanges and conducting projects with colleagues from other libraries seem to be a very valuable method of developing competencies. Asadu (2000), explains that attending workshop and conferences both at local, national and international levels also provides training opportunities for professional, especially by donor agencies, software and hardware vendors like UNESCO, EBSCOHOST, HINARY, AGORA, DARE etc vendors. He therefore encourages library staff especially the professionals to
be attending the Nigerian Library Association (NLA) organized annual conferences and also to be part of the online discussion forum of the NLA where information on grants, re-skilling and mentoring are usually discussed.

Mentoring has been discovered to be another effective method library staff can develop their skills. It is a method of pairing the older, experienced and successful academic librarians with the less experienced ones. In this way, the less experienced staff can learn from the experiences of the older one. Adenuga and Eleojo, (2010), conceive the idea as a deliberate attachment of a junior or young librarian to an experienced, senior role model who instructs, guides, influences and brings up the former in training similar to apprenticeship.

Problems hindering the Acquisition of ICT Competency by staff

Findings by Makara (2002), and Ugboma (2006) identified lack of fund as one of the constraining factors to acquisition of skills and competency development in ICT for library staff in the universities. The number of staff sent on training at a particular time is limited by the resources available as most universities decry the issue of under-funding in their functions, which equally affects the funding of the libraries. The yearly budget allocation of university libraries is small and this is compounded largely by poor financial provision for staff training and development as well as the fact that some of the employers and superior officers in the profession are morally less supportive to their subordinates for active participation in long programmes. (Balarabe 2005).

Jordan (2003) attributes the barrier towards adequate ICT competency acquisition in developing countries to both lack of IT literacy and the fact that many local schools fail to integrate ICTs into their curriculum. Many curriculum designers of the local
library schools are not literate in ICT, therefore cannot incorporate ICT related
programmes in the curriculum.

Ochogwu (1991) and Turner (1991) in a similar argument on the need for
continuing education of library and information science educators submit that a lot of
staff teaching in our library schools are too theoretical and devoid of relevant practical
experience upon which theory is based. There is hardly any designed programme which
educators can learn to update their practical knowledge so as to appreciate the
professional problem in the field. Imagine where library school teach courses involving
use of computers without the educators themselves having practical experience because
the facilities are not available in the library. Such library schools end up producing “ICT
theoretical librarians”. Nwachukwu, (2005) agreeing with Turner asserts that it is glaring
that in Nigerian library school environment; the basic ICT tools as observed by Turner
are not readily available.

Turner (1991) advices therefore that if library educators are to shift their teaching
towards problem solving-decision-making, student-centered approaches, then they must
use all the tools available to reassess their thinking about exploration in the classroom. So
if the needed ICT competencies required by library staff is to be achieved, both library
schools and the educators themselves should be involved.

According to Balarabe (2005) and Minish-Majanja (2007), Curriculum
developments have shown considerable studies in infusing ICT competency programmes
as most library schools have developed relevant ICT modules and/or emerged relevant
ICT knowledge in traditional modules. However, LIS schools teach these modules
theoretically because they have inadequate quantities and quality of computers and poor
internet access. He also acknowledges that the facilities which could enhance effective
teaching and acquisition of necessary competencies are grossly lacking virtually in all the
universities.

Anunobi (2004) summarizes the constraints to competency acquisition in to three
groups. These according to her are:

*Personal Problems:* These are problems inherent in the staff. The fear that he/she may
not succeed in the training; lack of fund to pay their way or purchase computers for
personal practice and also lack of time, they also spend most of their time working in the
office and therefore have no time to enroll in computer programmes.

*Institutional Problem:* Lack of motivation and encouragement from the institution;
absence of sponsorship to attend workshops and seminars and also lack of ICT facilities
in their institutions. Most libraries also do not have adequate funds to acquire and
maintain ICT facilities.

*Library Schools Problem:* Curriculum still reflect more of the traditional library system.
Even some schools that have introduced ICT related courses lack expert manpower to
properly execute such curriculum.

**Strategies for enhancing ICT Competency Acquisition by Library Staff.**

Since it has been identified that library staff need to develop their ICT
competencies to perform better in this modern time with the prevalent militating factors
to this, many writers have come up with different possible suggestions to remedy the
situation.

Larsen (2006), advises that it is not enough to dispatch library staff to continuing
education courses or conferences. Before that, according to him, there is need to
undertake successful staff performance planning. It is necessary to first start with analysis of future tasks and roles; identify the existing competencies the staff have; know what the requirements of the new or future task; maybe; then identify the type of competencies to be developed. This will help identify relevant areas staff need to be trained. He advocates the chart below.

Skills identification, performance planning chart

Abubakar (1998), Goulding (2000) and Shibanda (2001), are all of the opinion that Library schools have a lot to do in solving the problem of ICT competencies of library staff working in the academic libraries. Teaching departments have a responsibility to support the development of appropriate competencies to deliver modern information services, by incorporating new skills requirements into the syllabi.

Academic curriculum should have an enriched ICT skills acquisition related programmes that will expose the library and information science students to the use of modern ICT facilities while in schools. This will prepare them for the effective utilization of the facilities in their libraries. The programmes should put emphasis on competencies for information managers especially academic librarians and other library staff, needed for brokering and enhancing digital information. Shibanda, (2001) and Roseberg (2000) also suggest that a balance between theory and practice be considered the best approach because it enables curriculum to respond to the need for exclusive knowledge in information systems and technology, while at the same time addressing market need for
practical skills. He therefore recommends LIS schools to ensure that there is a hand-on practice when teaching ICT modules and/or increase the amount of practical component. Experimental learning that highly integrates the use of ICTs should be emphasized.

Some university libraries are more equipped in ICT than others. The less ICT equipped libraries can send off their staff for placement experience for a period of time, during which they acquire designated, tangible competencies. This could be organized in form of “train the trainer” course so that they can pass on the skills they have learnt to colleagues.

“Library staff should also be encouraged to spend time learning from libraries more developed in ICT. They can engage in update courses, undertake targeted work experience placement. They can practice any or all the skills they need to acquire in the environment of a fully functioning library and information centers” (Goulding, 2003).

Goulding also stresses the importance of allowing adequate time for participants to learn and practice new skills, and follow-up training. It is imperative that participants are able to quickly implement aspects of their training on their return home. Larzen (2006) recommends that at least 10% of staff working hours should be set aside as a minimum for training and professional development. (External + Internal activities) and in terms of budget, he recommends 25%-30% of the total library budget to be allocated as a minimum for training.

Similarly, Gill (1997) suggests that in large university libraries, the post of training officer should be created to plan and implement the training programme, he therefore recommends that 0.5% - 1% of the total library budget should be earmarked for training. This level of funding should be maintained even at times of budget reduction, as
the need for a well trained staff is important in such circumstance. Akitunde (2004) believes that professional bodies have a major role to play in helping staff working in libraries to develop competencies in the use of ICTs to enhance services. He therefore calls on the Nigerian Library Association to take up a leadership role and provide direction for constituent members. The association should be very much involved in training and setting standards for library operations. It should be involved in training and retraining of heads of libraries as well as other library staff, and also have an influence on library schools to make sure that curriculum reflects trend in market. In line with this Ochogwo (2007) recommends government participation in skill development of library staff by making increasing the library budget to make more fund available for training of staff.

**Related Empirical Studies**

Carroll (2005) conducted a very rich literature study on the developing roles of librarian, referred to as American survey, using 947 academic schools and public libraries’ staff, identified roles for library staff in the next five years as follows:

- Instructing users in the navigation and evaluation of print and digital information.
- Directing users to appropriate information sources using electronic media.
- Creating new guides and/or navigational tools for electronic resources.
- Archiving and digital preservation.

The achievement of these roles depends on the competencies of the library staff in the use of ICT applications.
Kumaravel, (2006) made comparative survey to ascertain the ICT literacy level among university library staff of Anglo-phone (English speaking) and Franco-phone (French speaking) countries of West Africa. The findings of the survey showed very high level of ICT illiteracy among all levels of library staff both in the Anglo-phone and Franco-phone countries. All the categories of library staff, professionals, para-professionals and other staff have low level of ICT competence. Adedoyin (2005) also conducted a similar survey among professional, para-professionals and other members of staff of Nigerian university libraries and the result also showed low level of ICT literacy among the library staff. The study concluded that Nigerian university library staff should acquire an enhanced level of ICT literacy. He therefore recommended both staff training and provision of adequate ICT infrastructures for university libraries in Nigeria.

Also a study carried by Babu, Vinayagamorithy, and Gopulakrishnan, (2007) on “ICT Skills among Librarians in Engineering Educational Institutions in Tamil Nadu, using 171 libraries of engineering educational institutions. Questionnaire was used for the survey and result revealed that Librarians in one way or the other are acquiring considerable basic skills in ICT, but they need to concentrate more on network-based services and digital library services. It also discovered that formal education; Informal education (distant education); education through colleagues; Self-study; Training at workplace; Training by suppliers; Attendance of IT programmes and workshops are the main sources of acquiring ICT skill by library staff.

Report of a similar study carried out by Omono and Ikoja-Odongo (2006) to access the application of Information and communication technologies (ICT) in health information access and dissemination in Uganda, discovered that majority of the
respondents lacked the essential ICT competencies. Reasons advanced indicated that ICT equipments were not available and therefore the competencies for utilizing them were lacking. The study also discovered that the availability of internet services in all institutions studied but not necessarily in the libraries. They therefore conclude that the library takes low priority in institutional and national budgets and within the academic libraries in many low income countries, because many decision makers do not fully understand the roles of libraries especially in this age of information revolution.

Coming down to Nigeria, Jegede (2009) conducted a search to examine the attitude, competence, use pattern of ICT by teacher educators. The result of the study showed that generally older teachers are naturally weary of ICT use. This tally with the result of Anunobi’s (2004) study of computer literacy of librarians in Imo which revealed that younger professionals with fewer years in service have ICT skills more than their older counterparts.

Summary of Review of Related Literature

From the literature reviewed, it was gathered that the need for library staff to develop their competencies in the use of ICT applications results from the demands to provide effective and efficient library services using the emerging modern ICT and electronic facilities in the library environment. It was also gathered that currently, the ability of library staff in university libraries in Nigeria to use the ICT applications to carry out library functions and services is still below average. Their competencies to use the facilities are not well developed.

The literature revealed that staff can acquire ICT competencies through various means such as Formal and Informal education; e.g Normal academic programmes in the
institutions of higher learning; attendance to conferences and workshops; training by suppliers of ICT facilities; self training; also through on the desk training and mentoring.

It was gathered that inadequate funding of university libraries; poor curricula development of library schools; unqualified teaching staff to handle the ICT related courses; laxity on the part of practicing library staff to embark on self development as well as work overload on the staff, are some of the factors that hinder ICT competency acquisition by library staff.

Finally, literature revealed some strategies that could be adopted to enhance ICT competencies among library staff in the university libraries. Such strategies are: to provide adequate fund for staff development programmes both locally and internationally; a specified percentage of the total budget should be strictly reserved for training of staff; skills identification performance planning to be carried periodically to ascertain the suitable training that every staff requires depending on the job specification of the staff. It is also important to incorporate competency acquisition programmes in the library school curricula and also employ well qualified teachers to handle the courses.

In reviewing the literature, the researcher consulted books, journals, articles from internet, seminar papers and other sources. In the course of the review of the literature, it was discovered that few literature is available locally in area of ICT competency of library staff working in university libraries in Nigeria. Specifically, the researcher has not come across any literature undertaken to identify ICT competency needs of library staff at the Universities of Abuja and Jos libraries. It is hoped that this research will contribute in filling the gap.
CHAPTER THREE

RESEARCH METHODS

In this chapter, the procedure used for the study is discussed under the following headings: Research design, Area of study, Population of study, Sample and sampling technique, Instrument for data collection, Validation of the Instrument, Procedure for data collection, Methods of data analysis.

Research Design

The design of this study is a descriptive survey. The survey design is chosen because it is considered the most appropriate when studying a population. As observed
by Nworgu (1991), Descriptive survey is most appropriate when studying a population. It involves the collection and analysis of data about people or materials with the intention to compare existing and required standards and to identify information which is likely to be used to improve the exiting condition of people or things. Descriptive survey is the most appropriate for the study because it will enable the researcher to find out the competencies academic library staff have in Information and Communication Technologies (ICTs) and how it can be improved.

**Area of the Study**

The area of the study is Abuja in FCT and Jos in Plateau state, all within the North Central Geo-political zone of Nigeria. North Central is made up of six states, Plateau, Nassarawa, Benue, Kogi and Niger and Kwara states. Although Abuja is treated as stand alone state, in terms of location it falls within the North Central Geo-political zone. It falls within latitude7°25’N and 9°20’N North of the Equator and Longitude 5°45’ and 7° 99’ and it consists of eleven districts carved out from some states in the North Central, namely: Niger (6), Plateau (4), and Kogi (1).

There are four federal universities in this location namely: University of Abuja, University of Jos, Federal University of Technology, Minna and the Federal University of Agriculture, Makurdi. The Universities of Abuja and Jos are chosen for this study because they have general scope in terms of academic coverage, while Minna and Makurdi universities have specialized areas of coverage which are Technology and Agriculture.

**Population of the Study**
The population of the study is 136 staff. This included Professional and Para-professional staff working in the library. This group was chosen because it constituted staff that provide direct library services which might require the use of ICT’s. According to the staff record available in the two universities under study, a total of 136 staff work in the libraries. At the time of the study, University of Abuja had total staff strength of 43 made up of 17 professional staff and 26 para-professional staff, while the University of Jos had a total of 93 staff made up of 39 professional and 54 para-professional staff.

**Sample and Sampling Techniques**

The sample comprised of 136 staff made up of 55 professional staff and 81 para-professional staff. Only staff who are involved directly in the provision of library services were sampled. Such others as cleaners, messengers and security officers who are support staff attached to the library were not included in the study because they are not permanent staff of the library and do not provide direct library services that may require ICT competencies.

**Instrument for Data Collection**

The instrument used for data collection is questionnaire titled the Library Staff Information and Communication Technology Competency Questionnaire (LSICTCQ). This was developed by the researcher in accordance with the research questions. The questionnaire consist of 2 sections (1 and 2) and 6 parts (A –F) made up of 13 questions. Section 1, part A, is to elicit information about the background of the respondents). It comprised of questions 1 – 3, Section 2, asked questions related to ICT Competencies of the respondents. Parts B, (ICT Competencies Possessed) have question 4, Part C (ICT Competency Needs) has questions 5 – 7, Part D (Methods of Acquiring ICT
Competencies) consists questions 8 – 9. Part E (Constraints to Acquisition of ICT Competencies) have two questions 10-11 and then Part F, (Strategies for Improvement of ICT Skills) have questions 12-13. In questions 4, 8, and 9 respondents were given options to pick from, while questions 5, 6, 7,10, 12, were designed for respondents to indicate their level of agreement or disagreement with statements on a two or four point scaled response format (Likert) with attached value range of 4 to 1 points.

Validation of Instrument

The instruments were scrutinized by the project supervisor and two other lecturers from the Department of Library and Information Science and One lecturer from the Faculty of Education who is an expert in Measurement and Evaluation in the University of Nigeria, Nsukka. As a result of the scrutiny, some amendments were made on the questionnaire. Some items were dropped and some new items were included, the structural layout of the questionnaire was modified.

Method of Data Collection

Data for the study were collected using questionnaire. The researcher distributed the questionnaire in the two University libraries under study, which are the University of Abuja and University of Jos libraries. The questionnaire for the University of Abuja was distributed through the University Librarian’s Personal Assistant, while those of the University of Jos library were distributed through the Head of Digitization Unit who is a Senior Librarian. This measure was taken to ensure that all the targeted respondents were reached and all questionnaires returned. The researcher collected the completed questionnaire in the University of Abuja after three days while that of the University of
Jos was collected after five days. Thereafter, the completed copies of the questionnaire were checked. It was discovered the all the 136 copies distributed were correctly fill and returned.

**Method of Data Analysis**

The mean score and percentages were used in analyzing the data collected based on the research questions stated in chapter one. Data were presented on frequency and percentage tables. The computation of questions 5, 6, 7, 10 and 12, which were presented in the Likert Scale format carried out using the percentage formula:

\[
\frac{N \times 100}{P}
\]

Where \( n \) = number of respondents, Where \( p \) = total population of study.

Using the four-point scale of:

- Strongly Agree (SA)/Very High (VH) = 4points;
- Agree (A)/High (H) = 3points;
- Disagree (D)/Low (L) = 2points;
- Strongly Disagree (SD)/Very Low (VL) = 1point, while Yes = 2points; No = 1point.

The mean was calculated as: \( \frac{4 + 3 + 2 + 1}{4} = \frac{10}{4} = 2.50 \)

**Decision Rule:**

Based on the mean of 2.50, the decision was that any item with a mean of 2.50 and above was regarded as accepted while; any item with a mean below 2.50 was regarded as rejected. Simple frequency and percentages were used to analyze research questions 4, 8 and 9 which were not presented in the Likert Scale format. Any response above 50\% was regarded as high and acceptable while any response below 50\% was regarded as low and therefore rejected.
In this chapter, the data collected from the questionnaire were presented and analyzed using frequency table, simple percentage, and mean. The presentation and analysis were done bearing in mind the five research questions which guided the study. Descriptive method was used for the analysis. Data collected from the questionnaires was analyzed together for the two institutions based on the research questions. A total number of One hundred and fifty-three (136) copies of the questionnaire were distributed to respondents which were all correctly filled and returned.

**Research Question 1: What areas of work do library staff use ICT?**
Table 2: ICT duty related areas. N= 136.

<table>
<thead>
<tr>
<th>In which duties do you use ICT?</th>
<th>No of Responses</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Processing</td>
<td>113</td>
<td>83%</td>
</tr>
<tr>
<td>Provision of online Documents</td>
<td>77</td>
<td>57%</td>
</tr>
<tr>
<td>Online searches</td>
<td>61</td>
<td>45%</td>
</tr>
<tr>
<td>Scanning and uploading</td>
<td>37</td>
<td>27.2%</td>
</tr>
<tr>
<td>Web content creation</td>
<td>13</td>
<td>9.5%</td>
</tr>
<tr>
<td>Cataloguing</td>
<td>47</td>
<td>35%</td>
</tr>
<tr>
<td>Acquisition</td>
<td>53</td>
<td>39%</td>
</tr>
<tr>
<td>Accounting</td>
<td>14</td>
<td>10.2%</td>
</tr>
<tr>
<td>Networking</td>
<td>12</td>
<td>9%</td>
</tr>
</tbody>
</table>

The research question 1 was asked to get information on the area of duties respondents can use ICT to perform. Analyzed data in Table 2 showed that respondents indicated that they can use ICT to perform 2 out of the 9 items with responses above 50%. Word Processing recorded the highest response of 83%, followed by Provision of Online documents with 57%. Responses on the other 7 items were below the 50% average which was considered negative. Carrying out Online searches recorded 45% response, Acquisition recorded 39% and is closely followed by Cataloguing with a 35% response. The other items, Scanning and uploading, Accounting, Web content creation and Networking recorded very low responses of 27.2%; 10.2%; 9.5% and 9% respectively.

**Research Question 2: What is the level of ICT Competencies possessed by Staff in the University libraries?**

This research question 2 was asked in order to elicit responses on the Level ICT Competency library staff possessed. Three questions were asked for respondents to indicate the level of their competencies in some basic ICT packages; Web related skills and ICT technical skills. These were represented in tables 6, 7 and 8.

Table 3: Level of ICT skills N=136.

<table>
<thead>
<tr>
<th>Item statement</th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V. Low</th>
<th>Mean</th>
<th>Decision</th>
</tr>
</thead>
</table>
### Basic Computing
- **Basic computing ie. Word processing**: 38, 44, 26, 28, 2.77, A
- **Storing and copying data into primary storage device (e.g., hard disk)**: 26, 12, 38, 2.68, A
- **Storing and copying data into secondary storage devices (e.g., Diskettes, flash drive, USB etc)**: 22, 30, 44, 2.57, A
- **Retrieving documents from storage devices**: 32, 54, 24, 26, 2.68, A

### Additional Skills
- **Presentation skills i.e power point**: 18, 30, 32, 54, 2.13, R
- **Graphic skills i.e coreldraw**: 14, 24, 20, 76, 1.87, R
- **Statistical skills i.e SPSS, Excel**: 6, 18, 26, 80, 1.76, R
- **Digitization i.e Scanning and uploading**: 8, 10, 20, 96, 1.53, R
- **Use of multimedia technology for the manipulation of printed information, dynamic sounds, music, graphs, animated photographs**: 8, 6, 10, 106, 1.51, R

**Key: A=Accepted, R=Rejected**

The research question 2 was asked to get information from respondents on the level of competence they have on the listed packages. The analysis of data in Table 3 above showed that the respondents agreed to have considerable level of competencies on 4 out of the 9 items listed with mean rating of 2.50 and above. The item that dealt on respondents level of competence in Basic Computing (word processing) recorded the highest mean response of 2.77, closely followed by items on Storing and copying data into primary storage device (hard disk) and Retrieving documents from storage devices which recorded mean responses of 2.68 each respectively, while Storing and copying data into secondary storage devices followed with 2.57 mean response. The other 5 items on the list recorded low responses below the 2.50 mean rating. The respondents’ competency level of Presentation (powerpoint) skills recorded a low response of 2.13, this is followed by Graphic (coreldraw) Skills 1.87; Statistical (Excel, SPSS) skills 1.76 and skills in Digitization (Scanning and uploading) and the use of Multimedia technology recorded 1.53 and 1.51 respectively.
Table 4: Level of web competencies N=136.

<table>
<thead>
<tr>
<th>Item statement</th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V. Low</th>
<th>Mean</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet surfing/browsing</td>
<td>60</td>
<td>56</td>
<td>6</td>
<td>14</td>
<td>3.19</td>
<td>A</td>
</tr>
<tr>
<td>Internet skills i.e web content creation</td>
<td>12</td>
<td>24</td>
<td>26</td>
<td>74</td>
<td>1.81</td>
<td>R</td>
</tr>
<tr>
<td>Search engines (eg, yahoo, google etc)</td>
<td>50</td>
<td>56</td>
<td>8</td>
<td>22</td>
<td>2.99</td>
<td>A</td>
</tr>
<tr>
<td>E-mail</td>
<td>56</td>
<td>40</td>
<td>10</td>
<td>24</td>
<td>2.99</td>
<td>A</td>
</tr>
<tr>
<td>Subject gateway/portals</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>126</td>
<td>1.12</td>
<td>R</td>
</tr>
<tr>
<td>Web 2.0/Lib.20 skills i.e Blog, instant messaging etc.</td>
<td>-</td>
<td>8</td>
<td>6</td>
<td>122</td>
<td>1.16</td>
<td>R</td>
</tr>
<tr>
<td>Web page designs</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>122</td>
<td>1.16</td>
<td>R</td>
</tr>
<tr>
<td>Electronic Bulletin boards</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>126</td>
<td>1.12</td>
<td>R</td>
</tr>
<tr>
<td>Electronic documentary delivery serv.</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>118</td>
<td>1.24</td>
<td>R</td>
</tr>
<tr>
<td>CD. Rom search</td>
<td>2</td>
<td>12</td>
<td>8</td>
<td>114</td>
<td>1.28</td>
<td>R</td>
</tr>
<tr>
<td>Use of OPAC/web OPAC</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>120</td>
<td>1.21</td>
<td>R</td>
</tr>
<tr>
<td>HTML, PDF</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>128</td>
<td>1.06</td>
<td>R</td>
</tr>
</tbody>
</table>

*Key: A=Accepted, R=Rejected*

In Table 4 responses indicated an agreement to only 3 out of the 12 items listed to elicit information on the respondents’ level of Web competence with a mean response above 2.50. Responses to Internet surfing/browsing recorded the highest responses with 3.19 mean rating, followed by Search Engines (yahoo, google etc) and E-mail with records of the same mean responses of 2.99 each. However, respondents did not agree with other 9 items on the list as responses recorded on them were below 2.50. Internet skill recorded a mean response of 1.81, followed by items on CD.Rom Searches; Electronic Document Delivery Service and skills in the Use of OPAC with mean responses of 1.28; 1.24 and 1.21 respectively. Other items on using Web 2.0 like (blog and instant messaging); Web page design; Subject gateway/portals; Electronic Bulletin boards and HTML, PDF also recorded very low responses of mean 1.16; 1.16 ; 1.12; 1.12 and 1.06 respectively.

Table 5: Level of ICT Technical competence. N=136

<table>
<thead>
<tr>
<th>Item statement</th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V. Low</th>
<th>Mean</th>
<th>Decision</th>
</tr>
</thead>
</table>


Table 5: The question was asked to ascertain the level of ICT technical competence among the respondents. The analysis revealed that respondents indicated low level of competence in all the 7 items listed as all the responses fell below the mean rating of 2.50. Cataloguing and Metadata recorded the highest number of responses of 1.26 mean rating, closely followed by Image technology 1.25, Networking and Repairs recorded mean rating of 1.24 and 1.22 respectively. The others, Use of interface design has mean of 1.18, Optical Character Recognition (OCR) recorded mean rating of 1.16, while Software Installation recorded 1.13 mean rating.

<table>
<thead>
<tr>
<th>Item</th>
<th>No</th>
<th>Mean</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image technology</td>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Optical Character Recognition (OCR)</td>
<td>2</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Cataloguing and metadata</td>
<td>2</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Use of interface design</td>
<td>2</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Repairs</td>
<td>2</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Software installation</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Networking</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Key: A=Accepted, R=Rejected


Table 6: Methods through which Library Staff acquired ICT Competencies

<table>
<thead>
<tr>
<th>Methods</th>
<th>No of Responses</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library School</td>
<td>12</td>
<td>9%</td>
</tr>
<tr>
<td>Private Computer training</td>
<td>86</td>
<td>63%</td>
</tr>
<tr>
<td>On the job Staff training</td>
<td>72</td>
<td>53%</td>
</tr>
<tr>
<td>Personal practice</td>
<td>99</td>
<td>73%</td>
</tr>
<tr>
<td>Learning through tutorial packages</td>
<td>43</td>
<td>32%</td>
</tr>
<tr>
<td>Additional qualification in computer sc.</td>
<td>37</td>
<td>27.2%</td>
</tr>
<tr>
<td>Workshops/Seminars/conferences and Talk-shows</td>
<td>73</td>
<td>54%</td>
</tr>
</tbody>
</table>

The research question 3 was posed to elicit information from respondents on various means through which they acquired the ICT skills they have. The analysis of data in Table 6 showed that respondents agreed to 4 out of 7 methods listed with rating above the 50% average. The highest number of respondents (73%) indicated that they acquired
their ICT competence through personal practice. This is closely followed by 63% of respondents who indicated that they acquired their ICT competencies through private computer training; Workshops/Seminars/Conferences and talk-shows recorded 54% while On-the job staff training recorded 53% number of the responses. . Others responses recorded were below 50% average, Respondents that indicated they acquired ICT competence through Tutorial packages recorded 32%, followed by those that acquired Additional qualification in computer science 27% while Library school recorded the lowest rating of 9% response.

Table 7: Preferred method of ICT Training

<table>
<thead>
<tr>
<th>Method</th>
<th>No. of Responses</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library School</td>
<td>108</td>
<td>79.4%</td>
</tr>
<tr>
<td>Distant learning</td>
<td>73</td>
<td>54%</td>
</tr>
<tr>
<td>Online training courses</td>
<td>33</td>
<td>24.3%</td>
</tr>
<tr>
<td>Self study</td>
<td>24</td>
<td>8%</td>
</tr>
<tr>
<td>Training Center based short courses</td>
<td>88</td>
<td>65%</td>
</tr>
<tr>
<td>Workshops/Seminars/conferences, and Talk-shows</td>
<td>95</td>
<td>70%</td>
</tr>
</tbody>
</table>

Table 7, question was asked to get the respondents opinion on the method they would prefer to use in acquiring ICT competencies. Analysis of data on showed that out of the 6 options listed, 4 received positive responses above 50% rating. The option that deal with acquiring ICT training through Library schools recorded the highest number of responses 79.4% , closely followed by 70% responses that indicated preference for training through attending Workshops/conferences/Seminars and talk-shows. The item on acquiring Training through Center Based short courses and through Distant learning also received positive responses, 65% and 54% respectively. However, responses for the other 2 items were negative below 50% average. Preference for training through Online training courses recorded 24.3% while Preference for Self Study recorded 8%.

Research Question 4: What are the problems hindering the Acquisition of ICT Competencies by Staff?
Table 8: Problems hindering the acquisition ICT Competencies

<table>
<thead>
<tr>
<th>Item Statement</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of fund</td>
<td>80</td>
<td>32</td>
<td>6</td>
<td>16</td>
<td>3.34</td>
<td>A</td>
</tr>
<tr>
<td>Lack of training opportunities</td>
<td>46</td>
<td>48</td>
<td>8</td>
<td>22</td>
<td>2.91</td>
<td>A</td>
</tr>
<tr>
<td>Inadequate curriculum content for ICT training in higher institutions</td>
<td>42</td>
<td>36</td>
<td>22</td>
<td>34</td>
<td>2.68</td>
<td>A</td>
</tr>
<tr>
<td>Higher authority not willing to send their library staff to upgrade themselves</td>
<td>60</td>
<td>48</td>
<td>10</td>
<td>18</td>
<td>3.10</td>
<td>A</td>
</tr>
<tr>
<td>Limited opportunities</td>
<td>30</td>
<td>20</td>
<td>14</td>
<td>72</td>
<td>2.06</td>
<td>R</td>
</tr>
<tr>
<td>Work load</td>
<td>26</td>
<td>28</td>
<td>34</td>
<td>44</td>
<td>2.35</td>
<td>R</td>
</tr>
<tr>
<td>Lack of sufficient staff in the library</td>
<td>34</td>
<td>32</td>
<td>46</td>
<td>24</td>
<td>2.56</td>
<td>A</td>
</tr>
<tr>
<td>Personal lack of interest</td>
<td>30</td>
<td>22</td>
<td>46</td>
<td>38</td>
<td>2.32</td>
<td>R</td>
</tr>
<tr>
<td>Lack of training facilities</td>
<td>58</td>
<td>34</td>
<td>16</td>
<td>28</td>
<td>2.90</td>
<td>A</td>
</tr>
</tbody>
</table>

*Key: A=Accepted, R=Rejected*

The research question 4 was posed to elicit information from the respondents on the factors that pose constraints to library staff acquiring ICT competencies. The result presented in Table 8 indicated levels of acceptance the major constraining factors to competency acquisition. Precisely the analysis revealed that the respondents agreed on 6 out of 9 of the items with mean responses of 2.50 and above. They include Lack of fund with highest response of 3.34, this is closely followed by Higher authority not willing to send their staff to upgrade themselves with 3.10, Lack of training opportunities, Lack of training facilities and Inadequate curriculum content for ICT equally ranked high with responses of 2.91 and 2.90, 2.68 respectively and lack of sufficient staff in the library (2.56). There was a level of disagreement that work load (2.35), lack of personal interest among the staff (2.32) are not constraints to competency acquisition.

Research Question 5: What are the Strategies of improving ICT Competencies of Staff?

Table 9: Strategies to improve Staff ICT competencies N=136.

<table>
<thead>
<tr>
<th>Item Statement</th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V. Low</th>
<th>Mean</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsorship should be granted to staff for ICT</td>
<td>106</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>3.53</td>
<td>A</td>
</tr>
<tr>
<td>Item</td>
<td>Rating for Agree (n)</td>
<td>Rating for Disagree (n)</td>
<td>Rating for Not Sure (n)</td>
<td>Mean Rating</td>
<td>Decision</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------</td>
<td>-------------------------</td>
<td>-------------------------</td>
<td>-------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Academic curriculum should have more ICT related programmes</td>
<td>78</td>
<td>48</td>
<td>2</td>
<td>8</td>
<td>3.44</td>
<td>A</td>
</tr>
<tr>
<td>Staff should be granted study leave</td>
<td>68</td>
<td>42</td>
<td>8</td>
<td>18</td>
<td>3.18</td>
<td>A</td>
</tr>
<tr>
<td>More time should be allocated for staff hand-on-the-desk practice</td>
<td>40</td>
<td>16</td>
<td>16</td>
<td>62</td>
<td>2.29</td>
<td>R</td>
</tr>
<tr>
<td>More hands be recruited to reduce work load for staff to attend ICT training</td>
<td>72</td>
<td>38</td>
<td>6</td>
<td>20</td>
<td>3.19</td>
<td>A</td>
</tr>
<tr>
<td>Library staff should develop personal interest in ICT</td>
<td>106</td>
<td>14</td>
<td>6</td>
<td>8</td>
<td>3.65</td>
<td>A</td>
</tr>
<tr>
<td>More ICT facilities should be provided in the academic libraries</td>
<td>114</td>
<td>10</td>
<td>-</td>
<td>12</td>
<td>3.66</td>
<td>A</td>
</tr>
</tbody>
</table>

Key: A=Accepted, R=Rejected

The research question 9 was asked to elicit the opinion of respondents on the strategies to improve staff competencies in ICT. The analysis of data on Table 10 the respondents agreed on 6 out of 7 items with mean rating above 2.50 and above. The item dealing with provision of more ICT facilities in academic libraries recorded the highest mean response of 3.66, closely followed by item relating to library staff developing personal interest in ICT with 3.65. Granting sponsorship to staff to attend ICT training came next with mean response of 3.53, to include more ICT related programmes in academic curriculum content has a response mean of 3.44. Other items as recruiting more hands to reduce work load and granting staff study leave also received positive responses with mean rating of 3.19 and 3.18. However, allocating time for hands-on-desk –practice to staff was rejected by respondents with the lowest mean of 2.29.

Summary of Findings

In this chapter, the data collected using the LSICTCQ was analyzed. The questionnaire was based on finding out the respondents view on: the types and levels of competencies they have in the usage of some ICT facilities, they method through which they acquired the competencies they have the methods they would have preferred, the various problems that hindered library
staff from acquiring ICT competencies and possible solutions. The analysis of data showed that:

- Although most library staff knowledge of ICT, their knowledge is limited to performing Microsoft Work related works like typing and printing and carrying out online searches. Most of them lack required ICT competencies to carry out library duties like Scanning, Cataloguing, Acquisition, etc.

- The level of ICT competence among the library staff working in the University libraries are still very low. They have higher level of skill basic computing like word processing, storing, copying and retrieving data from primary and secondary devices, but possess low levels of skills in graphics, power-point, digitization, Statistical and multimedia packages. The also their level of web and technical competencies are very low especially in technical skills like carrying out repairs, interface design etc.

- Many of the library staff acquired the competencies they possess though private computer training, personal practice and on-the-job training, though, majority would prefer to acquire training through library school.

- Major hindrances to library staff competency acquisition stem from lack of fund, lack of training opportunities, inadequate curriculum, the unwillingness of higher authority to release their staff to attend trainings and staff lack of interest in ICT training.

- To improve the situation, respondents agreed to the suggestions that, staff should first develop personal interests in ICTs, study leave and financial grants should be given to staff to attend ICT training, academic programmes should have more ICT contents, and more ICT facilities should be provided in the libraries.
CHAPTER FIVE

DISCUSSION, CONCLUSION, RECOMMENDATION AND SUMMARY

This chapter presents the discussion of major findings of the study, the conclusion, Implications of the study, Recommendations, Suggestion for further Research and Limitations of the study.

Discussion of Findings

The discussion of the findings of this study is organized under the following headings based on the research questions:

- Areas of work library staff use ICT
- Levels of ICT competencies of staff
- Methods used in Acquiring ICT Competencies
- Problems hindering the Acquisition of ICT Competencies by Staff
- Strategies for Improving ICT Competencies of Library Staff.

**ICT work related competencies by library staff**

As indicated from the responses on research question relating to related ICT competencies the library staff posses which they can use to perform their related duties in table 2, data analyzed showed that majority of the library staff working in academic libraries perform microsoft word related duties like word processing, typing and printing of documents and in provision of online documents. However, other professional library related duties like scanning and uploading, cataloguing and acquisition did not receive positive responses from respondents, which indicated that many library staff do not possess the competence to perform these professional related duties like, cataloguing, classification, acquisition, digitization etc. using ICT facilities. This tally with the findings of Anunobi (2004), which noted that library staff are not completely lagging behind in Information and Communication Technology (ICT). They have some knowledge of computer but the competence to use the application to perform general library task is lacking. Most of the library staff reported to have their personal computers (Laptops) which they use in typing minor works that do not require much skills, like and typing and printing personal letters, sending and receiving e-mails, and probably browsing.etc. Many of these staff seem to be contented with the little they know. This is not very palatable in a University environment where the demand for professional expertise and ICT competence of the library staff is expected to be high for them to be able to meet up with the numerous information needs of the users.

**Levels of ICT competencies of staff**
Research question two was intended to find out the ICT Competency needs of library staff, finding from tables, 3, 4, and 5 showed that majority of the library staff already have rudimentary knowledge of ICT like word processing, internet browsing, E-mail etc but need develop competencies and expertise in library related ICT packages that can enable them to perform optimally. Internet skill is needed not just browsing but skills that can enable the library staff to be able to separate junks and know the right search engines for the right information required, be able to create subject gateway and portals. From the findings competence is also required in the areas of web content creation. A hundred percent rejection on the question on level of technical skills is a pointer that library staff seriously need to develop their technical skills like carrying minor repairs, installation.

The findings is in agreement with Smith (2000) and Massis (2003) who in their separate findings stated that library staff currently need to be equipped with knowledge and skills for operating virtual library, therefore requires such competencies in the latest search engines and fluent internet searching. The finding also agreed with Eyitayo (2008) who pointed out that lots of information are available on the internet, but skills are required by researchers to be able to gather these information on the web. Many library staff are found to lack the professional skills need to able to source and get the right information using ICTs.

**Methods used in Acquiring ICT Competencies**

Analysis of questions on table 6 and 7, sought to answer research question three on the methods library staff used to acquire their ICT competencies. Findings indicated most library staff acquired ICT competencies mainly through personal practice, and by
attending private computer training, On the job training, attending workshops, seminars and conferences. The finding is in line with the finding of the study carried out by Babu, Vinayagamority and Gopulakrishnan (2007), using 171 libraries of Engineering educational institutions in Tamil Nadu to find out the ICT skills among librarians. They discovered that informal education like self study, training at work place, attendance of IT programmes and workshop were the main source of acquiring ICT skills by librarians. From the findings, none of the staff went through library school to acquire ICT training though the greatest number of the staff would have preferred to acquire the ICT competence from library schools. The finding that none of the library staff acquired ICT is an indication that the library schools have not developed ICT content curriculum or ICT facilities. This finding is in line with the works of Balarabe (2005) and Minish-Majanja (2007) views that although most library schools have developed relevant ICT modules but these LIS schools teach these module theoretically because they do not have adequate quantity and quality of computers and internet access. Also Abubakar (1998) and Shibanda (2001) opinion that library schools have a lot in solving the problem of ICT competencies of library staff working in academic libraries and that teaching departments have a responsibility to support the development of appropriate competencies to deliver modern information services by incorporating new skills requirements into the syllabi.

**Problems hindering the Acquisition of ICT Competencies by Staff**

Research question was intended to find the problems library staff face that hinders them from acquiring ICT Competencies. From the result shown on table 8, insufficient staff in the library, lack of fund, higher authority not willing to send their library staff to upgrade themselves, Lack of training opportunities , Lack of training facilities and
Inadequate curriculum content for ICT training were all accepted as problems. However, Limited opportunities, workload and insufficient staff in the library were rejected as problems that hinder ICT acquisition. This finding is therefore in line with Gill (1997) and Larzen (2006) recommendations in their different works that 0.5% to 1% and 25% to 30% respectively of total library budget should be earmarked for training.

**Strategies for Improving ICT Competencies of Library Staff**

Research question 5 sought to find out the strategies for improving ICT competencies of library staff working in academic libraries. From table 9, it was observed that all the seven strategies identified were rated positive above the criterion mean of 2.50 except for one which was negative and rated below the criterion mean of 2.50. Strategies like provision of more ICT facilities in academic libraries, library staff themselves to develop personal interest in ICT, sponsorship to be granted to staff for training in ICT, developing academic in library schools to have more ICT related programmes, academic libraries to employ more to reduce workload for staff to attend ICT training, and staff to be granted study leave were identified. However, the strategy that more time should be allocated to staff for hand-on-desk practice was rejected.

These findings are in agreement with Akitunde (2004) call, that professional bodies like Nigerian Library Association, Librarians’ Registration Council of Nigeria (LRCN) to take up leadership role and provide direction for constituent members. The association should be involved in training and setting standards for library operations. It should also have an influence on library schools to make sure that curriculum reflects trends in market.

**Implications of the Study**
The implications of the study to be discussed are based on the findings and discussions. The study revealed that although the library staff working in university libraries have rudimentary knowledge of ICT they lack expertise in the use of ICT facilities. The implication of this that the library staff may loose their professional status if they do not master the use of ICT’s especially in relation to performing their professionals duties. As Danner (1998) points out “the only way we can maintain our professional status is through doing well those things within our professional expertise by developing ICT competencies to argument the already existing traditional competencies.

The finding that library staff in academic libraries need ICT competencies that can enhance problem solving abilities in the library. This implication is that if the library staff ICT competency needs are met, then they would be better equipped carry out the library duties efficiently. This will improve the organization of services in academic libraries.

The finding that many library staff would have preferred to pass through library school to acquire ICT Competency training shows that most library schools do not possess adequate quantity and quality of facilities to carry it out such training. For this reason, the staff therefore resort to acquire training in ICT mainly through self practice. If the library schools are ICT developed, there will be a better coordination of training that will be tailored to the required areas of ICT competence of staff for library services.

The finding on insufficient staff in the library, lack of fund, higher authority not willing to send their library staff to upgrade themselves, Lack of training opportunities, Lack of training facilities, Inadequate curriculum content for ICT training and lack of training facilities were all accepted as problems. This implies that library staff would
perform better if the issue of training and retraining is addressed. They will be better equipped to carry out their duties better with ICT facilities.

The findings that Strategies like provision of more ICT facilities in academic libraries, library staff themselves to develop personal interest in ICT, sponsorship to be granted to staff for training in ICT, developing library schools to have more ICT related programmes, academic libraries to employ more to reduce work load for staff to attend ICT training, and staff to be granted study leave were identified. This also implies that there is an urgent to need implement these strategies so that the staff can develop their competencies in ICT ‘s that will enhance their productivity. Other wise academic librarians will face great challenges from commercial information vendors.

Recommendations

Based on the findings of this study, the discussion that followed and various implications highlighted, the following recommendations have been made.

1. The two Federal University libraries should dedicate a reasonable percentage of their annual library budget to training. This is because when fund is available more staff ca be sponsored further studies, workshops and conference both locally and internationally.

2. The two Federal Universities libraries should create an internal committee on training that would be responsible for planning training programmes for the library staff. The committee would determine the areas staff need training based on their work schedule. Every staff should from time to time be given training on areas relevant the work he does.
3. The library management must ensure that they organize interactive sessions for the staff at least on quarterly basis. Through such interactions, the less experienced staff can learn from the experienced staff.

4. The two Federal Universities must make sure that every library staff have access to the use of the ICT facilities available in the library for practices. Time should be allotted to every staff to practice.

**Suggestion for Further Research**

- The scope of this study was limited to only library staff in University of Abuja and Jos. I therefore suggest that further studies be carried out to cover library staff in other academic institutions. This will help to make a better generalization.

- Attitude of library staff towards ICT in Nigerian university libraries

- ICT competencies of Library and Information Science Students in Nigerian Universities

**Limitations of the Study**

During the period of this study the researcher was confronted with some hindrances which took him some time to comeby. One of such limitations was on the content areas of the study. There were some areas that needed study like the ICT physical facilities, and the staff working with the facilities among others, rather the researcher worked with only information made available to him, limited by time and distance.

The researcher did not find it very easy convincing the respondents to fill the questionnaire. The work load of the staff delayed the collection of questionnaire immediately. This called for several telephone calls to contact persons and several visits
by the researcher. Inspite of the limitations the study was assumed to have achieved the purpose.

Conclusion

The findings of the study formed the basics for making the following conclusions:

Most library staff working in university libraries possessed basic working knowledge in ICT but the professional skills are lacking. For instance, they can use the simple micro soft word in typing and printing of documents, they can browse with the internet but the internet skills are lacking. That library staff in academic library need ICT competencies that can enhance problem solving abilities in the library.

Library staff acquire training in ICT competencies mainly through self practice. Many would prefer to pass through library school to acquire ICT Competency training but the library schools do not possess adequate quantity and quality of facilities to carry it out. The unwillingness of leaders to release and support their staff, through funding, recruiting more hand to reduce work load and granting study to staff that want to go for training are some major problem that hinder many of the library staff to for ICT competency acquisition training.

As strategy to improve the ICT competencies of library staff in the university libraries, the library and Information professional bodies like the Nigerian library Association and the Librarians’ Registration council should take up the mantle of leadership role to educate library heads and set standards for operations for libraries. Also the National Library of Nigeria as the apex library in Nigeria should establish training centers where practicing librarians can go for further training and updates in new trends in the profession. The National Library’s Center for Advanced and Information
Management (CALIM) in Enugu should be properly developed and put to use for competency training of librarians in Nigeria, since many of respondents indicated interest in acquiring Centre-based short courses and also from Workshops/Seminar/Conferences and Talkshows.

References


Nigeria and the challenges of Information and Communication Technology (ICT). *Nigerian Library Link. 3 (1 & 2)1-9.*


Dreyfus, S.E and Dreyfus, H.I. (1980). A Five-Stage Model of the Mental Activities Involved in


APPENDIX INFORMATION AND COMMUNICATION TECHNOLOGY COMPUTENCIES OF LIBRARY STAFF IN UNIVERSITY OF ABUJA AND UNIVERSITY OF JOS. (ICTCLSQ).

Department of Library and Information Science
University of Nigeria, Nsukka.

23rd November, 2010

Dear Sir/Madam,

INFORMATION AND COMMUNICATION TECHNOLOGY COMPUTENCIES OF LIBRARY STAFF IN UNIVERSITY OF ABUJA AND UNIVERSITY OF JOS.

I am a postgraduate student of the above institution currently conducting a study on the INFORMATION AND COMMUNICATION TECHNOLOGY COMPUTENCIES OF LIBRARY STAFF IN UNIVERSITY OF ABUJA AND UNIVERSITY OF JOS.
It is hoped that the results and recommendations from the study will equip these libraries with information needed to formulate minimum standards for academic libraries in Nigeria and thus promote their development.

All information provided will be treated with the confidence it deserves and used for the research work only.

Thank you very much in anticipation of your full co-operation.

Yours Sincerely

Ngozi Ojiegbé

Library Staff Information and Communication Technology Competency Questionnaire (LSICTCQ)

Instruction:

Tick the answer(s) and fill in the blank spaces where necessary. Multiple answers are required where necessary.

Please use the key below to answer the questions.

Key:

<table>
<thead>
<tr>
<th>SA – Strongly Agree</th>
<th>Yes</th>
<th>VH – Very High (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Agree</td>
<td></td>
<td>H - High (3)</td>
</tr>
<tr>
<td>D - Disagree</td>
<td></td>
<td>L - Low (2)</td>
</tr>
<tr>
<td>SD - Strongly Disagree</td>
<td>No</td>
<td>VL – Very Low (1)</td>
</tr>
</tbody>
</table>
Part A

Background Information of the respondents

1. Name of Library

2. Academic qualification (Tick the highest qualification)

- [ ] Secretarial Administration
- [ ] Diploma
- [ ] HND
- [ ] BA, B.Sc, BLS
- [ ] MA, MLS, BLS, MSC
- [ ] Ph.D
- Any other

3. Job Experience

- [ ] Below 5 years
- [ ] 6 – 10 years
- [ ] 11 – 15 years
- [ ] 16 – 20 years
- [ ] 21 – 25
- [ ] Above 25

Part B

Areas of work library staff use ICT.

4. What part of your related duties do you use ICT for? (Tick all that apply)

- [ ] Word processing i.e Typing/printing of documents
- [ ] Provision of Online documents i.e Online databases
- [ ] Online searches i.e Internet searches
- [ ] Scanning and Uploading i.e Digitization
- [ ] Web content creation, HTML, CSS, XML
- [ ] Cataloguing i.e MARC, OPAC
- [ ] Acquisition – Book, serial etc.
- [ ] Accounting i.e Excel
- [ ] Networking

PART C

Levels ICT Competencies possessed
5. Please indicate by ticking {√} any of the following the level of your skills in ICT.

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V. Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic computing ie. wordprocessing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storing and coping data into primary storage device (eg. hard disk,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storing and copying data into secondary storage devices (eg. Diskettes,</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>flash drive, USB etc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retrieving documents from storage devices</td>
<td></td>
<td></td>
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<tr>
<td>Presentation skills i.e powerpoint</td>
<td></td>
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<tr>
<td>Graphic skills i.e coreldraw</td>
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<tr>
<td>Statistics skills i.e SPSS, Excel</td>
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<tr>
<td>Digitization i.e Scanning and uploading</td>
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</tr>
<tr>
<td>Use of multimedia technology for the manipulation of</td>
<td></td>
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<tr>
<td>printed information, dynamic sounds, music, graphs, animated photographs</td>
<td></td>
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</tbody>
</table>

6. Indicate your level of Web competencies in the following areas

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V. Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet surfing/browsing</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Internet skills i.e web content creation</td>
<td></td>
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</tr>
<tr>
<td>Search engines (eg, yahoo, google etc)</td>
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<tr>
<td>E-mail</td>
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<tr>
<td>Subject gateway/portals</td>
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<tr>
<td>Web 2.0/Lib.20 skills i.e Blog, instant messaging etc.</td>
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<tr>
<td>Web page designs</td>
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<tr>
<td>Electronic Bulletin boards</td>
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<tr>
<td>Electronic documentary delivery serv.</td>
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<tr>
<td>C D. Rom search</td>
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<td></td>
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<tr>
<td>Use of OPAC/web OPAC</td>
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<tr>
<td>HTML, PDF</td>
<td></td>
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<tr>
<td>x. Others (please specify)</td>
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</tbody>
</table>

7. What is the level of your Technical skills of these ICTs

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V. Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image technology</td>
<td></td>
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<td></td>
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</tbody>
</table>
PART D
Methods of Acquiring ICT Competencies

8. Where did you acquire these competencies? (Tick all that apply)

☐ Library school
☐ Private Computer training
☐ On the job staff training
☐ Personal practice
☐ Learning using tutorial packages
☐ Additional qualification in computer sciences
☐ Workshops/Seminars/Conferences/Talkshows

9. Please tick the boxes which best describes your preferred methods of ICT training.

☐ Library School
☐ Distant learning
☐ On line training course
☐ Training center based short courses
☐ Self study
☐ Combination of short courses plus on-line support in your office

PART E
Constraints To Acquiring ICT Competencies

10. Please tick (✓) according to your level of agreement to the following as constraints to your acquisition of ICT competencies.

<table>
<thead>
<tr>
<th>Constraint</th>
<th>S. Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>S. Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of fund</td>
<td></td>
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<tr>
<td>Lack of training opportunities</td>
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<tr>
<td>Inadequate curriculum content for ICT training in higher institutions</td>
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<tr>
<td>Higher authority not be willing to send their library staff to upgrade themselves</td>
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<tr>
<td>Limited opportunities</td>
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<tr>
<td>Work load</td>
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<tr>
<td>Lack of sufficient staff in the library</td>
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<tr>
<td>Personal lack of interest</td>
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</tbody>
</table>
Lack of training facilities

11. Please list other problems you encounter in acquiring ICT competencies:

PART F
Suggestions on how to improve Library Staff ICT Skills /competencies

12. Which of these suggestions do you agree can ensure remedy to effective acquisition of ICT skills/competencies?

<table>
<thead>
<tr>
<th></th>
<th>V. High</th>
<th>High</th>
<th>Low</th>
<th>V.Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Sponsorship should be grant to staff for ICT trainings</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Ii</td>
<td>Academic curriculum should have more ICT related programmes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iii</td>
<td>Staff should be granted study leave</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iv</td>
<td>More time should be allocated for staff hand-on-the-desk practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>More hands be recruited to reduce work load for staff to attend ICT training.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vi</td>
<td>Library staff should develop personal interest in ICT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viid</td>
<td>More ICT facilities should be provided in the academic libraries</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Please make any other suggestion

Appendix

Academic Qualification

<table>
<thead>
<tr>
<th>Academic Qualifications</th>
<th>Frequencies</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>47</td>
<td>30.9</td>
</tr>
<tr>
<td>HND</td>
<td>26</td>
<td>19.1</td>
</tr>
<tr>
<td>BA, B.Sc, BLS</td>
<td>38</td>
<td>13.2</td>
</tr>
<tr>
<td>MA, MLS, M.Sc</td>
<td>16</td>
<td>7.4</td>
</tr>
<tr>
<td>PhD</td>
<td>9</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Job Experience
<table>
<thead>
<tr>
<th>Job Experience</th>
<th>Frequency</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5 years</td>
<td>22</td>
<td>16.2</td>
</tr>
<tr>
<td>6-10 years</td>
<td>41</td>
<td>30.4</td>
</tr>
<tr>
<td>11-15 years</td>
<td>48</td>
<td>35.3</td>
</tr>
<tr>
<td>16-20 years</td>
<td>6</td>
<td>4.4</td>
</tr>
<tr>
<td>21-25 years</td>
<td>10</td>
<td>7.4</td>
</tr>
<tr>
<td>Above 25 years</td>
<td>8</td>
<td>5.9</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100</td>
</tr>
</tbody>
</table>