ICT SKILLS FOR EFFECTIVE UTILIZATION OF E-LIBRARY RESOURCES IN COLLEGES OF EDUCATION, KATSINA STATE, NIGERIA

BY

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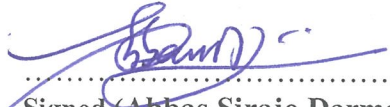
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DECLARATION

I declare that this thesis report is my original work and has not been submitted for any other award of a degree or published at any institution of higher learning.

....   20 ,02 , 2017

Signed (Abbas Sirajo Darma)   **Date**

APPROVAL

This thesis report has been submitted for further examination hearing with my approval as supervisor.

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Signed   **Date**

Dr. Sanni Shamsuddeen

DEDICATION

I dedicate this piece of work to my wife, and children.

ACKNOWLEDGEMENT

LIST OF ACRONYMS

ACRL	American Catalogue Rule Law
CD-ROM	Compact Disk Read Only Memory
DOI	Diffusion of Innovation
EIFL	Electronic Information for Library Network
IBM	International Business Machines
ICT	Information and Communication Technology
ISP	Information Search Process
IT	Information Technology
KMO	Kaiser-Meiyer Olkin
MPCU	Model of Personal Computer Utilization
MTN	Mobile Technology Network
NCE	National Certificate of Education
OPAC	Online Public Access Catalogue
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UCH	University College Hospital
UGC	University Grants Commission
UTAUT	Unified Theory of Acceptance and Use of Technology
WWW	World Wide Web

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ABSTRACT

The purpose of this study was to investigate the level to which Information and Communication Technology skills influence the use of electronic library resources by students in the Colleges of Education in Katsina State, Nigeria. The following objectives guided the study: i) to assess the Information and Communication Technology skills of the students in the Colleges of Education, Katsina State; ii) to determine the utilization of electronic library resources by the students of the Colleges of Education, Katsina State; and iii) to establish the relationship between students' Information and Communication Technology skills and the utilization of electronic library resources in the Colleges of Education, Katsina State. The study used cross-sectional survey design. The target population was 3,142 participants and the sample size was 355 respondents. Retrieved questionnaire were 294 in number. The study used frequency and percentage tables, mean and standard deviation, Pearson Linear Co-efficiency Correlation analysis. The study found that students' Information and Communication Technology skills was Fair (general average mean=3.23, Std=0.945) while utilization of electronic library resources was poor (average mean=2.31, Std=0.586). However, there was a positive/strong relationship between students' Information and Communication Technology skills and utilization of electronic library resources (r=.711**) and (sig=.000). The study concluded that students' Information and Communication Technology skills is very important for them to develop self-reliance in using electronic library resources. The study recommended the need for the college management to train students on keyboard usage so that they can have keyboard skills that can help them to improve on typing speed and knowledge of keyboard layout; there is also need for management to create awareness among the students of the availability of electronic library resources. Furthermore there is need for the students to sharpen their Information and Communication Technology skills even outside classroom setting.

CHAPTER ONE

1.0 Introduction

This chapter covered the background of the study, problem statement, purpose of the study, objectives of the study, research questions, hypothesis, scope of the study, and significance of the study.

1.1 Background of the Study

This section covered the historical, theoretical, conceptual and contextual perspective of the study.

1.1.1 Historical Perspective

The twentieth century was shaped by sweeping changes in communication technologies. The advent and proliferation of e-resources has changed the approaches of liaison activities and collection development especially in university libraries. The concept of the library has changed and revised its role due to the impact of e-resources. Thus, e-resources have placed themselves at the top priority in almost all academic libraries, (Sharma et al. 2011). Consequently, the academic community has undergone tremendous changes during these years, assuming new dimensions influenced by technology-driven applications. Libraries have witnessed a great metamorphosis in recent years both in their collection development and in their service structures (Ani and Ahiauzu, 2008). Thus Libraries are using technology to improve the management of scholarly information to strengthen and speed access to scholarly information not held locally. Over the last several years a significant transformation has been noticed in collection development policies and practices. Print medium is increasingly giving way to the electronic form of materials. Ani and Ahiauzu (2008) states that the transition from print to electronic medium apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval. Electronic resources are invaluable research tools that complement the print-based resources in a traditional library setting.

With the invention of Information and Communication Technology (ICT) libraries now use various types of technologies to aid the services they render. Everyday new technological advances affect the way information is handled in libraries and information centres (Krubu, and Osawaru, 2010). The impacts of new technologies are felt by libraries in every aspect. Computing technology, communication technology and mass storage technology are some of the

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areas of continuous development that reshape the way that libraries access, retrieve, store, and manipulate and disseminate information to users. The academic library has been from its inception an integral part of institutions of higher learning, rather than an appendix or adjunct (Krubu, and Osawaru, 2010).

Over the past twenty seven years, academic libraries have been affected by changes in information and communication technology (Rana, 2014).The rate of changes is still accelerating in this area. The introduction of various Information Technology (IT) trends has led to reorganization, change in work patterns, and demand for new skills, job retraining and reclassification positions. Technological advancement of the past twenty five years, such as the electronic database, online services, Compact Disk Read Only Memory (CD-ROMs) and introduction of internet has radically transformed access to information. Rana (2014) opines that ICT holds the key to the success of modernizing information services. Applications of ICT are numerous but mainly it is used in converting the existing paper-print records in the entire process of storage, retrieval and dissemination (Agaba, 2009).

ICT has impacted on every sphere of academic library activity especially in the form of the library collection development strategies, library building and consortia. ICT presents an opportunity to provide value-added information services and access to a wide variety of digital based information resources to their clients (Odion and Adetona, 2015). Furthermore, academic libraries are also using modern ICTs to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information systems, develop institutional repositories of digital local contents, and digital libraries: and initiate ICT based capacity building programmes for library users (Odion and Adetona, 2015).

Today all the 54 countries and territories in Africa have access to electronic information resources especially in their capital cities. Uganda was one of the first countries in Sub-Saharan Africa to obtain some of these resources (Gakibayo, et al, 2013). University libraries in Africa are keen to extend their application of Information and Communication Technologies, subject to resources being available. This extension however is not likely to reduce the need for printed books and journals as sources of information, but might provide links to the outside world and increase Intra-African exchange of information (Gakibayo, et al, 2013).

In recent years, there have been a number of changes in the higher education sector in Nigeria and in particular, academic institutions (Egberongbe, 2011). The emergence of electronic information resources has tremendously transformed information handling and management in Nigerian academic environments, and University libraries in particular (Ani and Ahiauzu, 2014). These dramatic changes include the way in which information is provided to the University Communities. A number of electronic library resources initiatives have been put in place in Nigeria to assist in the development training and use of electronic library resources in a number of academic institutions among which are the Morlenson Center for International Library Programs acting on behalf of MacArthur Foundation to support some selected grantee university libraries; The Electronic Information for Libraries Network (EIFL.Net) and Mobile Technology Network (MTN) Foundation. Their fundamental objective has been to create interfaces with the global knowledge systems. These initiatives notwithstanding, some inadequacies in the development provision and utilization of electronic library resources had been identified in a number of academic institutions (Ani and Ahiauzu, 2014).

Katsina State has been known for its heavy investment of ICT in the education sector and most profoundly in the institutions of higher learning (Abubakar and Adetimirin, 2015). The colleges of education have been great beneficiaries of these ICT investments and all the two colleges in Katsina have since long embraced and integrated ICT into their academic area. For instance, all the two Colleges of Education in Katsina State have electronic library resources and has been functioning so well. The challenge is that most of the students who are enrolled into these Colleges of Education to do not have wide knowledge of ICT skills level hence have often never explored the benefits that come with the utilization of e-library resources (Kefas, 2015). This study intended to investigate ICT skills level and how it correlates with the effective Utilization of e-library resources in the Colleges of Education in Katsina State in order for the stakeholders in the educational sector to be able to make informed decisions on ICT and e-resources utilization.

1.1.2 Theoretical Perspective

This study was guided by the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh and Davis, 2000). Venkatesh and his colleagues developed the unified model through the review of eight models which explain ICT usage, namely TRA, TAM, the motivational model, Theory of Planned Behavior (TPB), a model combining TAM and TPB, the model of PC

Personal Computer utilization, Diffusion of Innovation (DOI), and the social cognitive theory. The purpose of UTAUT is to explain a user's intentions to use ICT and the subsequent user behavior. The model considers four constructs as direct determinants of user acceptance and usage behavior, namely: performance expectancy, effort expectancy, social influence, and facilitating conditions. There are four key moderating variables: gender, age, experience, and voluntariness of use. Venkatesh et al. (2003) stated that UTAUT provides a tool for managers to assess the likelihood of success of technology introductions and to understand the drivers of acceptance in order to design interventions, which include, e.g., training or marketing. UTAUT focuses on users who may be less willing to adopt and use new systems.

This Model was considered relevant to this study because it provides knowledge on how information can be sought. The context of e-library resources in this study emphasizes the aspect of information search process but on a digital platform. However this information can only be sought if the student has ICT skills. This is where Venkatesh model emphasizes the guidance of the lecturer or the library for students who may not be having adequate knowledge in regard to ICT skills level.

1.1.3 Conceptual Perspective

Bawden (2012) defined ICT computer literacy skills as the set of attitudes, understanding and skills to handle and communicate information and knowledge effectively, in a variety of media and formats. Bell and Shank (2014) defined ICT skills as the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information. It is the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. It is also a person's ability to perform tasks effectively in a digital environment. ICT skills includes the ability to read and interpret media, to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from digital environments. In this study, ICT skills level was operationalized as performance expectancy (Keyboard Skills, and file/word processing skills); effort expectancy (Spreadsheets and Database Skills); social influence (Internet Skills, and skills in email use).

Electronic library resources, as defined by Abubakar and Adetimirin (2015), are information sources that are available and can be accessed electronically through such computer networked facilities as online library catalogues, the internet and the World Wide Web (WWW), Compact

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disk Read Only Memory (CD-ROM) databases, etcetera. The electronic library resources could either be subscribed to or be digitized in-house. According to Krubu and Osawaru (2010), an "electronic library resource" is defined as any work encoded and made available for access through the use of a computer. It includes electronic data available by (1) remote access and (2) direct access (fixed media). Remote access (electronic resources) refers to the use of electronic resources via computer networks, Direct Access (electronic resources) refers to the use of electronic resources via carriers (e.g., discs/disks, cassettes, cartridges) designed to be inserted into a computerized device or its auxiliary equipment.

Electronic library resources is a special library with a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, microform, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection (Candela, et al., 2011).

1.1.4 Contextual Perspective

With the current development in ICT, Colleges and University libraries in Nigeria are now providing resources in electronic formats (Abubakar and Adetimirin, 2015). For instance, Katsina has State Colleges and Federal College of Education and all of them have made significant investment in enhancing library services to the students and staff through electronic library resources and other computer-based technologies so that students can gain access to information that will enhance their scholarly research work (Abubakar and Adetimirin, 2015). Nevertheless, available literature has indicated low use of e-library resources by students in all of the two Colleges of Education in Katsina. This has diminished the potentials and payback, considering the enormous investment on electronic library resources. This may probably be due to lack of the basic computer skills that could enable them to access the needed e-library resources.

1.2 Problem Statement

Accessing electronic information resources offer opportunities to obtain accurate and timely literature; however evidence shows that there is low usage of electronic library resources at the colleges of Education, Katsina State, Nigeria (Ugwuanyi, 2011). This is evident from library statistics, registers records and from information obtained verbally. Although the Federal College

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library conducts workshops, seminars and communicates to students regularly about the available electronic library resources, students are not effectively using electronic information resources (Ukachi, 2013). State Colleges of Education for example has electronic library resources but their utilization has been questionable (Ukachi, 2013). For instance in Isa Kaita College of Education, the library subscribes to a total of 10 electronic information resource packages which include full text electronic journals, current awareness services and bibliographic databases (Kefas, 2015). There is also a provision of electronic document delivery. Yet on average less than 8 (eight) documents request forms are submitted in a month for articles in electronic journals (Kefas, 2015).It is not known why there is such low usage of these resources in the Colleges of Education in Katsina perhaps this is due to low of ICT skills among e-library users. This situation spur the need for this study, with the view to determine the extent to which ICT skills influence the use of electronic library resources by students in the Colleges of Education libraries in Katsina State, Nigeria.

In the light of the above scenario, the prevailing problem which this study investigated was the failure to effectively utilize electronic libraries leading to several undesirable outcomes such as failure in academic performance, lack of effectiveness among teachers and failure to compete with other tertiary's institutions in and outside the country, which as a whole lead to the colleges ineffectiveness.

1.3 General Objective

The general objective of this study was to investigate the level to which ICT skills influence the use of e-library resources by students at Colleges of Education in Katsina State, Nigeria.

1.4 Specific Objectives

i.   To assess the ICT skills of the students at Colleges of Education, Katsina State.

ii.   To determine the level of electronic library resources utilization by the students of the Colleges of Education, Katsina State.

iii. To establish the relationship between students' ICT skills and the utilization of electronic library resources in the Colleges of Education, Katsina State.

1.5 Research Questions

i. What is the ICT skills of the students at Colleges of Education of Katsina State?

ii. What is the level of electronic library resources utilization by the students of the Colleges of Education of Katsina State?

iii. Is there relationship between students' ICT skills and the utilization of electronic library resources in the Colleges of Education of Katsina State?

1.6 Scope of the Study

1.6.1 Geographical Scope

The study was conducted in Isa Kaita College of Education, Dutsin-ma and Federal College of Education, Katsina, Katsina State. Katsina State is one of the thirty six states of Nigeria and is located in the North-west Geopolitical zone of the Federal Republic of Nigeria.

1.6.2 Time Scope

This study was conducted within 15 months; that is from September, 2015 to December, 2016.

1.7 Significance of the Study

This study will provide a basis for comprehensive information on Information and Communication Technology skills for effective utilization of electronic library resources in the Colleges of Education Libraries.

The out-put of this study will serve as a blue-print for libraries, information managers/information scientists, researchers, lecturers, students, and teachers to chart the right course of action for the use of information and communication technology in furthering education through policy formulation and implementation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviewed literature regarding the study topic from different authors and scholars. The chapter was sub-divided into the following: theoretical review, conceptual framework and review of related literature.

2.1 Theoretical Review

This study was guided by the Unified Theory of Acceptance and Use of Technology (UTAUT) Venkatesh et al. (2003). Venkatesh and his colleagues developed the unified model through the review of eight models which explain ICT usage, namely TRA, TAM, the motivational model, Theory of Planned Behavior (TPB), a model combining TAM and TPB, the model of PC utilization, Diffusion of Innovation (DOI), and the social cognitive theory.

The purpose of UTAUT is to explain a user's intentions to use ICT and the subsequent user behavior. The model considers four constructs as direct determinants of user acceptance and usage behavior, namely performance expectancy, effort expectancy, social influence, and facilitating conditions. There are four key moderating variables: gender, age, experience, and voluntariness of use. Venkatesh et al. (2003) stated that UTAUT provides a tool for managers to assess the likelihood of success of technology introductions and to understand the drivers of acceptance in order to design interventions, which include, e.g., training or marketing. UTAUT focuses on users who may be less willing to adopt and use new systems.

In this context Performance Expectancy measures the degree to which an individual believes a system or an application enhances his or her performance at work. User's perceptions of a system's usefulness, instrumentality, job-fit, relative advantage and outcome expectations determine whether the system is of use. According Venkatesh et al (2003), performance expectancy has the strongest impact on behavioural intention and usage.

Effort Expectancy is defined as "the degree of ease associated with the use of the system". In other words, this antecedent measures the effort required to understand and use a system or an

application properly. According to Venkatesh et al. (2003), effort expectancy is an important construct both in voluntary and mandatory settings.

Social Influence is defined as "the degree to which an individual perceives that important others believe he or she should use the new system".

Facilitating Conditions is defined as the degree to which an individual believes that his or her technology adoption and use are supported by the organization.

This Model is relevant to this study because it provides knowledge on how information can be sought. The context of electronic library resources in this study emphasizes the aspect of information search process but on a digital platform. However this information can only be sought if the student has ICT skills. This is where Venkatesh model emphasizes the guidance of the lecturer or the library for students who may not be having adequate knowledge in regard to ICT skills.

The model is a useful framework for teaching students information seeking. In recent years, the Centre for International Scholarship in School Libraries has used it as the conceptual framework for developing a programme of inquiry-based learning. It has employed the model as a mechanism for teachers and school librarians to recognize critical moments when instructional interventions are essential in students' information-to-knowledge experiences.

Students are often driven by the end product without allowing themselves time for gathering and synthesizing information as part of a process (McGregor and Streitenberger, 2004). Particularly focus formulation is challenging (Broch, 2000). Concept mapping has been found to help students in focus formulation (Gordon, 2000). When the model is used as a framework for guiding inquiry, students move away from simply collecting and compiling information to please teachers; rather, they become involved in thinking processes that require extensive exploration of ideas and formulation of thoughts before developing their own deep understanding of their topics and presenting it. By allowing time for reflecting and formulating while they are exploring and collecting information, they avoid missing the critical stages of learning. This close connection between the model and learning reveals how important it is for teachers and librarians to guide students through this process (Venkatesh, et al, 2003).

2.2 Conceptual Framework

Figure 1 showing a diagrammatical representation of the relationship between ICT skills for effective utilization of electronic library resources among students in both Colleges of Education in Katsina State, Nigeria.

Independent Variables   **Dependent Variable**

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┌─────────────────────────────────┐
│ Required ICT Skills             │
│                                 │
│ Performance Expectancy          │            ┌──────────────────────────┐
│   ● Keyboard Skills             │            │ Utilization of Electronic│
│                                 │            │ library Resources        │
│   ● File/ Word Processing Skills│───────────▶│                          │
│ Effort Expectancy               │            │   ● Effective Utilization│
│   ● Spreadsheets Skills         │            │                          │
│                                 │            └──────────────────────────┘
│   ● Database Skills             │
│ Social Influence                │
│                                 │
│   ● Internet Skills             │
│                                 │
│   ● Skills in Email Use         │
│                                 │
└─────────────────────────────────┘
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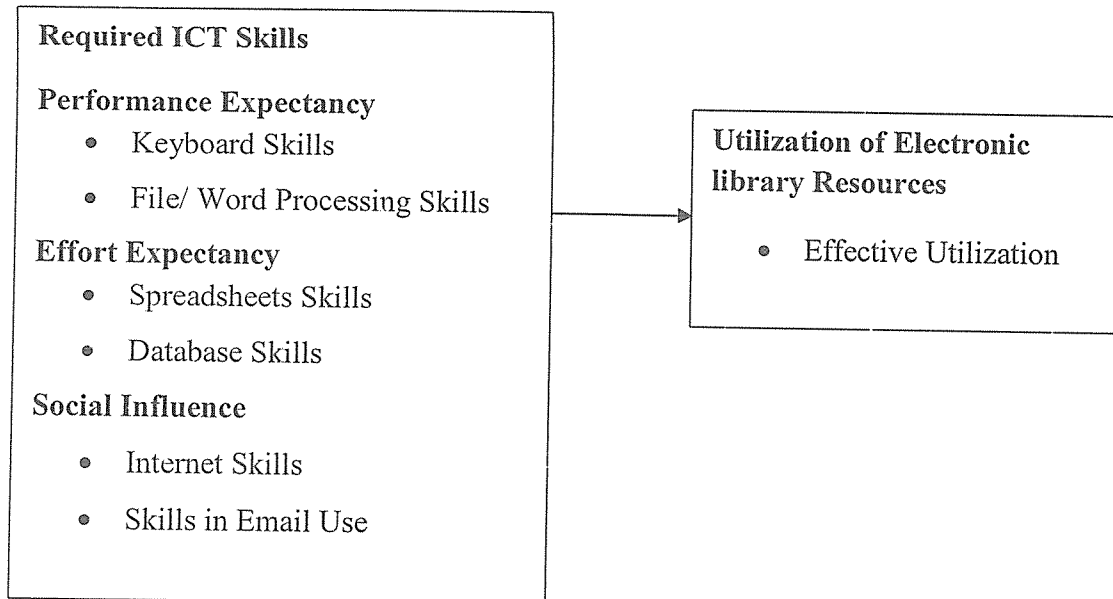
Source: adapted from: Venkatesh et al. (2003)

Figure 1: Conceptual Framework of the study

The conceptual framework shows that, ICT skills are measured using Keyboard skills, file processing skills and word processing; spread sheet and database skills; Internet skills and skills in email use. These skills once acquired can help in the utilization of electronic library resources. For example internet information search skills help the student research to retrieve important information from E-journals, E-data archives, E-manuscripts, E-books, E- Magazines, E-theses etc

2.3 Review of Related Literature

2.3.1 The ICT Skills

For the purpose of this study, ICT skills are required for students to know where to look for information, how to search, and being able to evaluate the information. According to the American Library Association (ACRL, 2013), ICT skill is the "ability to recognize when information is needed and to have the ability to locate, evaluate and use effectively the needed information". ICT skills are helpful to everybody, especially in academics and students, in order for them to make personal, professional and academic choices in using information.

ICT skills are relevant for students to achieve academic goals. This is because the use of e-library resources that is now found in many parts of Nigeria including Katsina needs of ICT skills for its benefits to be widely realized. Adams (2012) explains that the use of ICTs in academic libraries mostly focuses more strongly on the users, the infrastructure, and the skills that users should possess in order to benefit from access to unlimited information resources. This is because they need not come physically to the library to use print formats, but can stay in the office or at home and access online library resources and services via networks from anywhere.

Users require skills in order to find relevant information that will help them to prepare for their projects, reports, seminar papers and other coursework. Some users find it difficult to search library catalogues. Training and advice in literature searching skills are important for all library users, although the focus of this study is on National Certificate in Education (NCE), undergraduates, academic staffs and researchers. Users are increasingly not relying on material available from the library only, but have to find relevant material available from a large pool of resources. This larger pool may include materials from other libraries in the country or even available internationally (Adams, 2012).

In order to utilize the growing range of e-library resources, academics and postgraduate students have to acquire and practice the ICT skills level necessary to exploit them. As Dutton (2011) recommended the skills that are vital to increase the ability of e-library resources are much greater than those required for searching printed sources. These skills include a searching strategy of the structure of databases and word processing for the instructions which must be used into the computer by the searcher, as well as an understanding of the ways in which the instructions are linked with one another.

The library plays a leading role in faculty-library relationships and in instructional services such as orientation and training in use of library resources. If efficient and effective use is to be made of library's electronic library resources, then user training will have to increase in both intensity and coverage. It is important to remember that the ability of library staff to keep up to date is necessary, and, therefore, training for them is crucial as well. The ability to use electronic resources effectively depends on basic ICT skills, knowledge of what is available, how to use e-library resources, be able to define a research problem and to search effectively (Dolo-Ndlwana, 2013).

ICT skills faculty may feel more comfortable using electronic information resources. These skills and knowledge depend on many factors, such as disciplines, status and rank, age, access to e-library resources and training. Factors that can motivate use can be; for example what level of importance they allocate to electronic library resources, how useful they have found them and for which purposes they use e-library resources (Renwick, 2015).

Pantry (2009) noted that while a wealth of IT equipment is found in many organizations, what appeared to be lacking were ICT skills of staff that were expected to be able to control the systems and to search information effectively. It appeared that equipment was installed in many organizations, but very little training was given as part of the installation. Pantry (2009) emphasized that individuals lacking these skills needed to be shown how to use the equipment effectively and to understand what they are doing; how to operate the systems that are available; where they could find information relevant to their job either internally or externally to the organization; to know at what point to ask for further help; and how information was indexed and where the authoritative and validated information could be found.

Tenopir (2013) found that students had more confidence in their searching skills than their teachers. Although lower division undergraduate students used the Web and Web search engines frequently, students were mostly unaware of the distinctions between material on the Web and peer-reviewed journals. ICT skills was very important, it was the skill which was relevant to the university community, therefore it was crucial for academics and students to be information literate in order to use information effectively, and to organize, evaluate, and apply information.

2.3.1.1 Keyboard Skills

Keyboarding skills are a set of skills required to operate a keyboard smoothly while typing. This includes understanding your computer keyboard layout and its functions (Kefas, 2015). Keyboarding is a skill which is required whenever you need to type. Mistakes happen quickly on the computer keyboard. Because of its sensitivity, the keyboard offers both challenges and rewards. Those rewards come after a bit of practice and study to take advantage of what the keyboard gives you. Mostly those advantages will be learned through practice and additional instruction (Kefas, 2015).

2.3.1.2 Word processing

Word processing is simply typing written text, but with the facility to change it, improves it, and makes it look more attractive (Dadzie, 2007). This ICT skill can help a student to work on an easy, course assignment, or final academic report writing. The student can use spelling checker, edit, copy and paste functions, or move the file from one disk location to another, probably a portable devise. Advanced Word Processing requires the candidate to use the word processing application to produce advanced document outputs.

Okello and Ikoja (2010) explained that word processing utilizes advanced text, paragraph, column and table formatting and converts text to a table and vice versa. Work with referencing features like footnotes, endnotes and captions. Create tables of contents, indexes and cross-references. Enhance productivity by using fields, forms and templates. Apply advanced mail merge techniques and work with automation features like macros. Use linking and embedding features to integrate data. Collaborate on and review documents. Work with master documents and subdocuments. Apply document security features. Work with watermarks, sections, and headers and footers in a document.

2.3.1.3 Spreadsheets and Databases

Knowledge of the use of spreadsheets and databases can help a student to find accounting or mathematical concepts very simplified. Bawden (2012) explains that while a computer may not necessarily fill in gaps in a mathematical knowledge, it will make it much easier for a student to draw tables and charts, present financial data, and go through basic mathematical calculations.

Spreadsheets can be applied as formatting options such as conditional format and customized number formatting and handle worksheets. It uses functions such as those associated with logical, statistical, financial and mathematical operations. Create charts and apply advanced chart formatting features. Spreadsheet work with tables and lists to analyze, filter and sort data. Create and use scenarios. Validate and audit spreadsheet data. Enhance productivity by working with named cell ranges, macros and templates. Use linking, embedding and importing features to integrate data. Collaborate on and review spreadsheets. Apply spreadsheet security features (Majid and Abazova, 2011).

2.3.1.4 The Internet

This is simply a brilliant research tool, like a giant library, but a student must know how to use it wisely. There are various search engines (Google is probably the most well-known) that allow a student to find links to key words, names, etc. They also give a student access to millions of pages. Like any other information research, a student can get far more out of it if he or she is clear about what he or she wants to know, otherwise he may just find himself trawling through loads of information. According to Kaur and Verma (2012), internet if used well can help a student with almost any subject he or she can think of, providing links to academic information and useful contacts.

2.3.1.5 Email

For students there are two good reasons why email is useful. Firstly, it is a good way to keep in touch with tutors and lecturers. Secondly, if a student is doing any research that entails contacting businesses and other organizations, email is an excellent way of making initial contact and often a highly successful one (Egberongbe, 2013).

2.3.2 The Utilization Level of Electronic Library Resources by the College Students

The importance and wide ranging scope of electronic library resources for general communication, information retrieval and instructional delivery to support teaching and research activities in tertiary educational institutions is acknowledged worldwide. The literature also show that a number of relevant studies have been carried out on the use of e-resources by lecturers, research scholars and students worldwide. General user opinion towards the use of electronic resources, in particular CD-ROM, has been positive, with students enjoying using these sources

and finding relatively few problems while using them (Ray and Day, 2012). The study according to Ray and Day, (2012) found out that 83% of students surveyed felt that using this source saved them time, and found it relatively easy to use. Two thirds of those surveyed stated that if the CD-ROM was busy, they would wait for it to become free rather than use the print tool.

Jagboro, (2003). Study has clearly demonstrated the present low level of utilization of the Internet by Postgraduate students as a source of materials for academic research at the Obafemi Awolowo University. This low level may be attributed to two factors: the low level of connectivity, and the high cost of cybercafé facilities. In view of the huge academic resources available on the Internet and its usefulness to learning, teaching and research, it would be necessary for libraries of Higher Institutions in Nigeria to provide guaranteed access to the Internet as a way of enhancing their books and journals collections.

However, a study of online searching of scientific information in science and technology libraries of Delhi reveals a sizeable number of users (almost 60%) are facing numerous problems while browsing electronic information, such as lack of knowledge about the resources, lack of trained staff and inadequate terminals (Naushad, 2015).

Studies have also been carried out on the use of electronic resources by teachers, students and research scholars of universities and research organizations. Seventy-eight percent (78%) of the respondents feel that the use of the University of Grants Commission (UGC Infonet) e-journals has created high dependency value on their research work and they needed current article alert services and electronic document supply services (Madhusudhan, 2010).

In the context of developing countries, Okello-Obura and Magara (2008) investigated electronic information access and utilization at the East African School of Library and Information Science, Makerere University, Uganda. Out of the 250 targeted students, 190 responded, giving is response rate of 76%. The study revealed that users derived a lot of benefits from electronic resources gaining access to a wider range of information and improved academic performance as a result of access to quality information.

In the Nigerian context, Oduwole and Akpati (2013) investigated the accessibility and retrieval of electronic information at the University of Agriculture Library, Abeokuta, Nigeria. The 425 participants responded out of a survey population of 1,000, giving a response rate of 53.87

percent. The studies revealed that electronic information cuts across all members of the University community that it was to a greater extent easy to use and were satisfied with their search outputs. The constraints identified included insufficient number of terminals available for use despite high demand and inadequate electricity supply.

Ojo and Akande (2015) in a survey of 350 respondents examined students' access, usage and awareness of electronic information resources at the University College Hospital (UCH) Ibadan, Nigeria. The study revealed that the level of usage of the electronic information resources is not high. A major problem however identified is lack of information retrieval skills for exploiting electronic resources, thus making the level of usage of resources by medical students very low.

Jagboro (2013) had also emphasized the emerging reliance and attitude of users to electronic resources. In a study she conducted in some Nigerian Universities, it was found that 45.2% of respondents accessed electronic resources from cybercafés. Though this attitude, according to her is due to the proximity of cybercafés to user facilities.

2.3.3 The Relationship between ICT Skills and Effective Utilization of E-Library Resources

A study conducted by Majid and Abazova (2010) in Malaysia aimed to investigate the relationship between computing skills of students and their use of electronic ``resources. The study revealed that a majority of International Islamic University of Malaysia academics had been using computers, although about half of their respondents considered their computing skills as "fair" or "poor". The study also found that use of e-resources was influenced by the computing skills of students, their age and gender. The majority of the students with "very good" and "excellent" computing skills had been frequently using e-library resources.

A study conducted by Dadzie (2010) in Ghana investigated electronic library resources access and usage at Asheshi University College. The study found that general computer usage for information access was high because of the university's state of the art IT infrastructure. Usage of some internet resources was also very high whilst the use of scholarly database was quite low. The low investment was attributed to inadequate information about the existence of these library resources. The finding recommended that the introduction of information competency across the curriculum and introduction of a one unit course to be taught at all levels, and the provision of personal computers on campus.

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Shuling (2011) analyzed the use of e-resources in Shaanxi University of Science and Technology in China. The study found that nearly 80% of respondents knew little about electronic library resources. Nearly half of the respondents used both printed and e-library resources. The study also found that the reason for using printed periodicals was that academics were teaching and preparing for their lessons and improving their teaching skills; they have little time to do scientific research; and networks were not available at home because they could not afford them.

Zhang, et al., (2011) conducted a survey of the use of electronic library resources at seven universities in Wuhan, China. The purpose of this survey was to report on users' information behavior in China. The aim was to help producers and providers collect and develop more electronic library resources. The results showed that most National Science and Technology library users were graduates and young staff members; male users performed better than female ones. Findings suggested that e-library resource producers should offer more foreign literature and providers should improve the quality of services.

In India, Kaur and Verma (2012) attempted to study issues like the use of electronic information resources, their impact on the collection of print and e-journals, awareness among the users, and places where the users could access these resources. The study revealed that a large number of users had started using e-journals. It also found that the impact of e-library resources was visible in such a way that there was a decrease in the use of the print journal collection and the printed material was being replaced by electronic library resources.

Deng (2012) conducted a study to investigate the extent to which electronic library resources were utilized in higher education in Australia. The finding intended to explore the patterns and trends of accessing and using e-library resources in a university library in order to help university libraries to manage their resources better. It also aimed to identify the critical factors for the effective and efficient use of electronic library resources. An online survey was conducted the finding revealed that the usage of electronic library resources was common in a university environment. The findings show that the use of e-resources was very much dependent on the user and the purposes of using electronic library resources. Awareness and the quality of the available electronic library resources were the two important factors for the effective and efficient use of electronic library resources. Those findings shed light on the use of electronic library resources

and helped university libraries understand the perception and experience of user's in using electronic library resources, leading to more effective and efficient use of e-library resources.

A study conducted in Nigeria by Egberongbe (2013) at the University of Lagos found that e-library resources such as bibliographic databases, e-newspapers and e-magazines were not used very much. Furthermore, the study showed that lecturers and research scholars were aware of e-library resources. Awareness of e-library resources indicated user knowledge of the availability of the electronic library resources, and that they made use of them. The study showed that the majority of scholars did not get training in the use of e-library resources. The study revealed that the level of IT skills among lecturers, scholars and library staff was variable and low. Most users used informal methods for training themselves; for example one on one consultations. It was also observed that groups of users were not getting proper encouragement by university management to participate in training programmes. The results of this finding revealed that electronic library resources were preferred by some respondents because they were more useful, time saving, easy to use, more informative and less expensive.

Gakibayo, et al., (2013) in Uganda, emphasized that academic libraries were an integral part of universities and had a critical role to play in supporting the core mission of the university that is teaching, learning and research. For example, electronic library resources made available by university libraries to university communities; faculty, staff, students and other authorized users are for activities that support the university mission. One may therefore conclude that these studies have shown that e-resources are widely used in universities, but there is a relationship between computer literacy and use of electronic library resources. Where IT resources were lacking and computer skills were low, less use was made of electronic library resources. Most academics and students surveyed were computer literate to some extent, but they needed to develop their searching skills.

Soyizwapi (2015) conducted a research study among number of postgraduate students in the Faculty of Science and Agriculture at the University of KwaZulu-Natal, Pietermaritzburg. The study focused on the use students made of electronic databases which provided information needed for their studies. The findings of the study indicated that postgraduate students used electronic databases, but that a few of the databases were not used. She also found that a number of problems were experienced by postgraduates when using the databases. Postgraduates became

aware of the availability of electronic databases from a variety of sources such as friends, library orientation programmes and academic staff. It was also found that search engines were identified as resources that were very popular with almost all the students. There was a need for training in the use of databases and a need for improving access for all campus and off-campus users.

2.4 Gaps of the Study

Several studies have been conducted to establish electronic library resources and utilization in different parts of the world. For example Dadzie (2010) in Ghana investigated electronic library resources access and usage at Asheshi University College. Shuling (2011) analyzed the use of e-resources in Shaanxi University of Science and Technology in China. The study found that nearly 80% of respondents knew little about electronic library resources. Nearly half of the respondents used both printed and electronic library resources. Kaur and Verma (2012) attempted investigated use of electronic information resources, their impact on the collection of print and e-journals, awareness among the users, and places where the users could access these resources; Deng (2012), conducted a study to investigate the extent to which electronic library resources were utilized in higher education in Australia. Gakibayo, et al., (2013) in Uganda, emphasized that academic libraries were an integral part of universities and had a critical role to play in supporting the core mission of the university that is teaching, learning and research. Another study conducted by Egberongbe (2013) found that e-library resources such as bibliographic databases, e-newspapers and e-magazines were not used very much. All the above studies pin point the utilization of electronic library resources, however they did not integrate the ICT skills necessitated for the use of e-library resources.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter covered the research design, population of the study, sample size, sample procedure, data sources, research instruments, validity and reliability, data collection procedure, data analysis, ethical consideration and limitations of the study.

3.1 Research Design

Quantitative approach was used to describe the statistics of the scores using indices that describe the current situation and investigate the relationships between the study variables using information gained from the questionnaire. Leedy and Ormrod (2001) defined research design as the strategy to approach a central research problem. A research design helps a researcher to conceptualize an operational plan to undertake the various procedures and tasks required to complete the study and ensure that these procedures are adequate to obtain valid, objective and accurate answers to the research questions. A cross-sectional survey design was adopted in this study. According to Creswell (2009), cross-sectional research design allows for collection of information at one point in time, from a selected sample of respondents. The design is considered favorable with limited time and fiscal resources for data collection. The quantitative research involved the distribution of questionnaires to students and librarians to gain information about aspects of their use and value of library's e-library resources.

3.2 Population of the Study

Target population is refers to the total number of subjects, or the total environment of interest to the researcher. Sometimes the population is too large or too scattered that a sample cannot logically be drawn from the whole of it (Willis and David, 2009).

In this study a total population of 3,142 participants from two different colleges of education in Katsina State were considered (that is: Isa Kaita College of Education, Dutsin-ma; and Federal College of Education, Katsina) (National Commission for Colleges of Education, 2015).Table 3.1 gave a detailed summary of the total population and the sample size from each college of education.

3.3 Sample

A sample is a subgroup of the population which is the focus of your research enquiry and is selected in such a way that it represents the study population. A sample is composed of a few individuals from whom you collect the required information. It is done to save time, money and other resources. (Willis and David, 2009).

3.3.1 Sample Size

A sample size is a part of the target (or accessible) population that has been procedurally selected to represent it. A researcher should provide the details of the sample in terms of numbers and characteristics. How was that particular sample size chosen? (Willis and David, 2009).

The researcher used Slovene's formulae to calculate the sample size of the participants. Slovene's (1960).

Formula is: $n = \dfrac{N}{1+N(\alpha)^2}$

Where n=sample size; N=target population; α = level of significance at 0.05.

$$n = \frac{3142}{1 + 3142(0.05)^2}$$

$$n = \frac{3142}{1 + 3142\,(0.0025)}$$

$$n = \frac{3142}{1 + 7.855}$$

$$n = \frac{3142}{8.855}$$

$$n = 355$$

Therefore the sample size of this study is 355 respondents.

Table 3.1 Study population and Sample Size

Colleges	Target Population	Sample Size
Federal College of Education, Katsina State	1,701	192
Isa Kaita College of Education, Dutsi-ma, Katsina State	1,441	163
Sub total	3,142	355

3.4 Sample Technique

The researcher used simple random sampling to select the student respondents. This was because the researcher wanted to make sure every participant has equal chance of being included in the study.

3.5 Data Sources

3.5.1 Primary data Sources

The researcher used questionnaires as the main primary data source because they are cheap, save time and easy to collect data from a large population.

3.6 Data Collection Methods

The study used survey method of data collection using self-administered questionnaires. The questionnaire was preferred because it is easy to administer, saves time and allows for doubts to be clarified on spot from many respondents.

3.7 Research Instruments

3.7.1 Questionnaires

The questionnaire was the main research instrument for this study. The questionnaires about ICT skill level and utilization of e-library resources were distributed to the students only. The questionnaire has main three parts. Part A: Profile of the Respondents. Part B: ICT skills level and Part C: effective utilization of electronic library resources. Questionnaires also help capture factual information effectively. The researcher used closed ended questionnaires to establish student ICT skills level for their effective utilization of e-resources. The questionnaires were based on a 5-likert scale questionnaire. This involved scales such as 5=Strongly Agree, 4=Agree, 3=Not Sure, 2=Disagree, and 1=Strongly Disagree.

3.8 Validity and Reliability

3.8.1 Validity

This study notes that validity precipitates the concern of whether the findings are a true and correct representation of what it purports to measure and how accurately it represents what will be happening in the situation under observation (Collins and Hussey, 2003). According to the accepted rule of thumb for measuring construct validity using KMO values as suggested by DeCoster (2004), value of 0.900 and above is superb, 0.800 – 0.899 is great, 0.700 – 0.799 is good, 0.600 – 0.699 is mediocre, 0.500 – 0.599 is acceptable, while below 0.500 is unacceptable. As regard to this study, the validity of the instrument is 0.706 obtain through assessment by experts (face validity), and was interpreted as Good.

3.8.2 Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results (Cozby, 2001). Test-retest method was employed to test the reliability of the instrument. The researcher achieved this by subjecting the instrument to the subject collect the result and after a week gives the instrument again to the same subject for reassessment. The result obtained is 0.801. The items are consistent based on the measure of high internal consistency of the total alpha value of more than 0.70 (Amin, 2005).

3.9 Data Collection Procedures

An introduction letter was obtained from the College of Higher Degrees and Research of Kampala International University after the approval of the validity of the research instruments. The researcher briefed the respondents about his intentions to carry out a study at their College. The researcher then asked the respondents to answer all the questions in the questionnaires. The researcher then arranged for data analysis.

3.10 Data Analysis

Data from the field was compiled, sorted, edited and coded to have the required quality, accuracy and completeness. Then it was entered into the computer using the Statistical Package for Social Sciences (IBM SPSS v. 22.0) for analysis. During the analysis of the data, frequencies and percentage distribution were used to analyze data on the profile of the respondents. Means and Standard Deviations were used to determine the students' ICT skill level and the utilization of e-resources while Pearson's linear correlation coefficient and regression analysis were used to

determine if there is a significant relationship between students' ICT skills level and effective utilization of e-resources.

3.11 Ethical Considerations

This involved getting consent of the respondents and the names or identifications of the respondents were anonymous and information collected from them was treated with utmost confidentiality. The researcher also acted honestly, fairly and respectfully to all other stakeholders that were involved in this study. Not only that, the researcher accurately attributed to the sources of information in an effort to acknowledge the works of past scholars or researchers. This ensured that no plagiarism occurred. Last but not least, the researcher worked according to generally acceptable norms of research.

3.12 Limitations of the Study

- Uncooperative behavior of some respondents, un-approachable respondents and those who were reluctant to give information limited the researcher in this study. However, the researcher convinced the respondents that their participation in the study was very instrumental in ensuring that their ICT skills was addressed through special ICT training.
- The researcher was also limited by privacy to information by the College authority because of College policy regarding information disbursement. The researcher however, used his introduction letter to explain to the College authorities his academic intentions.

CHAPTER FOUR
PRESENTATION, INTERPRETATION AND ANALYSIS
4.0 Introduction

This chapter presents the findings of the data gathered and interpretation thereof. It gives the demographic characteristics of respondents and description of the objectives of the study and variables used.

4.1 Response Rate

The researcher distributed 355 questionnaires but was able to retrieve 294 correctly filled and answered questionnaires giving a response rate of 83%. According to Amin (2005), if a response rate is more that 70%, it is appropriate enough to use the data for final analysis. This study therefore used data from 294 respondents in its final analysis.

4.2 Demographic Characteristics of the Respondents

This section covers the demographic characteristics of the respondents in terms of gender and age. Table 4.1 and 4.2 give the summary of the findings.

Table 4.1: Gender of the Respondents

Gender	Frequency	Percent (%)
Male	185	62.9
Female	109	37.1
Total	294	100.0

Results from Table 4.1 show that male has the frequency of 185 (62.9%) and female has 109 (37.1%). The total respondents are 294 (100%).

Table 4.2: Age of the Respondents

Age	Frequency	Percent (%)
20-29 years	129	43.9
30-39 years	96	32.7
40-49 years	41	13.9
Above 50 years	28	9.5
Total	294	100%

Table 4.2 shows that majority, 129 (43.9%) of the respondents were within the age of 20-29 years, followed by 32.7% who were within the age of 30-39 years; while respondents within the age of 40-49 years and above 50 years were represented by 13.9% and 9.5% respectively. The dominance of the respondents within the age group of 20-29 years implies that the young generations are undergoing mass education to reduce illiteracy among the populace.

4.3 The ICT skills of the students in the Colleges of Education of Katsina State

Objective One: the first objective of this study was to assess the ICT skills of the students in the Colleges of Education of Katsina State. The questionnaires were distributed to the students only. ICT skills was subdivided into UTAUT factors that require performance expectancy, effort expectancy and social influence. Performance expectancy require to use ICT skills 1 included: keyboard skills, and file/word processing skills; ICT skills level 2 included: spread sheet and database skills; and ICT skills level 3 included: internet and email use. Therefore the above information was presented in the following tables. However, the table below gives the mean interpretation of the values in the proceeding tables.

Interpretation Guide was based on the five Likert intervals as follows:

S/N	Mean Range	Response Mode	Interpretation
5	4.21-5.00	Strongly Agree	Very good
4	3.41-4.20	Agree	Good
3	2.61-3.40	Undecided	Fair
2	1.81-2.60	Disagree	Poor
1	1.00-1.80	Strongly Disagree	Very poor

Table 4.3.1: Determination of ICT Skills Performance Expectancy

Keyboard skills	Mean	Std. Deviation	Interpretation
I can type faster than most of my colleagues.	3.44	1.078	Good
I understand the computer keyboard layout and its functions.	3.16	1.463	Fair
I do not look at my keyboard when I am typing.	2.07	1.201	Poor
Average mean	**2.89**	**1.247**	Fair
File/word processing skills			
I know how to move unwanted files into my recycle bin and delete them permanently from my hard drive.	4.25	.552	Very good
I know how to display numerical data in a graphical format.	4.22	.505	Very good
I know how to use undo/redo functions.	4.22	.815	Very good
I know how to save, print and preview documents.	4.15	.642	Good
I know how to organize, copy and paste files in directories.	4.14	.747	Good
I know how to create itemized 'ists (ex. bulleted format).	3.98	.969	Good
I know how to edit, copy, cut and paste a block of text or selected objects.	3.92	.872	Good
I can analyse and draw conclusions from a data set by searching, sorting and editing records.	3.04	1.089	Fair
I can apply editing, formatting and layout techniques to meet needs, including text, tables, graphics, records, numbers, charts, graphs or other digital content.	2.88	.843	Fair
I can work with files, folders and other media to access, organise, store, label and retrieve information.	2.72	1.027	Fair
I know how to select and change font sizes and types, styles (e.g. boldface, italics, underlining, etc.).	2.63	1.519	Fair
I am able to work with very large documents that require a table of contents, footnotes, endnotes, and cross-references.	2.24	1.286	Poor
I know how to use file names and data types to organize information.	2.14	1.100	Poor
Average mean	**3.43**	**0.920**	Good

Determining the ICT skills Performance Expectancy
Keyboard Skills

Table 4.3.1 shows that item one to three represent Keyboard Skills for students'. The mean for item 1 is 3.44, while standard deviation is 1.078, for item 2, the mean is 3.16 and standard deviation is 1.463. And for item 3, the mean is 2.07 while the standard deviation is 1.201, respectively. The total average mean for 1, 2, and 3 is 2.89, and the standard deviation is 1.247. This means the performance of keyboard skill usage is fair.

File/Word Processing Skills

The results presented in table 4.3.1 shows that item 1 to 13 represent File/Word Processing Skills for students'. The mean for item 1 is 4.25, standard deviation is 0.552 the interpretation is Very Good. Item 2 mean is 4.22, standard deviation is 0.505, and the interpretation is Very Good. The mean of item 3 is 4.22, standard deviation is 0.815, and the interpretation is Very Good. In item 4 the mean is 4.15, standard deviation is 0.642, and the interpretation is good. For item 5 the mean is 4.14, and standard deviation is 0.747 the interpretation is Good. Item 6 mean is 3.98 and standard deviation is 0.969 the interpretation is Good. Item 7 mean is 3.92 and standard deviation is 0.872 the interpretation is Good. Item 8 mean is 3.04 and standard deviation is 1.089 the interpretation is Fair. Item 9 shown the mean is 2.88 and standard deviation is 0.843 the interpretation is Fair. However, Item 10 the mean is 2.72 while standard deviation is 1.027 the interpretation is Fair. In respect of item 11 mean is 2.63 standard deviation is 1.519 that it is the understanding is Poor. To this, item 12 mean is 2.24 and standard deviation is 1.286 the interpretation is Poor. The presentation of file/word processing skills level 1 shown the total average of the mean is 3.43, while standard deviation is 0.920 the interpretation was determined the file/word processing skills level 1 is Good.

Table 4.3.2: ICT Skills Effort Expectancy

Spreadsheet and Database skills	Mean	Std. Deviation	Interpretation
I can enter, store, retrieve, and filter, data from the Microsoft access.	2.97	1.251	Fair
I can create a simple database in Microsoft access.	2.79	1.500	Fair
I understand the applicability of spread sheet mathematical formulas.	2.72	.948	Fair
I understand how to create different graphs using spread sheet platform.	2.70	1.054	Fair
Average mean	3.20	0.934	Fair

Spreadsheet and Database Skills

Table 4.3.2 shows that an ICT skills effort expectancy on spreadsheet and databases has four items. Item 1 is (mean=2.97, Std=1.251) the interpretation is Fair. Item 2 is (mean=2.79, Std=1.500) the interpretation is Fair. Item 3 is (mean=2.72, Std=0.948) the interpretation is Fair. Item 4 is (mean=2.70, Std=1.054) the interpretation is Fair. As indicated on the table above shown that, the interpretation is Fair of Spreadsheet and Database Skills by the (average mean=3.20, Std=0.934).

Table 4.3.3: ICT Skills Social Influence

Internet	Mean	Std. Deviation	Interpretation
I am able to use the browser basic commands to surf the Internet.	3.97	.173	Good
I am able to download files from the internet.	3.93	.264	Good
I am able to use search engines to locate desired information.	3.81	.540	Good
I am able to understand the difference between search engines (e.g. Google) and directories (e.g. Yahoo)	3.64	.952	Good
I am able to use basic steps to ensure online privacy and computer security.	2.09	.476	Poor
I am able to understand that copyright restrictions apply to computer software and Internet documents.	2.08	.655	Poor
I am able to understand how I can use gathered information from the Internet without violating copyright laws.	2.07	.637	Poor
Average mean	**3.08**	**0.528**	**Fair**
Email use			
I am able to compose, send, receive, reply to and forward email messages.	4.04	1.373	Very good
I am able to send electronic messages with attachments.	3.42	.908	Good
I can use mailing list to exchange information.	3.41	1.188	Good
I am able to access my college email account	3.35	.937	Good
Average mean	**3.56**	**1.102**	**Good**

Internet

The results presented in table 4.3.3 ICT Skills social influence shows that student's knowledge on internet this has seven items. Item 1 is (mean=3.97, Std=0.173) the interpretation is Good. Item 2 is (mean=3.93, Std=0.264) the interpretation is Good. Item 3 is (mean=3.81, Std=0.540) the interpretation is Good. Item 4 is (mean=3.64, Std=0.952) the interpretation is Good. Item 5 is (mean=2.09, Std=0.476) the interpretation is Poor. Item 6 is (mean=2.08, Std=0.655) the interpretation is Poor. Item 7 is (mean=2.07, Std=.637) the interpretation is Poor. The above

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table results imply that students on Internet usage. The interpretation is Fair by indication of (average mean=3.08, Std=0.528).

Email Use Skills

Table 4.3.3 revealed that the skill of email use among students of the colleges of education was good (average mean=3.56, Std=1.102). This was attributed to the fact that majority of the respondents agreed that they are able to compose, send, receive, reply to and forward email messages (mean=4.04, Std=1.373), and also send electronic messages with attachments (mean=3.42, Std=0.908). In addition to that, students also agreed that they can use mailing list to exchange information (mean=3.41, Std=1.188) and access their college email account (mean=3.35, Std=0.937).

The above results imply that students' skills in using emails is good and therefore can help them in sending assignments, and course works to their lecturers online. They can also be able to receive lecturer notes, assignments, course works from their lecturers.

Table 4.3.4: Summary of Student's ICT Skills

Student's ICT Skills	Average Mean	Std. Deviation	Interpretation
Keyboard skills	2.89	1.247	Fair
File/word processing skills	3.43	0.920	Good
Spread sheet and database skills	3.20	0.934	Fair
Internet	3.08	0.528	Fair
Email use	3.56	1.102	Good
General average mean	**3.23**	**0.945**	**Fair**

The results presented in table 4.3.4 revealed that students' ICT skills is fair (general average mean=3.23, Std=0.945). This is because only few students have good word processing and email use, while others fair ICT skills in spreadsheet and database, and internet use. However, the students' ICT skills in keyboard were poor. This implies that students need a lot of training and practice in order to improve their keyboard skills and general ICT skills.

Objective 2: To determine the level of e-Library resource and effective utilization

4.4 The Utilization of E-Library Resources by the Students of the Colleges of Education of Katsina State

Objective Two: the second objective of this study was to determine the utilization of e-library resources by the students of the Colleges of Education of Katsina State. To achieve this objective, the questionnaires were distributed to the students only. Table 4.4 gives the summary of the results.

Table 4.4: The Utilization of E-Library Resources by the Students of the Colleges of Education of Katsina State

Utilization of Electronic Resources	Mean	Std. Deviation	Interpretation
I use the electronic journals provided by the library for my project writing.	3.99	1.278	Good
I use the e-resources to retrieve current literature for studies	2.37	.636	Poor
I use the Electronic catalogue (OPAC) for sourcing information in the library.	2.36	.917	Poor
I participate in professional discussion group/list serve via the library's Internet access.	2.29	.823	Poor
I use the electronic books provided by the library to complement my class notes.	2.22	.712	Poor
I use the e-resources to update my knowledge in subject areas of interest.	2.16	.608	Poor
I use electronic resources to do class assignments.	2.13	.380	Poor
I use the online database in the library for my assignments.	2.12	.420	Poor
I use the library's electronic resources to source materials for research/writing project.	2.10	.428	Poor
I follow blog discussions on subject area of interest via the library's internet access	2.09	.377	Poor
I use e-resources to search for scholarship opportunities.	2.08	.425	Poor
I use the electronic resources to augment my course works.	2.07	.367	Poor
I use the Internet access in the library to send e-mail.	2.05	.241	Poor
General average mean	2.31	0.586	Poor

The results presented in table 4.4 shows that students' utilization of e-library resources was poor (average mean=2.31, Std=0.586).This is attributed to the fact that majority of the respondents disagreed that they use the e-library resources to retrieve current literature for studies (mean=2.37, Std=0.636) or for sourcing information in the library (mean=2.36, Std=0.917). Similarly, respondents also disagreed that they participate in professional discussion group/list serve via the library's Internet access (mean=2.29, Std=0.823). In addition to that, respondents

disagreed that they use the electronic books provided by the library to complement their class notes (mean=2.22, Std=0.712).

Furthermore, the study revealed that majority of the respondents disagreed that they use the e-resources to update their knowledge in subject areas of interest (mean=2.16, Std=0.608), or do class assignments (mean=2.13, Std=0.380). Other respondents also disagreed that they use the online database in the library for their assignments (mean=2.12, Std=0.420) or for research/writing project (mean=2.10, Std=0.428).

On further scrutiny, the study found that majority of the respondents disagreed that they follow blog discussions on subject area of interest via the library's internet access (mean=2.09, Std=0.377), while others disagreed that they use e-resources to search for scholarship opportunities (mean=2.08, Std=0.425). On similar grounds, respondents also disagreed that they use the electronic resources to augment their course works (mean=2.07, Std=0.367).

The above results show that students do not make use of e-library resources which are available in their colleges. This could be because they either are not aware of the availability of such services or because they do not have enough ICT skills that would guarantee their successful usage of e-library resources. The fact that students are not making use of e-library resources to supplement their class work, or enrich themselves with new knowledge from updated materials could only mean that students lack the necessary ICT skills which would help them take advantage of such services which are readily at their disposal, or it could be because the e-library services which the colleges have do not serve their purpose; they are just there for the sake but not having what the students need to enhance their academic knowledge.

4.5 The Relationship between Students' ICT Skills and the Utilization of E-Library Resources in the Colleges of Education of Katsina State

Objective Three: the third objective of this study was to establish the relationship between students' ICT skills and the utilization of e-library resources in the Colleges of Education of Katsina State. Table 4.5 shows the summary of the findings.

Table 4.5: The Relationship between Students' ICT Skills and the Utilization of E-Library Resources in the Colleges of Education of Katsina State

		Students' ICT Skills Level	Utilization of E-Library Resources
Students' ICT Skills Level	Pearson Correlation	1	.711[**]
	Sig. (2-tailed)		.003
Utilization of E-Library Resources	Pearson Correlation	.711[**]	1
	Sig. (2-tailed)	.003	

[**]. Correlation is significant at the 0.05 level (2-tailed).

The results presented in table 4.5 shows a positive/strong relationship between students' ICT skills and utilization of e-library resources (r=.711[**]). This implies that an improvement in the skills of students in ICT will cause an increase in the utilization of e-library resources. In other words, if students improve on their keyboard skills, file/word processing skills, spreadsheet and database skills, and internet and email usage skills, there will be a high likelihood that they will have the confidence to exploit the available e-library resources that are readily at their disposal hence increase e-library utilization. However, if students do not have the necessary ICT skills, then they will fear to use e-library resource for fear of frustration, disappointments and shame.

CHAPTER FIVE
DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the discussion of the study guided by the study objectives. The discussion was done by exploring the research findings in comparison with what other researchers in the fields have confirmed. The discussion is followed by appropriate recommendations accruing from the findings.

5.1 Discussion of the Findings

5.1.1 The ICT skills of the students in the Colleges of Education of Katsina State

Objective one: the first objective of this study was to assess the ICT skills of the students in the Colleges of Education of Katsina State. The study found that students' ICT skill was Fair (general average mean=3.23, Std=0.945). However, it is well known that students' ICT skills is relevant for students to achieve academic goals. This is because the use of e-library resources that is now found in many parts of Nigeria including Katsina needs some level of ICT skills for its benefits to be widely realized.

Adams (2009) explains that the use of ICTs in academic libraries mostly focuses more strongly on the users, the infrastructure, and the skills that users should possess in order to benefit from access to unlimited information resources. The ICT skills covered in this study included keyboard skills, file/word processing skills, spreadsheets and database skills, internet and email use.

The study found that students' keyboard skills was poor (average mean=2.89, Std=1.247). This was attributed to the fact that students found difficulty in typing because they did not have knowledge of keyboard function.

According to Kefas (2015), keyboard skills are a set of skills required to operate a keyboard smoothly while typing, which includes among others understanding computer keyboard layout and its functions.

Furthermore, the study found that students' skills on spreadsheet and database was fair (average mean=3.20, Std=0.934). This knowledge of the use of spreadsheets and databases can help a student to find accounting or mathematical concepts very simplified.

Bawden (2012) explains that while a computer may not necessarily fill in gaps in a mathematical knowledge, it will make it much easier for a student to draw tables and charts, present financial data, and go through basic mathematical calculations.

Unfortunately students of the colleges of education in Katsina have little knowledge of copy rights, restrictions, and privacy or computer security; hence they are susceptible to violating copyright laws by downloading materials without prior permission from the author hence amounting to plagiarism. Furthermore lack of knowledge on internet and computer security implies that students are at risk of visiting websites that are not secure, or download files with viruses that may affect the computers of the college.

According to Kaur and Verma (2012), internet if used well can help a student with almost any subject he or she can think of, providing links to academic information and useful contacts.

This study found that word processing among students was good (average mean=3.43, Std=0.920). This could be because students understand most of the basic functions in Microsoft word such as saving, deleting, redoing/undoing, creating and transferring a folder etc. This ICT skill can help a student to work on an easy, course assignment, or final academic report writing. The student can use spelling checker, edit, copy and paste functions, or move the file from one disk location to another, probably a portable devise. Advanced Word Processing requires the candidate to use the word processing application to produce advanced document outputs.

The study also found that students' knowledge of email usage was good (average mean=3.56, Std=1.102). This implies that students' skills in using emails is good and therefore can help them in sending assignments, and course works to their lecturers online. They can also be able to receive lecturer notes, assignments, course works from their lecturers. Egberongbe (2013) argues that as a student, there are two good reasons why email is useful. Firstly, it is a good way to keep in touch with tutors and lecturers when you can't catch up with them in person. Secondly, if you are doing any research that entails contacting businesses and other organizations, email is an excellent way of making initial contact and often a highly successful one.

5.1.2 The Utilization of E-Library Resources by the Students of the Colleges of Education of Katsina State

Objective two: the second objective of this study was to determine the utilization of e-library resources by the students of the Colleges of Education of Katsina State. The study found that the utilization of e-library resources among students of the colleges of education was poor (average mean=2.31, Std=0.586). The poor utilization of e-library resources could be attributed to lack of awareness, lack of ICT skills, lack of comprehensiveness of the e-library resources, lack of trained library staff in ICT and lack of management support.

This study is in agreement with that of Ojo and Akande (2015) who found that the level of usage of the electronic information resources at the University College Hospital (UCH) Ibadan, was not high. This was attributed to lack of information retrieval skills for exploiting electronic resources, thus making the level of usage of resources by medical students very low.

This study also agrees with that of Shuling (2011) analyzed the use of e-resources in Shaanxi University of Science and Technology in China, who found that nearly 80% of respondents, knew little about e-library resources while nearly half of the respondents used both printed and e-library resources. The study also found that the reason for using printed periodicals was that academics were teaching and preparing for their lessons and improving their teaching skills; they have little time to do scientific research; and networks were not available at home because they could not afford them.

The fact that students are not making use of e-library resources to supplement their class work, or enrich themselves with new knowledge from updated materials could only mean that students lack the necessary ICT skills which would help them take advantage of such services which are readily at their disposal, or it could be because the e-library services which the colleges have do not serve their purpose; they are just there for the sake but not having what the students need to enhance their academic knowledge.

However, this study found that students did not utilize e-library resources to retrieve current literature for studies; neither did they use electronic books provided by the library to complement their class notes. Students also did not use the e-library resources to update their knowledge in subject areas of interest, or do class assignments, or write research projects. This implies that

students do not make use of e-journals, e-manuscripts, e-books, e-magazines, e-thesis hence they cannot widen their academic knowledge.

This study agrees with that of Egberongbe (2013) at the University of Lagos who found that e-library resources such as bibliographic databases, e-newspapers and e-magazines were not used very much. Furthermore, the study showed that lecturers and research scholars were aware of e-library resources. Awareness of e-library resources indicated user knowledge of the availability of the e-library resources, and that they made use of them.

Furthermore, a study conducted by Dadzie (2010) also found that general computer usage for information access was high because of the university's state of the art IT infrastructure. Usage of some internet resources was also very high whilst the use of scholarly database was quite low. The low investment was attributed to inadequate information about the existence of these library resources.

5.1.3 The Relationship between Students' ICT Skills and the Utilization of E-Library Resources in the Colleges of Education of Katsina State

Objective Three: the third objective of this study was to determine the relationship between students' ICT skills and the utilization of electronic library resources in the Colleges of Education of Katsina State. The study found a positive/strong relationship between students' ICT skills and utilization of electronic library resources (r=.711[**]). This implies that an improvement in the skills of students in ICT will cause an increase in the utilization of electronic library resources. In other words, if students improve on their keyboard skills, file/word processing skills, spreadsheet and database skills, internet and email usage skills, there will be a high likelihood that they will have the confidence to exploit the available electronic library resources that are readily at their disposal hence increase electronic library utilization. However, if students do not have the necessary ICT skills, then they will fear to use electronic library resource for fear of frustration, disappointments and shame.

This study agrees with that of Majid and Abazova (2010) who found that a majority of International Islamic University of Malaysia academics had been using computers, although about half of their respondents considered their computing skills as "fair" or "poor". The study also found that use of e-resources was influenced by the computing skills of students, their age and gender. The majority of the students with "very good" and "excellent" computing skills had been frequently using e-library resources.

5.2 Conclusion

This study investigated the effect of Students' ICT skills level on e-library utilization among students of the colleges of education in Katsina State. The study found that in the first objective, students' ICT skills level was Fair (general average mean=3.23, Std=0.945). The second objective found that utilization of e-library resources was poor among students (average mean=2.31, Std=0.586). The third objective found a positive/strong relationship between students' ICT skills level and utilization of electronic library resources (r=.711[**]). As a result, the students' ICT skill is very important for them to gain confidence in using e-library resources.

5.3 Recommendations

5.1.1 The ICT skills level of the students in the Colleges of Education of Katsina State

Objective one: the first objective of this study was to assess the ICT skills level of the students in the Colleges of Education of Katsina State. The study found that students' ICT skill level was Fair (general average mean=3.23, Std=0.945). The following recommendations are therefore made:

There is need for the college management to train students on keyboard usage so that they can have keyboard skills that can help them to improve on typing speed and knowledge of keyboard layout. This skill can be sharpened by exposing students to daily typing exercises and having seminars and workshops.

Furthermore, students should expose themselves to using spreadsheets and databases since majority of them still have a weakness in that area. Students can be assisted by well-trained lecturers and also installing functioning computers in classrooms so that students learn practically.

In addition to the above, there is need for management of the colleges of education to install internet connections in the colleges so that students are able to be exposed to its functionalities such as participating in group discussions through Skype or videoconferencing. They also need to be educated about copyright laws and restrictions as regard internet materials.

5.1.2 The Utilization of electronic Library Resources by the Students of the Colleges of Education of Katsina State

Objective two: the second objective of this study was to determine the utilization of electronic library resources by the students of the Colleges of Education of Katsina State. The study found that the utilization of electronic library resources among students of the colleges of education was poor (average mean=2.31, Std=0.586). The following recommendations are therefore made:

There is need for management to create awareness among the students of the availability of electronic library resources. This can be achieved through verbal communication by the student

leadership, memo communication by the library departments and putting posters are the compass area.

There is need for both the college and library management to provide comprehensive electronic library resources that benefit academically students who will make use of it. This implies that the electronic library resources should have e-journals, e-data archives, e-manuscripts, e-books, e-Magazines, e-theses, e- research reports, e-bibliographic databases, e-maps, CDROM, e-reference sources (dictionary etc.), e-tutorials, and online databases.

5.1.3 The Relationship between Students' ICT Skills Level and the Utilization of E-Library Resources in the Colleges of Education of Katsina State

Objective three: the third objective of this study was to determine the relationship between students' ICT skills and the utilization of electronic library resources in the Colleges of Education of Katsina State. The study found a positive/strong relationship between students' ICT skills and utilization of electronic library resources (r=.711). The following recommendations are therefore made:

There is need for the students to sharpen their ICT skills even outside classroom setting. Students can achieve this through taking short computer courses, or having consultative groups with their colleagues.

Furthermore, the college management should make sure they provide comprehensive ICT infrastructure so that all the ICT resources that students need can be readily available at their disposal. The college management can achieve this by installing functioning computers, network, internet, printers, scanners, photocopies, projectors etc in specific locations within the compass for easy access.

5.4 Areas for Future Studies

The study covered only the State of Katsina which has only two Colleges of Education. There is need for future study on the same topic to be carried out in at least ten colleges of education from at least 5 sampled States in Nigeria. This will widen the geographical coverage and the sample size hence providing a comprehensive conclusion that can be used for generalizations.

Furthermore, a comparative analysis of students' ICT skills and utilization of electronic library resources should be done in the colleges of education in the five different zones that form Nigeria.

6.0 References

Abubakar, D. and Adetimirin, A. (2015). Influence of Computer Literacy on Postgraduates' Use of E-Resources in Nigerian University Libraries.

And Guilford, J.P. and Frucher. B; (1973). Fundamental Statistics in Psychology and Education, New York: MC Graw-Hill does cite Slovene's (1960).

ACRL, (2013). 2012 top ten trends in academic libraries: A review of the current literature. College and research libraries, news. 71(6): 286-292.

Adams, L. E. (2009). Information seeking behavior of generation Y students at Stellenbosch University and Information Service. Degree of Magister Bibliocologiae University of Western Cape.

Agaba, D.M., Kigongo, I.M.N.B., and Nyumba, J.B. (2009). Utilization of Electronic Information Resources by Academic Staff at Makerere University.

Amin, M.E. (2005). Social science research: Conception. Methodology and analysis. Uganda, Kampala, Makerere University.

Ani, O.E., Ahiauzu, B. (2008). Towards effective development of electronic information resources in Nigerian university libraries. Lib. Manage. 29 (6/7):504-514.

Bawden, D. (2012). Digital Literacy http://www.scitopics.com/Digital Literacy.html.

Bell, L., and Shank, K. (2014). Digital Literacy, Definition and Resources what is Digital Literacy? http://cleach.wordpress.com/what-is-digital-literacy

Broch, E. (2000). Children's search engines from an information search process perspective. *School Library Media Research*, **3**.

Candela, L., Athanasopoulos, G., Castelli, K., Raheb, P., Innocent, Y., Ioannidis, A., Katifori, A., Nika, G., Vullo, S. R. (2011). *The Digital Library Reference Model.*

Collis. J., Hussey, R. (2003) Business Research 2nd edition, Palgarve Macmillan

Cozby, P.C. (2001). Measurement Concepts. Methods in Behavioral Research (7th ed.). California: Mayfield Publishing Company.

Creswell, J. W. (2009). Research design: qualitative and quantitative mixed methods approaches. 3rd edition, London: Sage.

Dadzie, P. S. (2010). Electronic resources: access and usage at Ashesi University College. Campus wise information system, 22(5): 290-297.

Dadzie, P.S. (2007). Information Literacy: assessing the readiness of Ghanaian universities. Information Development, 23(4):265-277.

DeCoster, J. (2004). Data Analysis in SPSS Retrieved on 3rd September 2016 from http://www.stat-help.com/notes.html.

Deng, H. (2010). Emerging patterns and trends in utilizing electronic resources in a higher education environment: an empirical analysis. *New library world.* 111(3-4) 87-103.

Dolo-Ndlwana, N. (2013). Use and Value of Library's Electronic Resources by Academics and Postgraduate Students at Cape Peninsula University of Technology (CPUT). PhD Mini dissertation.

Dutton, B. G. (2011). An introduction to end-user searching. In: Bysouth, P.T. (ed). *End-user searching: the effective gateway to published information.* London: Aslib, 1-8.9999

Egberongbe, H. S. (2011). The use and impact of electronic resources at the University of Lagos. *Library philosophy and practice.* Available: www.webpages.uidaho.edu/-mbolin/egberongbe.html.

Gakibayo, A., Ikoja-Odongo, J.R., and Okello-Obura, C. (2013). Electronic information resources utilization by students in Mbarara University Library. Available: http://digitalcommons.unl.edu/cgi/viewcontent.cgi

Gordon, C. A. (2000). The effects of concept mapping on the searching behavior of tenth-grade students. *School Library Media Research*, 3. Retrieved 2 September, 2016 from http://bit.ly/112cU http://www.webcitation.org/5cbDLgW1P

Jagboro, K.O. (2003). A study of Internet Usage in Nigerian Universities: A case study of Obafemi Awolowo University, Ile – Ife, Nigeria. *First Monday,* Vol8. No. 2. (Available at: http://Firstmonday.Org/Issues/Issue8_2/Jagboro/Index.html

Kaur, B., and Verma, R. (2012). Use of electronic information resources: a case study of Thapar University. *Journal of library & information technology.* 29 (2): 67-73.

Kefas, Y. (2015). Utilization of Electronic Information Resources by Postgraduate Student of Modibbo Adama College of Technology, Yola. Journal of Humanities and Social Science (IOSR-JHSS) Volume 20, Issue 8, Ver. III (Aug. 2015), PP 58-65.

Krubu, D., and Osawaru, K. (2010). The Impact of Information and Communication Technology (ICT) In Nigerian University Libraries. *Library Philosophy and Practice (e-journal).* Paper 515.

Leedy, P. D. and Ormrod, J. E. (2001). Practical Research: planning and design. 7th edition, New Jersey: Prentice Hall.

Madhusudhan, M. (2010). Use of UGC infonet – journals by the Research Scholars of University of Delhi", Library Hi Tech, Vol. 26. No. 3. pp. 369 – 386.

Majid, S., and Abazova, A. F. (2011). Computer literacy and use of electronic information sources by academic. A case study of international Islamic University, Malaysia Asian libraries, 8 (4), 100-111.

Majid, S., and Abazova, A. F. (2010). Computer literacy and use of electronic information resources by students: a case study of International Islamic University Malaysia. *Asian Libraries.* 8 (4):100-111.

McGregor, J.H., and Streitenberger, D.C. (2004). Do scribes learn? Copying and information use. In M. K. Chelton and C. Cool (Eds.), *Youth information-seeking behavior: theories, models and issues* (pp. 95-118). Lanham, MD: Scarecrow Press.

Mugenda, O. M., and Mugenda, A. G. (*2003*). Research methods: Quantitative and qualitative Approaches. Nairobi: African Centre for Technology Studies.

National Commission for Colleges of Education (2015). Annual Report. Retrieved from: http://www.ncceonline.edu.ng/

Naushad, A. (2015). The use of electronic resources at IIT Delhi Library; a study of search behaviours. *The Electronic Library* Vol.23 no. 6: 691 - 700

Odion, F., and Adetona, C.O. (2015). Information and Communication Technology (ICT) as a tool for effective performance by Academic Librarians in Edo State of Nigeria. *Communicate, Journal of Library and information Science.* 11(1), 27-31.

Oduwole A. A. and Akpati, C. B. (2013). Accessibility and retrieval of Electronic Information at the University of Agriculture Library Abeokuta, Nigeria 52(5): 228 – 233, Available at: http://www.emeraldinsight.com/researchregister.

Ojo, R. A. and Akande, S. O. (2014). Students Access, Usage and awareness of Electronic Information Resources at the University College Hospital, University of Ibadan, Nigeria. *Lagos Journal of Library and Information Science* 3(1): 16 – 24.

Okello, O. C., and Ikoja, O. R. (2010). Electronic information seeking among LIS postgraduate students at Makerere University, Uganda.

Okello-Obura, C and Magara, E. (2008). Electronic Information access and utilization by Makerere University in Uganda" Available at: http;//creative commons.org/licenses/by/2-

Pantry, S. (2009). Whither the information profession? Challenges and opportunities. The cultivation of information professionals for the new millennium. *Aslib electronics and multimedia groups' annual conference, 14-16.*

Rana, H.K. (2014). Impact of Information and Communication Technology on Academic Libraries in Punjab. Source: http/www.goarticles.com/cgibin/

Ray, K. and Day J. (2012). Student attitudes towards electronic information resources. *Information Research* Vol.4 no.2. Available at: http://informations.net/ir/4-2/paper 54.html.

Renwick, S. (2015). Knowledge and use of electronic information resources by medical science faculty at The University of the West Indies. *Journal of medical library association.* 93(1): 21–31.

Sharma, C., Singh, L. and Sharma, R. (2011). Usage and acceptability of e-resources in National Dairy Research Institute (NDRI) and National Bureau of Animal Genetic Resources (NBAGR), India. The Electronic Library, 29 (6), 803-816.

Shuling, W. (2011). Investigation and analysis of current use of electronic resources in university libraries. *Library management.* 28 (1-2):72-88.

Soyizwapi, I. L. (2015). Use of electronic databases by postgraduate students in the Faculty of Science and Agriculture at the University of KwaZulu –Natal, Pietermaritzburg. MBibl. Thesis. University of KwaZulu Natal.

Tenopir, C. (2013). Use and users of electronic library resources: an overview and analysis of recent research studies. Council on Library and Information Resources.

Ugwuanyi, C. F. (2011). Influence of ICT Literacy Skills on Its Application for Library Use among Academic Librarians in South East Nigeria. Master's thesis. University Of Nigeria Nsukka.

Ukachi, N.B. (2013). Accessibility and Students Variables as Correlates of the Use of Electronic Information Resources in University Libraries in South-West, Nigeria. PhD Dissertation, University of Nigeria, Nsukka.

Venkatesh, V., and Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal studies. *Management Science, 46*(2), 186-204.

Venkatesh, V., Morris, M., Davis, G., and Davis, F. (2003)."User Acceptance of Information Technology: Toward a Unified View". MIS Quarterly, Vol. 27 (3), pp. 425-478.

Willis Y. O. and David O. (2009). A general Guide to Writing Research Proposal and Report: A handbook of Beginning Researches; Kenya: Jomo Kenyatta Foundation

Zhang, L. Ye, P., and Liu, Q. (2011). A survey of the use of electronic resources at seven universities in Wuhan, China. Program: Electronic library and information Systems. 45(1):67-77.

7.0 APPENDICES
7.1 APPENDIX I: INFORMED CONSENT

Informed Consent

I hereby gave my consent to be part of the research study of Abbas Sirajo Darma, which will be focused on ICT Skills for effective utilization of electronic Library resources in colleges of education, Katsina state, Nigeria.

I am assured of privacy, anonymity and confidentiality and that, I will be given an option to refuse to participate and right to withdraw my participation any time.

I have been informed that the research is voluntary and that the result will be disseminated to me if I am interested.

Initial...............................

Date...............................

7.2 APPENDIX II: RESEARCH QUESTIONNAIRE

Dear respondent,

My name is Abbas Sirajo Darma. I am a student at Kampala International University in Uganda, pursuing a Master's Degree in Information Systems. This questionnaire has been designed for the sole purpose of collecting data on the **ICT Skills for Effective Utilization of Electronic Library Resources among Students in the Colleges of Education in Katsina State, Nigeria.** I therefore request your participation in this study by answering this questionnaire. The data collected will be treated with a very high degree of confidentiality and it is meant for academic purpose only.

Section A: Profile of the Respondents

1. Gender

    a) Male   ☐

    b) Female   ☐

2. Age Group

    a) 20-29   ☐

    b) 30-39   ☐

    c) 40-49   ☐

    d) Above 50 ☐

PART B: ICT SKILLS

Questionnaire for students only

Kindly indicate the extent to which you agree with the following statements concerning your ICT skills level. Use the scale below: (1 – **Strongly Disagree**, 2–**Disagree**, 3 – **Not Sure**, 4 – **Agree**, 5 – **Strongly Agree**).

#	ICT Skills Level	1	2	3	4	5
PE	Performance Expectancy					
A	Keyboard skills					
1	I understand the computer keyboard layout and its functions.					
2	I can type faster than most of my colleagues.					
3	I do not look at my keyboard when I am typing.					
B	File/word processing skills					
1	I can work with files, folders and other media to access, organise, store, label and retrieve information.					
2	I can apply editing, formatting and layout techniques to meet needs, including text, tables, graphics, records, numbers, charts, graphs or other digital content.					
3	I know how to display numerical data in a graphical format.					
4	I know how to use file names and data types to organize information.					
5	I can analyse and draw conclusions from a data set by searching, sorting and editing records.					
6	I know how to organize, copy and paste files in directories.					
7	I know how to move unwanted files into my recycle bin and delete them permanently from my hard drive.					
8	I know how to edit, copy, cut and paste a block of text or selected objects.					
9	I know how to use undo/redo functions.					
10	I know how to save, print and preview documents.					
11	I know how to select and change font sizes and types, styles (e.g. boldface, italics, underlining, etc.).					

12	I know how to create itemized lists (ex. bulleted format).					
13	I am able to work with very large documents that require a table of contents, footnotes, endnotes, and cross-references.					
EE	**Effort Expectancy**					
A	**Spread sheet and database skills**					
1	I understand the applicability of spread sheet mathematical formulas.					
2	I understand how to create different graphs using spread sheet platform.					
3	I can create a simple database in Microsoft access.					
4	I can enter, store, retrieve, and filter, data from the Microsoft access.					
SI	**Social Influence**					
A	**Internet**					
1	I am able to use the browser basic commands to surf the Internet.					
2	I am able to use search engines to locate desired information.					
3	I am able to understand the difference between search engines (e.g. Google) and directories (e.g. Yahoo)					
4	I am able to understand that copyright restrictions apply to computer software and Internet documents.					
5	I am able to understand how I can use gathered information from the Internet without violating copyright laws.					
6	I am able to download files from the internet.					
7	I am able to use basic steps to ensure online privacy and computer security.					
B	**Email use**					
1	I am able to access my college email account					
2	I am able to compose, send, receive, reply to and forward email messages.					
3	I am able to send electronic messages with attachments.					
4	I can use mailing list to exchange information.					

PART C: EFFECTIVE UTILIZATION OF ELECTRONIC LIBRARY RESOURCES

Kindly indicate the extent to which you agree with the following statements concerning your utilization of electronic resources. Use the scale below: (1 – Strongly Disagree 2 – Disagree 3 – Not sure 4 – Agree 5 – Strongly agree).

#	Utilization of Electronic Resources	1	2	3	4	5
1	I use the library's electronic resources to source materials for research/writing project.					
2	I use electronic resources to do class assignments.					
3	I use the electronic resources to augment my course works.					
4	I use the Internet access in the library to send e-mail.					
5	I follow blog discussions on subject area of interest via the Library's Internet access.					
6	I participate in professional discussion group/list serve via the library's Internet access.					
7	I use the e-resources to update my knowledge in subject areas of interest.					
8	I use the Electronic catalogue (OPAC) for sourcing information in the library.					
9	I use the electronic books provided by the library to complement my class notes.					
10	I use the electronic journals provided by the library for my project writing.					
11	I use the e-resources to retrieve current literature for studies					
12	I use the online database in the library for my assignments.					
13	I use e-resources to search for scholarship opportunities.					

THE END

THANK YOU FOR YOUR TIME AND COOPERATION

7.3 APPENDIX III: TRANSMITTAL LETTER

KAMPALA INTERNATIONAL UNIVERSITY
EXPLORING THE HEIGHTS

Ggaba Road, Kansanga * PO BOX 20000 Kampala, Uganda
Tel: 041-4-267603 Fax: +256 (0) 41 - 501974 E-mail:
dhdrinquiries@kiu.ac.ug * Website: http://www.kiu.ac.ug

Directorate of Higher Degrees and Research

Our ref. MIS/45750/151/DF

16th June, 2016

Dear Sir/Madam,

Re: Introduction Letter for Abbas Sirajo Darma Reg. No. MIS/45750/151/DF

The above mentioned candidate is a student of Kampala International University pursuing a Masters Degree in Information Systems.
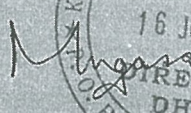
He is currently conducting a research for his dissertation titled, *"ICT Skills Level for Effective Utilization of E-Library Resources in the College of Education in Katsina State, Nigeria".*

Your organization has been identified as a valuable source of information pertaining to the research subject of interest. The purpose of this letter then is to request you to kindly cooperate and avail the researcher with the pertinent information he may need. It is our ardent belief that the findings from this research will benefit KIU and your organization.

Any information shared with the researcher will be used for academic purposes only and shall be kept with utmost confidentiality.

I appreciate any assistance rendered to the researcher

Yours Sincerely,

Dr. Claire M. Mugasa
Director-DHDR

C.c.   DVC, Academic Affairs
        Dean, SCIT

"Exploring the Heights"

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