

**FACTORS INFLUENCING UTILIZATION OF LIBRARY SERVICES AND  
RESOURCES: THE CASE OF UNIVERSITY OF NAIROBI  
MOMBASA CAMPUS LIBRARY**

**BY**

**WILLY MWATUMIA MWATELA**

**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENT FOR THE AWARD OF A DEGREE OF MASTER OF ARTS IN  
PROJECT PLANNING AND MANAGEMENT OF THE UNIVERSITY OF NAIROBI**

**2013**

**DECLARATION**

This Library and Information Science Research Project is my original work and has not been submitted for examination in any other university.

Signed: .....

Name of student: **WILLY MWATUMIA MWATELA**

Registration Number: **L50/64966/2010**

Date:.....

This research project has been submitted for examination with my approval as the candidate's University Supervisor.

Signed: .....

Name of supervisor: **DR. MOSES M.M. OTIENO**

**LECTURER, DEPARTMENT OF EXTRA-MURAL STUDIES**

Date: .....

## **ACKNOWLEDGEMENT**

I want to sincerely thank my supervisor, Dr. Moses M. Otieno, for his invaluable guidance. I want to thank him so much for his patience, useful advice and ideas. His willingness to meet me at short notice is highly appreciated.

Special thanks go to members of staff at Extra-Mural Studies Mombasa for their cooperation during this course- specifically to Caro Mwachia for offering to assist me with her invaluable computer skills that made this document presentable in the required standard.

My thanks go to colleagues whose encouragement was the source of strength that took me through the many difficulties of compiling this report. Special regard go to Clarah Watee who took the trouble of identifying colleagues for special tasks.

My sincere thanks go to the respondents who spared their time resource to contribute to data that made the study possible.

I thank The Almighty God for the gift of life and strength that ensured the project was concluded without interruption.

## **DEDICATION**

Dedicated to my wife and best friend, Martha Mghoi

For the understanding and support you gave me throughout the study duration.

## ABSTRACT

In an era in which universities are more in competition with each other globally, availability of academic libraries' resources are no longer considered a good measure of an institution's excellence and quality. Recent studies on academic libraries argue that libraries need to be able to demonstrate that their resources and services are making a significant contribution to the educational and research activities of their clientele (Whitemire, 2002). To meet these challenges, numerous innovations have been proposed such as integration of e-resources in the library and information services. The University of Nairobi Library and Information System have adopted integrated library information service that provides access to both physical and electronic information resources using networked information consortium. This study aimed at investigating a set of individuals' knowledge and skills on one hand and organizational characteristics (user support programmes) on the other hand, with the intention of exploring ways of optimizing utilization of the integrated library resources. The objective of the study was to describe the students' information seeking behavior and their use of the library to support their process of learning and knowledge acquisition activities. Employing a purposeful sample and a mixed research method, this study strived to identify factors that may be addressed to facilitate optimizing utilization of library and information resources provided through University of Nairobi Mombasa Library. The study identified awareness and familiarity of library and information resources, including their organization and retrieval tools, library skills and information literacy as the main factors that influence utilization of libraries' resources. The findings indicated that lack of library and information skills, which are the basis for empowering students with information literacy competencies of identifying, locating, and using of information resources, is the source of underutilization of integrated information resources accessible through Mombasa Library. The study found that the level of information literacy among students can be raised through integrated library skills programme designed with the cooperation of all the stake holders. The study also noted the high correlation between the Mombasa Library and ICT Lab where students use the ICT Lab to identify and locate physical materials available in the library and for accessing library's e-resources. The study recommends need for instituting integrated programme for library skills in the Campus that will take into consideration individual students' characteristics to ensure development of self-directed, life-long learners.

## TABLE OF CONTENTS

	<b>Page</b>
DECLARATION.....	i
ACKNOWLEDGEMENT.....	ii
DEDICATION.....	iii
ABSTRACTS .....	iv
TABLE OF CONTENTS .....	v
LIST OF FIGURES.....	x
LIST OF TABLES.....	xi
<b>CHAPTER ONE: INTRODUCTION</b> .....	<b>1</b>
1.1 Background of the Study.....	1
1.1.1 Mombasa Campus Library .....	3
1.2 Statement of the Problem .....	4
1.3 Purpose of the Study .....	4
1.4 Objective of the Study .....	5
1.5 Research Questions .....	5
1.6 Assumptions of the Study .....	5
1.7 Justification of the Study .....	6
1.8 Significance of the Study .....	6
1.9 Delimitations of the Study .....	6
1.10 Limitations of the Study .....	7

1.11	Definition of Significant Terms of the Study .....	7
1.12	Organization of the Study .....	8
 <b>CHAPTER TWO: LITERATURE REVIEW .....</b>		<b>9</b>
2.1	Introduction .....	9
2.2	Awareness of the Library as a Place ... ..	9
2.3	Familiarity with the Library and Information Resources .....	11
2.4	Library Competency.....	12
2.5	Information Literacy .....	14
2.6	Computer Literacy .....	17
2.7	Electronic Resources .....	18
2.8	Conceptual Framework.....	20
2.9	Summary of Literature Review .....	21
 <b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>		<b>23</b>
3.1	Introduction.....	23
3.2	Research Design .....	23
3.3	Target Population.....	23
3.4	Sampling Size and Sampling Procedure .....	24
3.4.1	Sample Size .....	24
3.4.2	Sampling Procedure .....	25
3.5	Data Collection Methods .....	25

3.6 Data Collection Procedure .....	26
3.6.1 Questionnaires .....	26
3.6.2 Observation and Interview .....	27
3.6.3 Log Analysis .....	27
3.7 Validity and Reliability of Research Instruments .....	27
3.8 Ethical Considerations .....	28
3.9 Data Presentation and Analysis Techniques.....	29
3.10 Operational Definitions of Variables .....	29
<b>CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION.....</b>	<b>30</b>
4.1 Introduction .....	30
4.2 Response Rate .....	30
4.3 Data Analysis .....	31
4.4 Data Presentation .....	31
4.4.1 Students' Awareness of Library and Information Resources .....	32
4.4.1.1 Visits to the Library .....	32
4.4.1.2 Visits to ICT Lab .....	33
4.4.2 Familiarity with Library and Resources and Services .....	34
4.4.2.1 Use of Print Resources .....	35
4.4.2.2 Use of Electronic Resources and Services.....	36
4.4.2.3 Use of the Library Catalogue.....	36



4.4.2.4 Use of Electronic Resources .....	37
4.4.3 Students' Level of Information Literacy.....	41
4.4.3.1 Use of ICT Lab .....	42
4.4.3.2 The Wi-Fi Facility .....	45
4.4.4 Library Users' Perception of the Library .....	47
4.5 Correlations of Library and ICT Visits .....	47
<b>CHAPTER FIVE: SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>50</b>
5.1 Introduction .....	50
5.2 Summary of Findings .....	50
5.3 Discussions .....	52
5.4 Conclusions .....	57
5.5 Recommendations .....	58
5.6 Suggestions for Further Research .....	59
REFERENCES .....	60
<b>APPENDICES .....</b>	<b>66</b>
Appendix I: Introduction letter to respondents .....	66
Appendix II: Questionnaire .....	67
Appendix III: Observation and Interview Guide .....	73

## LIST OF FIGURES

	<b>Page</b>
Fig. 1: Conceptual Framework .....	20
Fig.2.1: Operational Definitions of Variables .....	31

## LIST OF TABLES

Table: 4.2: Number of Respondents by Programmes and levels.....	31
Table: 4.4.1.1: Frequency of Visits to the Library.....	32
Table: 4.4.1.2: Frequency of Visits to ICT .....	34
Table: 4.4.2 Use of Library Services and Resources .....	35
Table 4.4.2.4 (a) Typical Beginning of Search for Information .....	38
Table 4.4.2.4 (b) Students Participation in Library Programmes .....	40
Table 4.4.3 Students' Level of Information Literacy .....	41
Table 4.4.3.1 Use of Electronic Resources in ICT Lab .....	44

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

Utilisation of library and information resources and services has been a concern from the time libraries changed from being cultural monuments to knowledge acquisition and information communication centres. In view of these developments librarians conceived the idea of educating the library user in finding and locating information they need on their day-today activities. The earliest evidence of library user education was reported at the Harvard College in 1820s (Tiefel, 1995). These early librarians were professors with part-time library appointments who taught students the use of libraries for academic purposes. The practice gained acceptance and in the late 1800s separate courses were reported at the university Michigan, Azarian Root at Oberlin College and others. In America, Lubans (1974) documented a number of cases where different methods were employed to train library users. Library instruction in academic libraries is one of the methods used to promote information literacy. Graham (2009) adopted the Association of College and Research Libraries (ACRL) definition of information literacy since it provides general guidelines for library instructions for a variety of situations. ACRL defines information literacy as a set of abilities required by individuals to enable them recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. Information literacy is an empowerment that develops university students to be self-directed, life-long learners.

Integration of information communication technologies (ICT) in library services in the 1970s, initially viewed as a solution to utilization problems created by information explosion, the rapid democratization of education and increased complexity of libraries, made information-seeking more difficult for students in academic libraries (Tiefel, 1995; Xu, 2010; Kadiri and Adetoro, 2012; Quinn, 2007).). In realization of the problem, individual institutions in groups have been exploring possible solutions. For instance, in the United States of America Commission of Higher Education formed a committee known as Committee on Utilisation of College Teaching Resources, (White, 1962).This committee published numerous reports emphasizing training of university students to be independent learners.

In Greece a study on users' behavior patterns in academic libraries' OPACs found that users do not employ all of the system's potential when searching for information (Malliari and Kyriaki-Manessi, 2007), thereby ending up with much less than what the system can offer.

Studies done in U.K show that majority of university students have inadequate information skills (Loftin, Long and Ronge, 1983, p. 207; Goggin, 1974; Beardsley, 1974; Morgan, 1974).By implication, university students are deemed to complete their courses without interacting with adequate information resources, making their credentials to be suspect.

In Africa, all 54 countries and territories have access to electronic information resources, especially in their capital cities (Agaba, 2007). According to Agaba, Makerere was the first country in Sub-Saharan Africa to obtain electronic information resources. In a study he conducted at Makerere University on staff utilization of the resources showed that the entire

academic staff is aware of the availability of the resources and some of them frequently use them.

University of Nairobi embarked on automation project in 2002 and by 2004 the entire University of Nairobi Library System catalogue was converted into Online Public Access Catalogue (OPAC). The Library Website which can be accessed individually at [uonlibrary@uonbi.ac.ke](mailto:uonlibrary@uonbi.ac.ke) or via the University of Nairobi Website and linking to resources-Library Services Portal- maps out all services and resources provided by the library. All the branch libraries are connected to all the University of Nairobi Library and Information System's networked services and resources.

### **1.1.1 Mombasa Campus Library**

Mombasa Campus Library was set up in January, 2009 to serve as the University of Nairobi Coast Region Library. Its aim is to provide access to library services and resources to students registered with the programmes operating in the Coast region in general and in Mombasa in particular. To date programmes in operation are School of Business, School of Law and School of Continuing and Distance Learning. The library serves a student population of about 2600 pursuing Certificate, Diploma, Bachelors and Masters programmes

The Librarian briefs the newly registered students about the available library services and conducts an induction programme showing the students the available resources through computer. Library staff operates an open-door induction programme where users approach the library staff individually or in groups to be inducted on how to access the University of Nairobi Networked electronic resources using computers provided in the ICT Lab and personal lap tops.

Mombasa Library considers the ICT Lab, located adjacent to the library, as an extension of the library services where students without access to Internet facilities can use to access electronic library and information services and resources.

### **1.2 Statement of the Problem**

The University of Nairobi Mombasa Library Services is designed to operate on a self-service mode where students are expected to maximally utilize the campus library as their main source of information to support their learning and knowledge acquisition activities. However, noting from observations and frequent requests for assistance from library staff, it was established that students do not using most of the library resources. Again, during presentation of research projects by postgraduate students, majority of them are unable to provide adequate literature in support of their research. It was assumed that students could be experiencing technical problems in accessing learning information resources which are available in abundance and accessible using provided services such as the Internet, Wireless Fidelity and a computer Lab with full connectivity to the university's library and information system consortium. The students' low level of information literacy was singled out as the cause that needed investigation. The information gained will form the basis for making decision to design an appropriate library user education programme.

### **1.3 Purpose of the Study**

The purpose of the study was to investigate the factors influencing the utilization of library services and resources at Mombasa Library.

#### **1.4 The Objectives of the Study**

The study was based on the following objectives.

1. To establish how students' awareness of the library and information resources affects utilization of library services and resources.
2. To determine the students' level of familiarity with the library and information resources' organization, and how this affects utilization of library services and resources.
3. To explore to what extent are the students' information literacy level affect utilization of library services and information resources.
4. To determine the extent with which information communication technology (ICT) facilities affects utilization of library services and resources.

#### **1.5 Research questions**

This study aimed at answering the following main questions:

1. To what extent do students utilize library information resources and services provided through University of Nairobi Mombasa Library?
2. How do students seek and obtain information and what challenges do they face?
3. What other factors are affecting students' utilization of library and it's information resources?
4. How can utilization of University of Nairobi Mombasa Library information resources and services be optimized?



## **1.6 Assumptions of the Study**

This study was based on the assumption that knowledge of library and information services and resources is the basis for optimal utilization of library services.

## **1.7 Justification of the Study**

The findings of the study will provide the library administration with knowledge to apply for making decisions for appropriate user education programme.

## **1.8 Significance of the Study**

The findings of this study will be of importance to the various stakeholders, specifically the administration, the lecturers, the students and the librarians.

First, to the administration, it will provide a feedback of the students' need for formal library skills training programme. To the lecturers, it will form the basis to shift emphasis of education from instructing activities to learning activities. Lecturers will be relieved of the burden of preparing notes and handouts by adopting student-focused learning. To the students, the findings will form the basis for self-directed learning process focused on goal-directed, in-depth learning which is oriented to problem-solving, and decision-making; learning embedded in real-life tasks and activities for thinking and communicating, and learning that is built on students' prior knowledge and experiences that prepares them for life-long learning. To the librarians, the findings will form the basis for developing appropriate curriculum for library instruction programme that will develop students to be self-directed learners. This will relieve the librarians the burden of repetitive tasks of assisting individual students in information seeking tasks.

## **1.9 Delimitations**

The study sought to establish the extent with which students of University of Nairobi Mombasa Campus are utilizing the library services and resources provided by the campus library. It focused on user behaviors when searching for information as a basis to assess their level of information literacy. The study was not an attempt to evaluate the library services and resources for their effectiveness in attaining the library objectives.

## **1.10 Limitations of the study**

Due to time and financial constraints, the study was not able to cover all the necessary scope, and hence it was not exhaustive. Also, due to financial and time constraints, the study will by no means be exhaustive and thus affect its generalization.

## **1.11 Definition of Significant Terms Used in the Study**

*Integrated library system:* A library that provides access to print and electronic resources available through the Internet to support learning and knowledge acquisition activities.

*Library-enabled access:* Information resources accessible through library Website only. Information seekers have to visit the library Website to be able to access the information resources.

*Peer reviewed information resources:* Information resources that are deemed to have been validated by professionals in that discipline. Authentication of such resources is granted as opposed to the general Internet resources.

*E-resources:* Information resources that are accessible using computers.

*Services-* Provision of space and conducive environment, including personnel ready to help.

*Library skills* Abilities necessary for identifying and locating library resources.

*Utilisation-* The degree to which people use a system or a product to successful completion of the task for which it was employed.

*Induction-* The process of introducing users to resources, their organization and how to access them.

*Orientation-* The process of creating awareness of available services and resources

## **1.12 Organization of the study**

The study is organized into five chapters:

Chapter one- gives the background of the study statement of the problem, purpose of the study, objectives, research questions, justification, significance, basic assumptions, delimitations, limitations, and operational definition of significant terms.

Chapter two consists of literature review related to the study; explaining awareness of library resources and services, familiarity of library resources and services library skills and information literacy as factors affecting utilization of library services and resources..

Chapter three outlines the methodology, consisting of research design, target and sample population, research instruments, their validity and reliability, data collection procedures, data analysis, ethical considerations and operational variable table.

Chapter four is about data analysis, presentations and interpretations, results and discussion of the study. This has been done using descriptive analysis using in form of tables, frequencies and percentiles; and lastly,

Chapter five has the summary of the findings, discussions, conclusions, recommendations and suggestions for further research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews literature related to utilization of library services and resources. The review is conceived under the objectives of the study and focuses mainly on library users' characteristics when seeking for information. Tiefel (1995), among others, posit that information explosion and the integration of information communication technologies (ICT) in the library services in the 1970s have increased complexity of libraries, making it difficult for students to find the information they need to support their learning activities. According to Lubans (1974) and others, the challenges facing information seekers revolve around users' characteristics of lack of awareness of information sources, familiarity of their organization, and the tools and techniques of accessing information. They suggest that librarians should be willing to teach information seekers how to evaluate information sources by themselves.

#### **2.2 Awareness of the Library as a Place**

Awareness is gained through library orientation programme. The objective of the programme is to introduce the students to the physical plant of the library, its policies and procedures, and its resources (Loftin, Long, and Rouge, 1983, p. 207). Library orientation and instruction is needed by the university students to enable them find their way intelligently through the information maze. Goggin (1974) defined library orientation as the introduction of students and faculty to the library, to locations of essential areas and resources, basic elements of using the library, and the services provided by librarians. By highlighting the special features of the library to the new students, the librarians are able to create curiosity which later on serves as motivation to use the

library. Beardsley (1974) posits that library orientation is a programme for first year and other new students that should be offered as an introduction to the library in such a way that it will motivate them for future instructions. It is supposed to be a warm welcome to the new students, to offset fears of going to the library and exposing their ignorance by asking for direction and assistance. It aims at letting the new students know that the library consists of people and books and to show them that the people working in the library are not too busy to help them. The programme is designed to demonstrate that people working in the library are also approachable and friendly.

During orientation, the new students are introduced to a few titles of reference sources and indexes for the purpose of awakening them to the wealth of resources beyond what they knew in high school and other institutions. Finally, orientation provides an avenue for announcements of future opportunities to learn more about the library. In simple terms, such orientation is expected to motivate a desire for further assistance in using the library. According to Anspaugh (1974), library orientation will be more meaningful if the values of the library are clearly understood by the students. Students should be emphasized the value of the library in saving their time and effort in researching and/or writing assignments. Orientation provides students with the opportunity to learn about the many varied resources that are available for their use. Library orientation creates awareness to library users of the variety of library and information resources available through the library even if they do not reside in the library. For instance, it is during library orientation that the new students are made aware of the networked electronic resources that are accessible through the library and information system of an institution. For non-apparent reasons, orientation programme is not offered in Mombasa Campus.

### **2.3 Familiarity with Library and Information Resources**

Familiarity with library and information resources is necessary for students since it enables them focus their information enquiries. Familiarity is effected through induction programmes. Induction refers to the initial librarian-students contact session and does not include information skills training. Webster Dictionary defines the term 'induction' as an initial experience that introduces one to something previously mysterious or unknown. As the definition implies, the key task in library induction is to demystify. The purpose of induction is to provide students with the basic introductory information they need to start using the library and its services confidently and efficiently. The challenge to librarians is to ensure that induction is done in a way which is stimulating, engaging and enjoyable for both students and the library staff. According to Morgan (2004), induction is a perfect opportunity for the library staff to promote the library service and present it in the best possible light. It is a chance for the librarians to make an impression and impact. If it is done right the librarian would have opened a doorway to a new world of information to the participating users. In Mombasa Library induction entails demonstration using overhead projection of:

1. A wide range and format of electronic databases available through the library and information service.
2. How to identify and locate physical library material using OPAC.
3. How to use the V-link as a gateway to the Internet
4. Formulating Web searching strategies.
5. The use of subject gateways.

Induction session aims at emphasizing the role of the library in supporting students learning at the campus (Gadd, 2001) by making students develop familiarity with library and information resource and services available through the Library and Information system's networked learning materials.

Analysis of the objectives and content of library orientation indicate that a lot of improvements need to be instituted in Mombasa Campus for the programme to attain the desired outcomes.

## **2.4 Library Competency**

The purpose of any library or information organization is to meet the information needs of its users (Eisenberg, 2008). Meeting information needs of particular library users is accomplished through library instruction programme, which is also referred to as bibliographic instruction. Studies on user education reveal that library orientation and bibliographic instruction have been the major activities of library user education that are undertaken in academic libraries (Chacha, 1990). Library instruction is a course on information retrieval which is characterized by a greater probability of high student motivation by helping students gain realistic expectations of library resources and emphasizing that the library staff are available and are willing to help. According to Loftin, Long, and Rouge (1983: 208), library instruction provides the librarians with the opportunity to explain a particular information source on site in the method known as "point of use".and at the same time helping college students gain library competency including skills such as using a variety of search systems to retrieve information in various formats, locating information within the library, and differentiating between primary and secondary sources of information (Maughan, 2001; Behrens, 1992).).This method results in saving library staff time and is the most effective method of instruction for users in groups. Cope & Black (1885, p 160),

contends that students' dependence on the librarians is upsetting to the librarian and embarrassing to the students. They assert that the objectives of library instructions are specific and limited to:

1. Teaching students the basic search strategies for identifying and finding information in books and periodicals, and

2. Instructing students on how to interpret the signs and symbols involved in the catalogue records.

Attainment of the specific objectives of library instruction will ensure students develop adequate abilities to identify, locate and put to effective use available library resources. Such abilities lead to efficient and effective use of library and information resources with the least effort by individual users while allowing them to be creative in information searching.

An effective library instruction programme should result in students gaining skills on identifying needed information in the library using OPAC, locating the items from the shelves using the class number, and identifying the needed topic using the back-of-the-book index. In cases of journal articles, students of adequate library skills should be able to identify databases appropriate for their fields of study, formulate a search strategy, select needed items and use them to develop their knowledge base.

Library instruction helps counter students' embarrassment, diffidence and unwillingness to ask for help. Chacha (1990) posits that courses for advanced students on the structure of the literature of given subjects fields should be given in the second, third or fourth years. This is in conformity with course-integrated library instruction programme advocated by Maughan (2001), Griswold Blandy (1989), Rom & Lantz (1988) and Rockman (2002, p 186).



Course or curriculum-integrated library instruction provide students with the opportunity to familiarise with information resources and tools in their respective fields of study, train in their effective use, and prepare them to be able to conduct a search for information resources in any field of enquiry. Such programmes have been shown to provide students with an opportunity to familiarize with the terminology of their study domain through the employment of course-related terminology as examples (Dunleavy, 1986).while helping students to form a sound foundation to develop information literacy skills necessary for independent, self-directed learning, while preparing them for life-long learning.

Library instruction factored in 1<sup>st</sup> year course semesters as a sub-unit of Communication Skills is reflected in the School of Business but not Librarian is involved. Library instructions conducted by incompetent persons have been known to have negative effects on students' use of the library

## **2.5 Information Literacy**

Library skills lay the foundation for information literacy. According to Bruce (1999), information literate people are able to recognize a need to information, determine the extent of information needed for a task at hand, access information efficiently and critically evaluate information and its sources, classify, store, manipulate and redraft information collected or generated, incorporate selected information in their knowledge base. They are also able to use information effectively to learn, create new knowledge, as well as solve problems and make decisions. In addition information literate people are able to use information and knowledge for participative citizenship and social responsibility. In learning situations such as the university, students experience information literacy as part of independent learning and lifelong learning. Information literate students are able to efficiently and effectively identify, locate, evaluate and

use information resources for their learning process. Studies in information literacy contend that competency in computer operations are part and parcel of information literacy (Bruce, 1999, pp. 36). Information literacy empowers library users to develop abilities and skills that enable them to assess search results for quality and relevance, evaluating the reliability, validity, authority and timeliness of retrieved information (Maughan, 2001).

It is a far more comprehensive concept encompassing abilities such as critical thinking, synthesis, communication, and research methodologies. According to Virkus (2003), information literacy as a library user education programme of study that constitutes a set of competencies related to knowledge acquisition, over and above the technical skills that extends far beyond the rank of schools and university libraries. Competencies gained through Information Literacy programmes in colleges are transferable to work situation in addition to empowering students to be self-directed learners. Olen (1998) urges that in order to use the virtual library effectively, all or most of the traditional library skills as well as additional information skills will be required. Traditional library skills are skills of identifying and locating needed information to support learning activities, whereas information skills refer to abilities of determining search strategies appropriate to the purpose of needed information. Efficient and effective utilization of electronic information environment demand that users develop skills of employing advanced search strategies such as those of Boolean operators, truncation, proximity, etc. These strategies enable information seekers to narrow or broaden their search to reflect the need.

Information literacy is about empowering and educating information consumers so that they are knowledgeable about information in a way that is relevant to their lives. It enables individuals to

use this knowledge to evaluate information and make informed decisions. Mounting evidence shows that those who are less information literate are more likely to have problems with learning (Yu & Young, 2004). Yu & Young (2004) assert that information literacy empower information seekers with greater control of their information needs while making more effective use of information services and resources. It also reduces one's vulnerability to overzealous information providers and fraudulent information services. They emphasize that information literacy helps to improve the efficiency and quality of information services. Information seekers, more than ever before, need a certain level of understanding of information sources in order to evaluate and compare information resources such as reference materials, texts, databases, and Web sites. According to Johnson (1999), information skills link information literacy to basic library skills and information technology (IT). To be able to gain adequate information literacy skills, library users first have to articulate basic library skills, which are embedded in information technology, as the basis for developing information skills. Loveless, DeVoogd and Bohlin (2001: 67) posit that for students to be able to find information about a topic from a variety of sources, they are expected to develop knowledge, skills and understanding of the information environment they are in and also develop their ideas of using ICT tools to enhance the quality of their work. Knowledge of the information environment will enable students to focus on the best information source to approach for the impending need whereas, knowledge of ICT will enhance the quality of their work by sharing and exchanging information directly and through electronic media.

Earlier studies (e.g. by Chacha, 1990 and Njiraine, 2000) of the University of Nairobi Jomo Kenyatta Memorial Library (JKML) suggest that lack of cooperation among librarians, lecturers, and administration could be the reason for students' non commitment to utilizing the library

resources and services. Cooperation among the stakeholders will ensure addressing the issue of resource utilization holistically. Jucker (1980), outlining skills within the framework of assignment process suggests that for students to be able to efficiently and effectively utilize library and information resources, they should first be able to accomplish the following tasks:

- i. Formulation and analysis of the information needed.
- ii. Identification and appraisal of likely sources of information.
- iii. Tracing and locating the individual resources.
- iv. Examining, selecting and rejecting individual resources.

These tasks are the general requirements of any information seeker in the information and knowledge society.

For students to be able to meet their information needs for learning activities, they must have developed the prerequisite information literacy skills for the individual step. In addition to these steps, information seekers should have developed adequate computer skills

## **2.6 Computer Literacy**

The development of digital information networks and electronic services in recent years has helped to expand the role of academic libraries. Computer literacy and skills can greatly enhance students' academic achievement as well as their future job market success. Networked resources of information and representations of knowledge embodied in the networked library and information environment are not well understood by library users (Songer, 1996). The new information environment requires that students develop understandings, motivations, or abilities to guide their own and others' learning to result in richer and more interesting learning outcomes

than in the case under the traditional learning situations. Studies on computers in libraries show that many college students experience library anxiety (Jiao & Onwuegbuzie, 2004, p 139). Such experiences have negative effect on the success of searches. According to Barry (1997), the electronic library resources and the Internet intensify the need for information skills in academic research in three categories:

- 1 Judgment
- 2 Knowledge and operation of resources, and
- 3 Linguistic and logic skills.

In order to take full advantage of ICT, students should be motivated to learn how to manipulate the computer keyboard effectively. They are also expected to use technology in an ethical manner including adhering to the institution's system ethical use policy.

## **2.7 Electronic Resources**

Electronic resources provides access to many different types of information sources including Web pages, personal papers, e-journal articles, local materials, conference papers reports, etc. (Herring, 2002, p. 335), while at the same time, offering different opportunities compared with their predecessors print material (Ray & Day, 1998). Observations on electronic resource use show that they surpass discovery of information well beyond the typical, traditional bibliographical tools from well-defined bodies of literature. (Jewell, 2001, p.7), noted that among the notable improvements on library service by electronic resources are:

1. Most electronic resources come equipped with search-and-retrieval tools that allow users to perform literature searches more efficiently and effectively than was previously possible.

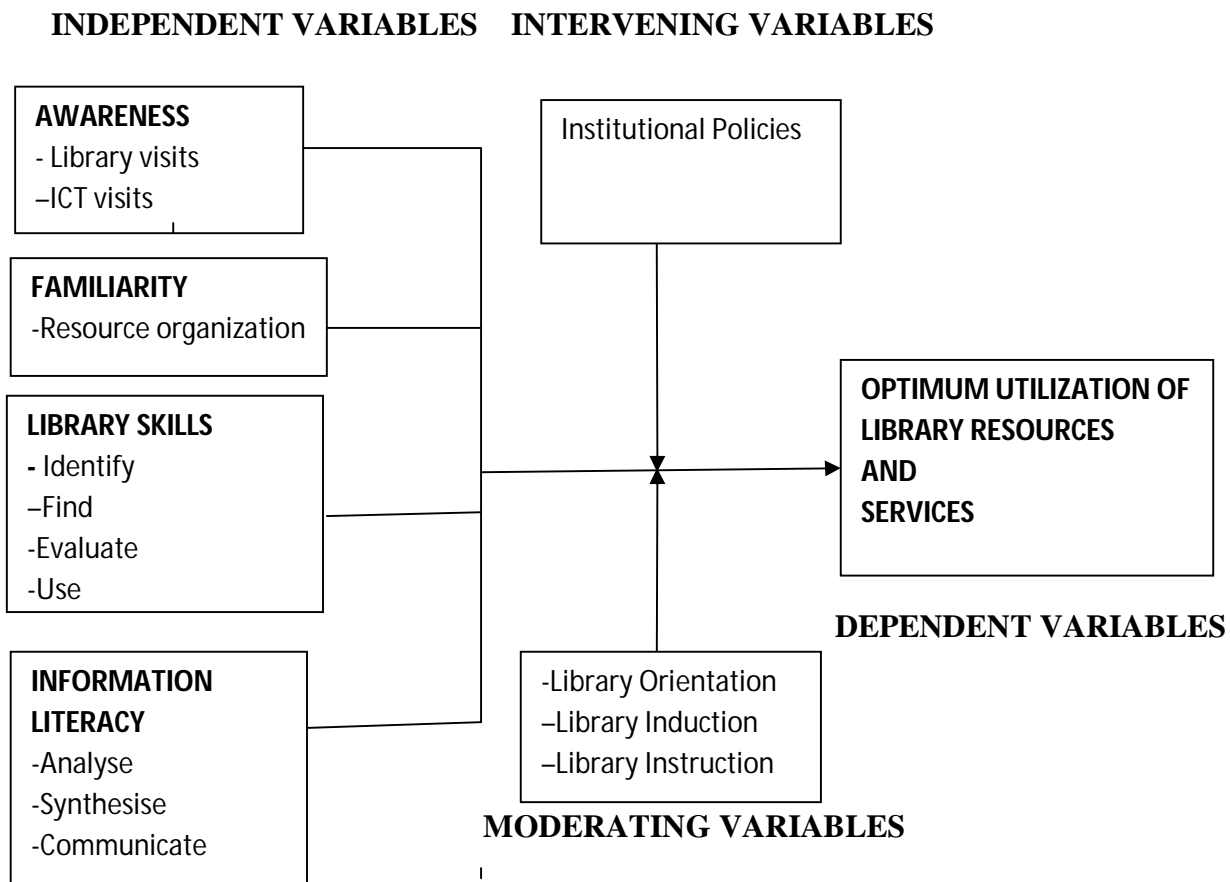
2. Availability of information through the Web enables users with computers to access e-resources 24 hours a day, 7 days in a week.
3. In many cases, users can navigate directly from indexing databases to the full text of article.
4. Users can follow further links from where they are in the Web site.

For instance, the special feature known as V-Link provided to the electronic resources, including the OPAC records of the University of Nairobi Library Information networked system, enables users to link to Internet information items that are related to the identified items. This feature enables information seekers to interact with a wide range of content on topics of interest in the absence of the identified items. The University of Nairobi Library and Information services' networked information environment provides users with access to a wide range of information sources through international databases. In order to optimize the benefits of the services users need to develop high order information skills.

Electronic resources are provided on the principle known as interoperability. Students should be motivated to search beyond subject-disciplinary method (Kakai, Ikoja-Odongo and Kigongo-Bukenya, 2004). While this method allows them to find more specific sources, it is limiting in that work of interest to their own subjects appears in within the literature of many other disciplines. Ingutia-Oyieke (2008) noted that in electronic resource environment, information literacy training enables information seekers develop skills for evaluating information for appropriate application.

## 2.8 Conceptual Framework

Library resources' utilization in academic libraries is a process comprising of initiation, selection, formulation, collection and preservation (Kulthau (1991). During this process, the information seekers experience feelings ranging from optimism and satisfaction to confusion and disappointment. Levels of frustration are usually high for most people. Observations show that students enrolling in the universities come with different backgrounds and different levels of understanding of information services and resources as well as sources. It is assumed that the culture of information perception has an impact on information seeking and utilization. The figure 1 below illustrates the various components of information environment that contribute to utilization of library resources:



**Fig. 1: Conceptual Framework**

In this model, the users' abilities to utilize library resources are cumulative from the lowest-Awareness of the library as a place to support learning activities, to the highest level-Information Literacy where students are able to integrate the various information sources and resources to their learning activities. The university administration is responsible for developing infrastructure to enable dispensation of library programmes for library user education.

According to (Taylor, 1967), Information seekers approaching an information system are embedded with the following characteristics:

1. Subject definition
2. Objective and motivation
3. Personal characteristic of inquirer
4. Relationship of inquiry description to the system organization
5. Anticipated or acceptable answers

Such personal characteristics of inquirer are explained by the information seeker's familiarity with the library; level of study; relationship of inquiry with what he knows; level of critical awareness. Answers to these questions will determine the urgency of the search, strategy of negotiation, the level of any dialogue, and the critical acceptance of search results. It is in this context, and the environment of the negotiation process that determines what questions should be asked.

## **2.9 Summary of the Literature Review**

The literature review has focused on the different library user education programmes and their impact on the utilization of library and information resources and service. The review outlined the benefits associated with different levels of library and information skills attributed to particular user education programmes in academic libraries. The programmes are designed to



develop students' levels of library and information skills in a continuum- from low to high. It is believed that the skills and abilities are developmental where the higher ones build on the lower skills. The lower skills are associated with general knowledge of information systems and resources while the higher skills are associated with abilities and competencies in identifying and locating needed information on one continuum and manipulation of information systems to make efficient and effective use of library resources. The fact that students enrolling for courses in universities have varied backgrounds that reflects their levels of library and information skills, library user education programmes should be designed to reflect those backgrounds. The four different levels of library skills programmes are developmental in that one has to gain lower skills to be motivated to pursue the higher skills, similar to Maslow need hierarchy.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter discusses the research design, target procedure and design population, sampling, data collection instruments and procedures and data analysis.

#### **3.2 Research Design**

The design of this study was that of action research of information system which aims at establishing factors affecting utilization of Mombasa Library and Information resources. Action research is an established research method in the social and medical sciences since the mid-twentieth century and has been successfully used in information science research (Baskerville, 1999). Action research of information systems is grounded in practical action aimed at solving an immediate problem situation while carefully informing theory. The researcher was motivated to employ action research by its' three main characteristics: The researcher is actively involved in the research process and the expected benefits are both to the researcher and the organization; the knowledge obtained can be immediately applied. Also, the researcher is an active participant in information and knowledge acquisition wishing to utilize any new knowledge based on an explicit, clear conceptual framework; action research is a process that links theory and practice.

#### **3.3 Target Population**

The population of interest for this study was the University of Nairobi students using Mombasa Library as their main information resources provider to support their learning activities. The total population of 2579 students is comprised of 80 Certificate, 297 Diploma, 1412

undergraduates and 790 Postgraduate students (Mombasa Campus Handing Over Report, 4<sup>th</sup> January, 2012).

### **3.4 Sample Size and Sample Procedure**

Out of 2579 student population, the research used a random sample of 106 which was statistically generated.

#### **3.4.1 Sample Size**

The target population of the study is homogenous in nature in that all the students, regardless of their course of study, level of study and year of study have in common demands for library and information services. Also, characteristics such as age, working, social status, etc. are shared in common in all categories. Considering the objectives of the study, purposive sampling was appropriate. The study used users who are registered with the library as members. The sample size was 106 users, derived by employing the formula for standard error, ie.

$$S.E = \frac{S}{\sqrt{n}}$$

Where,

S.E =standard error'

S = standard deviation, and

n= sample size

(Nachmias & Nachmias, 1996, pp194-198)

The standard deviation of 20.17 was calculated from data from the student population of 2579, comprised of 80 Certificate students; 297 Diploma students; 1412 Undergraduate students and 790 Postgraduate students. (Mombasa Campus Handing Over Report, 4<sup>th</sup> January 2012)

By using 95% level of confidence, the standard error of 1.96 was obtained from the standard tables. The sample size of 106 was calculated by substituting the standard error and the standard deviation.

### **3.4.2 Sampling Procedure**

The different sampling procedures were adapted for the different sampling approaches. For questionnaire sample, systematic sampling was employed to generate random sample of participants. The number of the total registered members (578) was divided by the required sample size (106) to determine the *k*th item (5 in this case) and a random starting point to commence the selection (Groebner, Shannon, Fry and Smith, 2008: 19). Five registration cards were picked at random, and from the position of one of the five cards, the fifth subsequent cards were taken as the sample unit. For the observation and interview approaches, users of ICT Lab and WI-FI location were approached at regular intervals. Using the guides, the researcher went round approaching individual users at random to make observations and posing questions. as provided by the guide. For log analysis the researcher surveyed randomly sampled desktops at the ICT on weekly basis where the activities of the users according to the history were recorded.

### **3.5 Data Collection Method**

The focus of the survey was two-fold. Respondents were asked to indicate the frequencies with which they use the provided library services and resources as well as their knowledge of the role

of the facilities and their abilities to use them in order to identify problem areas that could be targeted for improvement. Questionnaires, interviews and observations were employed to provide user profiles as well as user behaviors and attitudes. These combined data collection methods have been successfully used over time to assess the quality of academic and public libraries' performance (Babalhavaeji, Isfandyari-Moghadam, Agili and Shakoi, 2009; D'Elia, G. and Walsh, S., 1983; Hamburg, M., Ramist, L.E. and Bommer, M.R.W., 1972). Data was collected in the months of May/June. During this time all course programmes were on session and it was at the time when finalists, including postgraduate students were engaged in their project researching. This timing provided an opportunity to include all possible elements necessary for the research findings.

### **3.6 Data Collection Procedure**

Different data collection procedures were employed for the indicated different data methods.

#### **3.6.1 Questionnaires**

The questionnaires consisted of structured and semi-structured questionnaire items organized into four categories to enable the study to capture the four identified factors underlying resource utilization, mainly usability of library and information facilities, familiarity of information resources, library skills and information literacy. The questionnaire was pre-tested on ten library users and corrections were instituted before being sent out. The structured items were rated on a 5-point Likert scales to provide ordinal data to enable the researcher evaluate on a continuum the various phenomena of interest of the study. The prospective respondents were e-mailed the questionnaires as an attachment, through e-mail addresses they had provided in the library registration cards. A covering letter explaining the purpose of the study, and that information

provided would be used for the purpose of the study only and will be treated in confidence was attached.

### **3.6.2 Observation and Interview**

A checklist of entities to be investigated was compiled to guide the researcher to ensure that the indicated elements were covered. The researcher personally followed up with users in the ICT Lab and WI-FI areas on the second third floor of Mombasa Uni Plaza. The researcher approached the users of the facilities randomly explaining his presence in these areas as being for the purpose of popularizing the use of electronic resources and that the users of they should feel free to consult with him.

### **3.6.3 Log Analysis**

Log analysis was conducted twice a week for four weeks. Fifteen desk tops were randomly analysed each time, and information on the use of library Website obtained recorded.

## **3.7 Validity and Reliability of Research Instruments**

The research instruments were pre-tested and standardized before they were employed. Use of mixed methods of data collection instruments was employed to complement each other in providing explanations for the identified characteristics. Some questions appearing in the questionnaire were asked during observations and interview sessions wherever further clarification was required. Validity was assured by the researcher's personal concern about the problem. However, the exclusion of the large number of non users and potential users is likely to affect validity and would nonetheless impact on the generalization of the study. There is need for

further studies especially to determine the reasons why legible students are not availing themselves for the library and information services.

### **3.8 Ethical Considerations**

The questionnaire was e-mailed with an explanation informing respondents that filling the questionnaire is voluntary and it was for the purpose of identifying ways of improving the library service to their benefit and future generations. Also, the respondents were assured that the responses would be treated with confidence and that they would be used for the purpose of the study only. Confidentiality of the respondents' identities was assured through e-mailing the questionnaire individually, instead of serve list. A note was put on the cover letter advising the respondents to collect printed copies of the questionnaire if they so wished.

### **3.9 Data Analysis Techniques**

The library users, in this case, the respondents were the unit of analysis. Since the study focused on user characteristics, the main data sources would be ordinal scores. Ordinal measurements allow for equating two or more observations or to rank-order the observations (Groebner, Shannon, Fry and Smith 2008, p. 23). The data elements will be cross-tabulated and subsequently would be analyzed by descriptive statistics of relative frequency in percentages to identify the relative position of any item or individuals in a group. The median and standard deviation will be used to describe library and ICT Lab usage. The extent of the library and ICT use was determined by means of coefficient of variation which is defined as follows:

$$V = S/\bar{X}$$

Where: V = the coefficient of variation

S = the standard deviation

$\bar{X}$  = the arithmetic mean

and, their relationships determined by correlation coefficient

### 3.10 Operational Definition of Variables

The researcher attempted to show the relationship among independent and dependent variables.

Figure 2 below summarized the key variables together with their elements that guided the study.

**Fig. 2: Operating Definition of Variables**

VARIABLES	INDICATORS	MEASURE	SCALE	TOOLS OF ANALYSIS
<b>Independent Variables</b>	<b>Resources'</b>	<b>Observations</b>	<b>Categorical:</b>	<b>Rating</b>
Familiarity Abilities, Skills Competencies	Knowledge and their organisation	Searching behaviour (Focused)	Ordinal Nominal data	(Lickert scale) Categorical analysis
<b>Dependent Variables</b>	Optimum Utilisation	Adherence to standard search	Arbitrary scale	Itemised rating scale
Access of resources and services	User satisfaction			
<b>Moderating Variables</b>				
User education	Course integrated Focus groups	Use of resources and services	Nominal scale	Descriptive



## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION AND INTERPRETATION**

#### **4.1 Introduction**

This chapter is comprised of data analysis, results and interpretation of results, and discussion. The study sought to assess the utilization of library and information learning resources provided through Mombasa Library. Four data collection methods were employed mainly, questionnaire, observation, interview, and log analysis. Data from all the methods of data collection were compared to gain a thorough picture of possible users' information seeking behavior.

#### **4.2 Response Rate**

98 completed responses were received. The responses represented 92.45% of the statistically determined sample of 106. The participants were asked to identify their statuses by two categories. Both as Certificate, Diploma, Undergraduate or Postgraduate student and the programme they are registered with – either in School of Continuing and Distance Education, School of Business or School of Law. The distribution of respondents by the two programme categories is given in Table 4.2.below:

**Table 4.2: Number of Respondents by Programmes and Levels of Study**

<b>PROGRAMMES</b>	<b>CERT</b>	<b>DIP</b>	<b>UG</b>	<b>PG</b>	<b>TOTALS</b>
SCDE	5	9	7	13	<b>34</b>
SOB	0	0	22	26	<b>48</b>
SOL	0	0	16	0	<b>16</b>
<b>TOTAL</b>	<b>5</b>	<b>9</b>	<b>45</b>	<b>39</b>	<b>98</b>

Key:

SCDE: School of Continuing and Distance Education ; SOB: School of Business

SOL: School of Law ;

CERT: Certificate

DIP: Diploma ;

UG: Undergraduate

PG: Postgraduate

Out of the 98 respondents, 78 of the respondents indicated to be having Internet access through workplaces, mobile, laptops, in addition to the campus ICT Lab. 13 respondents have Internet access through the campus ICT Lab and 7 indicated to have Internet access at their work place only.

### **4.3 Data Analysis**

The main approach to data analysis involved a detailed analysis of the questionnaire responses, interview, and observation and log analysis transcripts. Notes from each interview, observation and log analysis made both during the sessions and after them were reviewed. Preliminary patterns describing the factors that influence information seeking behavior were developed based on concepts identified during the literature review. This section describes the findings of the study.

### **4.4 Data Presentation**

Findings have been presented by use of tables.

#### 4.4.1 Students' Awareness of Library and Information Resources and Services

Students' awareness of library resources and services was captured by the frequency of visits to the Library and ICT Lab.

##### 4.4.1.1 Visits to the Library

The questionnaire item about the frequency with which respondents use the library aimed at soliciting information on students' characteristics, with regard the Library. Table 2 shows the frequency of library use categorized by Certificate, Diploma, Undergraduate and Postgraduate students.

**Table 4.4.1.1: Frequency of Visits to the Library**

<b>Frequency</b>	<b>Cert</b>	<b>Dip</b>	<b>UG</b>	<b>PG</b>	<b>Total</b>
More than once per week	5(100%)	7 (77.8%)	36(80%)	2 (5.13%)	50 ( <b>51.02%</b> )
More than 6 times per semester	-	2 (22.22%)	7 (15.56%)	16 (41.03%)	<b>25 (25.51%</b>
3-6 times per semester	-	-	-	10 (25.64%)	<b>10 (10.20%)</b>
1-3 times per semester	-	-	2 (4.4%)	11(28.20%	<b>13 (13.27%)</b>
<b>Total</b>	<b>5</b>	<b>9</b>	<b>45</b>	<b>39</b>	<b>98</b>

It is noted that frequencies of between more than six-times in a semester and more than once in a week were considered purposive, while the remaining frequencies could have been made without the purpose of using the resources and services.

Majority of certificate, diploma and undergraduate students reported visiting the library more than once per week, 48/59 (81.14%) as compared to the mode for postgraduate students who reported visiting the library less frequently at the rate of more than 6 times per semester, 16/39 (41.3%). Majority of postgraduate students reported visiting the library less than 6 times per semester; 10 (25.64%) visiting the library between 3 and 6 times per semester and the remaining 11 (28.20%) reporting visiting the library between 1 and 3 times per semester. This shows that majority of the postgraduate students visit the library less than 6 times per semester 21/39 (53.85%).

The high frequencies of library visits by Certificate (100%), Diploma (100%) and Undergraduate (95.56%) students reveal that the library as a place is valued highly by non-graduate students. The follow up question requiring an explanation for low usage of library characterized by less than 3 times per semester 13/98 (13.27%), the reasons were given as lack of time due to work commitment. Such students can be categorized as non-users.

#### **4.4.1.2 Visit to ICT Lab**

The ICT Lab is regarded as an extension of the library where students are able to access Library Electronic resources within the campus environment. It has the advantage of instant help from the librarians in case of difficult experiences. Table 3, shows the frequency of library use categorized by Certificate, Diploma, Undergraduate and Postgraduate students.

**Table 4.4.1.2: Frequency of Visits to ICT Lab**

<b>Frequency</b>	<b>Cert</b>	<b>Dip</b>	<b>UG</b>	<b>PG</b>	<b>Total</b>
More than once per week	3(60%)	7 (77.8%)	36(80%)	2 (5.13%)	<b>50 (51.02%)</b>
More than 6 times per semester	-	2 (22.22%)	7 (15.56%)	16 (41.03%)	<b>25 (25.51%)</b>
3-6 times per semester	-	-	-	10 (25.64%)	<b>10 (10.20%)</b>
1-3 times per semester	-	-	2 (4.4%)	11(28.20%)	<b>13 (13.27%)</b>
<b>Total</b>	<b>5</b>	<b>9</b>	<b>45</b>	<b>39</b>	<b>98</b>

The data indicate that the ICT lab is more frequently used by non-graduate students than postgraduate students. Majority of undergraduate students reported using the ICT Lab more than once per week, 46/59 (77.97%) as compared to the postgraduate students who recorded a mode of 16/39 (41.3%) visiting the lab more than 6 times per semester. Again, lack of time due to duty commitment was cited as the main reason for low frequency use

#### **4.4.2 Familiarity with Library and Information Resources and Services**

Familiarity was revealed through students' responses to Part C of the questionnaire item 1 which required the students to tick against the resources or services they have used.

**Table 4.4.2: Use of library Services and Resources**

<b>Levels Resources</b>	<b>Certificate</b>	<b>Diploma</b>	<b>Undergraduates</b>	<b>Postgraduates</b>
<b>Print</b>	2 (40%)	3 (33.3%)	42(93.33%)	37 (96%)
<b>E-Books</b>	0	0	4 (8.89%)	2 (5.13%)
<b>E-Journals</b>	0	0	2(4.44%)	6 (15.38%)
<b>OPAC</b>	0	0	2(4.44%)	3 (7.69%)
<b>V-Link</b>	0	0	0	0
<b>Wi-Fi</b>	1(20%)	2(22.22%)	35 (89.78%)	33(84.62%)

#### **4.4.2.1 Use of Print Resources**

Although most graduate and undergraduate students interviewed reported having a preference for online resources, a vast majority, 37/39 (96%) postgraduates and 42/45 (93.33%) undergraduates reported using physical campus library for books, reference materials, theses, textbooks, past examination papers and magazines. The findings indicate that certificate and diploma students rarely use the resources and services provided by the library. 5/14 (35.71%) respondents reported using the print resources and none of them reported using any other provided resources.

Certificate and diploma students are affiliated to the School of Continuing and Distance Education. These comprise of distance learning students whose courses are provided with in-house study materials. The Coordinating office maintains departmental collection for external students as study materials for giving out to individual students in distance learning programmes.

#### **4.4.2.2 Use of Electronic Resources and Services**

Electronic resources comprise of E-books, E-journals, and V-Link whereas electronic services are made up of online public access catalogue (OPAC) and the Wireless Fidelity WI-FI).

A very small number of students reported utilizing the Electronic resources. 5/98 (5.10%) reported using OPAC, 6/98 (6.12%) and 8 (8.16%) reported using E-book and E-journals respectively. 95 (97%) of the students reported browsing as their main method of looking for books in the library.

Library users reported that they go to the shelve area where books on their subject are expected to be found. Whenever they don't find a book on needed topic they turn to the library staff for help, which is always instant. Majority of the library users reported that they thought library workers are the ones to be identifying and locating books for students. 78 (80%) of all the respondents agreed to the statement that whenever they are doing a paper in the library they get the feeling that there are information resources on their topic that they are missing. All respondents agree to be in need of learning how to the library efficiently and effectively through the use of the library catalogue.

#### **4.4.2.3 Use of the Library Catalogue (OPAC)**

Mombasa Library relies on the online public access catalogue (OPAC) of the University of Nairobi Library for searching library books In addition to being a utility to access locally available print resources, the OPAC is available on the World Wide Web (WWW) where it can be accessed remotely. The OPAC is structured in such a way that users can search for information materials by author, title (word in the title), and subject headings. The Library

catalogue provides information about the location of materials in relation to the campus library as well as the specific location on the shelves by indicating the section and the call number. In addition to this invaluable guide, users employing the catalogue to identify needed information are guided to materials on their subjects but dispersed by the classification scheme.

In addition to being a tool for identifying and locating information materials available in the library, the OPAC is provided with a special feature known as V-LINK, that provides hyperlink to the Internet resources related to the item being sought. This feature is very useful considering the University policy of providing limited number of copies of core course textbooks. The V-LINK provides information seeker with access to sought information even in the shortage of item being sought. Information concerning the use of OPAC was provided in section C of the questionnaire which asked the respondents to indicate the library services/resources they have used by ticking on the listed services/resources.

Out of the 98 responses, 6 (6.12%) of them indicated having used the OPAC, and out of the six, only one of them indicated having used the V-LINK. This is an indication that majority of users employ browsing method for searching library materials by going directly to the shelves. Those using the catalogue reported to be using it to look for known items indicated in the reading lists.

#### **4.4.2.4 Use of Electronic Resources**

In addition to the 5,000 traditional physical books in the library, Mombasa Library is enabled to provide access to over 50,000 electronic books and to over 40,000 peer-reviewed electronic journals, covering all subject disciplines. This provision is generally referred to as E-Resources. The e-resources are considered as supplementing the physical library resources, but at Mombasa Library we consider e-resources as the informational resources that cater for the diverse courses



undertaken in the campus. For instant, the MBA and M.A. PPM programmes that transverse the entire universe domains, students from the varied disciplines are adequately catered for their information needs through e-resource. These resources are Library-enabled access. For students to be able to access library-enabled e-resource they must first log-in to the Library Website. Students can access Library-enabled e-resources by using the ICT Lab or by using their Laptops and any other Internet-enabled electronic gadgets by complying with University’s ICT rules and regulations.

Information about the extent with which library users utilize e-resources was solicited through questionnaire items (section D) which sought to know the approaches and methods users employ in searching for information they need as well as the typical beginning of their information search. Table 4.4.2.4 represents responses to questionnaire item D 3 which sought to know students’ typical beginning of search for information.

**Table 4.4.2.4 (a): Typical Beginning of Search for Information**

<b>Levels</b>	Certificate	Diploma	Undergraduates	Postgraduates	Total
<b>Search process</b>					
OPAC	0	0	0	0	0
GOOGLE	5	9	43	35	92 (93.88%)
LIBRARY E-RESOURCES	0	0	0	0	0
LIBRARY SHELVES	2	3	27	12	44 (44.90%)

92 (93.88%) of the respondents indicated that they begin their search with Google search and more often, they approach the Google search using the assignment question or topic title. Respondents reported that they hardly use the Library Website, which is the Gateway to networked learning electronic resources. Majority of students admitted not finding useful resources using Google. They expect the general Google to link them to library enabled-access electronic resources.

Section C of the questionnaire included items that sought to assess the users' awareness of the services and resources available through the Mombasa Library and Information services and their usability. Majority of the respondents indicated relying on traditional print resources entirely. The results showed that 76 (95.71%) of the respondents have not been utilizing the e-books and e-journals for varied reasons. They complained that they could not locate the e-resources on their topics. 73(91.2%) thought that it was the librarians to avail the resources to the students.

All respondents agreed that they are willing to participate in library user education programmes if it is provided in the campus at appropriate time. Students realize that there is need to develop information literacy skills and necessary abilities if they are to utilize fully the provided library resources.

The question seeking information about students' participation in library programmes was contained in questionnaire Part C, item 4 (a). Table 4.4.2.4 (b) summarises the results.

**Table 4.4.2.4 (b): Students' Participation in Library Programmes**

<b>Levels</b> <b>Programme</b>	Certificate	Diploma	Undergraduates	Postgraduates	Total
Library Briefing	0	0	25	28	53 (54.08)
Library Induction	0	2	28	25	55 (56.12%)
Library Orientation	0	0	0	0	0
Library Instruction	0	0	0	0	0

53 (54.08%) reported having have participated in both the library briefing and library induction programmes. They said the programmes were not exhaustive and that they did not provide for practicing the skills to enable them internalize what they had learnt. The respondents suggested that a lot of improvement is required in the user education programmes if they are to be of any benefit to users. Majority of the respondents suggested that the timing of user education programmes should take into account the varied user characteristics of time and subject domains. Access to the e-resources is enhanced through specific-discipline databases that are provided with in-built indexing and abstracting services. Compared to physical journals that need intermediaries in the form of elusive abstracting and indexing journals, access to e-journal articles is a straight forward procedure requiring the use of key words, concepts, and subject headings. Optimal utilization of e-resources is enhanced by users' knowledge of information resources, familiarity with information identification and retrieval tools, skills in online information search strategies and user efficacy.

### 4.4.3 Students' Level of Information Literacy

Information literacy abilities and skills were manifested by the users' competencies to manipulate the Internet facilities by employing the various search strategies when searching for online information. Students' competencies were revealed through observations and interviews which were based on the elements of questionnaire item D (2) which required respondents to indicate the methods they use when searching the Internet. Table 4.4.3 summarises the findings of the study.

**Table 4.4.3: Students' Internet Search Strategies**

<b>Levels</b> <b>Search Strategy</b>	Certificate	Diploma	Undergraduates	Postgraduates	Total
Author	0	0	2	4	6 (6.12%)
Title	2	5	15	6	38 (38.78%)
Basic Search	5	7	24	26	62 (63.27)%
Advanced Search	0	0	6	8	14 (14.29%)
Truncation	0	0	0	0	0
Key word	3	6	8	11	28 (28.57%)
Back of the Book Index	0	0	3	4	7 (7.14%)
Web Page Index	0	1	9	6	16 (16.33%)

The findings show that majority of users are of low level of information literacy skills. High level of information literacy skills is demonstrated by information seekers employing advanced

search strategy option which is provided in all Web pages. Advanced search option provides for combination of terms, concepts and key words. It is a way of refining a search, especially in interdisciplinary, multidisciplinary and specific searches. Information seekers employing basic search option usually search for known items either by author or title. The findings show that 62 (63.27%) Internet searchers search for known items, most likely using reading lists. This is an indication that students are not able to interact with a wide range of information resources at their disposal.

#### **4.4.3.1 Use of ICT Lab**

ICT Lab opens 8.00 am to 8.00 pm Monday to Friday and 8.00am to 2.00 pm on Saturdays. The computers are programmed to provide students' use of the computer for the initial session of two (2) hours. In the absence of a waiting colleague, the session can be extended.

Two weekly observations and interviews sessions were conducted for four weeks. Students were approached individually at random where their activities were noted and at the same time, questions concerning their activities were posed. Ten students were randomly approached during such sessions. A total of 80 students were observed and interviewed. Out of the 80 users approached, an average 8 (10%) of users were found to be on the University of Nairobi Web site. Out of the 8 on the University Web site, none of them was on the Library Portal. When asked why they were not using the Library Web site to access library-enabled electronic resources, 8 (100%) of the students claimed that they were not familiar with the procedure of accessing Internet resources through the Library Website hence, their persistent use of general Google.

Even after being directed to library Website, majority 9 (90%) of the students were unable make successful searches because they search using the wrong terms or key words. Students who

approached the researcher for help were confounded by the enormous resources available through the library Website

When they were asked for their opinion about the library staff, the ones who had approached the library staff for help revealed that library staff pointed to the relevant resources, respond to questions promptly, teach them how to find resources, how to use the library, how to navigate the library Website, create more focused key word search or plan and conceptualize new search. There are variations of motivation to seek help from library staff. Some students are referred by their lecturers, others approach librarians in one-to-one session, e-mail, summon librarians' help on site at the ICT Lab, and some in groups organized by unit lecturers for induction sessions in the ICT Lab. Those who had participated to the group induction sessions admitted that it was an innovation to save them from eminent stress during research when writing their project papers.

### **Log Analysis**

Log Analysis represents the digital information footprints of the users and by analyzing log transactions it is possible to track the users' information seeking behavior.

Weekly log analysis was carried out from May 28, 2012 to June 23, 2012 covering four weeks. Ten desk tops were randomly analyzed each time and their weekly history noted. A total of 142 sessions were recorded. The results of the analysis are summarized in Table 4.3.3.1.

WEEK	OPAC	E-BOOKS	E-JOURNALS	DATABASES	GOOGLE SCHOLAR
1	0	0	1	1	0
2	0	0	0	0	0
3	0	0	2	3	0
4	0	0	3	2	0

**Table 4.4.3.1: Use of Electronic Resources in ICT Lab**

Out of the ten desk tops, an average of eight (8) had no history of visit of the library Website. Library use would be indicated by visits to the Library Website for searches of the OPAC, and online databases. Traditionally, searching online databases would be effected by visits to the Library Web site. Log analysis revealed that some data bases such as EMERALD could be accessed directly through the Internet facility within the campus networked environment. Of the two desk tops with history of library Website use, one showed some ten searches- two searches for online catalogue, four searches for Emerald database, and six searches for JSTOR database. Emerald search indicated successful hits by showing approaches such as advanced search, while JSTOR was unsuccessful. The success with Emerald could be attributed to the chance accessibility of the database without necessarily going through the library Web site.

Sessions with history of visits to the library web site indicated that the one searcher had employed advanced search strategy, where combination of searching terms serves to refine a search for specific information need. Searches using JSTOR database indicated that the search did not yield any successful hits. This is because JSTOR database can be effectively when accessed through Library Website.

It should be noted that a great number of connections or logins (98%) to the library's server were made without the users actually performing a search. No searches were made for the purpose of searching the OPAC. Some students (96%) reported that lack of knowledge of existing services or resources present challenges finding and using the resources thus affecting their information searching and use. Majority of students across levels reported that they did not were not aware of services such as V-Link (a linking service for electronic resources on the Internet), how to set up remote access, or other university library resources. Majority of students are unaware of the processes to access information using library Website. They claimed that library Website is confusing. Relevant databases are hard to find.

#### **4.4.3.2 Use of WI-FI Facility**

The Wireless Fidelity (WI-FI) facility was established to provide students with network equipments such as laptop and mobile phones to access Internet using University of Nairobi Internet services. The students present their equipments to the ICT officer to be configured for compatibility with the UON Internet Service Provider (IPS). The students are able to access electronic resources after creating a network access account.

The researcher conducted 4-weekly tours to Wi-FI facility provided on the second and third floors of Mombasa Uni Plaza. Four students were approached at random during each tour and their activities noted. General observation revealed no student was on the Library Website. Of the four students who were approached, demanded to be shown how to access library e-resources they have heard of during briefing. When asked whether they access library-enabled electronic resources, they admitted never to have attempted and indicated that they thought that was the work of the librarians.



Over 90% of the students approached at the WI-FI areas reported searching for information using the general Google. They claimed that it is the first place they go to get started on a topic so as to get a general idea. They perceived the Internet as convenient, fast and current. They say that the free Internet connection is the best facility the University has come up with. By using their Lap Tops, they are able to access a wide range of resources free of charge and with no control. They cite the ICT Lab as being restrictive, both in time and choice of Web pages. Postgraduate students at the WI-FI area confided that it saved them the embarrassment of sharing the same environment with undergraduates at the ICT Lab.

38 (60%) of users of the Internet reported that using the Internet for information seeking is not without problems. They reported that the information found was often not reliable. They admitted that unfocused searching can result in diverse and massive amounts of information. They also admitted that sorting through such results to find relevant and reliable resources can be difficult and time-consuming. General Internet users complained that they don't find information on the Web to be reliable; and that what they identify as reliable for their need is restricted and cannot download. These are the users who have not distinguished the general Internet provision from the library-enabled information resources. For 62 out of 64 (97%) of students using the non-library Internet, three-quarters (75%) mentioned using Google search engine for their information seeking. They claimed that Google is the best because they are able to extract any type of information. Compared with the library Website, Google has no restrictions. They can search using assignment questions.

#### **4.4.4 Library Users' Perception of the Library**

Users' perception about the Library was sought using items of section B of the questionnaire. The items consisted of statements where respondents were to indicate on a 5 scale, level of agreement.

96 (98%) of users agreed that the library as a place provides a conducive environment for private study. 93 (95%) of the users however, agreed to be experiencing difficulties accessing needed information, especially electronic resources. They also agreed to be having trust in librarians for assistance.

#### **4.5 Correlations of Library and ICT Visits**

The main approach to data analysis involved detailed analysis of visits to the Library and ICT Lab. by the four categories of user groups. It was considered that the first two levels of visits indicated purposeful visits. Observation and interview scripts were ignored for lack of adequate data.

Data was analysed on the basis of sample correlation coefficient regarding the visits to the library and ICT Lab. Basic analysis begun with the determination of central tendencies, namely median, mode and standard deviation were used as measures of dispersion (variation). Tables for visits to the library and ICT Lab From the four categories of user, the first two categories- the one visiting once in a week and the other- more than six times per semester that were considered purposeful visits, were analyzed for relationship and determination of correlation coefficient between the library and ICT Lab visits.

### Correlation coefficient of library and ICT Lab use

Using coefficient of variation  $V = \text{Standard deviation} / \text{Mean}$ , correlation of library and ICT lab was calculated as follows:

Let visits to the library be  $x$

And

Visits to ICT be  $y$

	$x$	$y$	$(x-18.75)$	$(y-18)$	$(x-18.75)(y-18)$
1.	5	5	-13.75	-13	178.75
2.	9	8	-9.75	-10	97.5
3.	43	43	24.25	25	606.25
4.	18	16	-0.75	-2	1.5
Totals	75	2	0	0	884
Mean	=18.75		= 18		

The sample covariance =  $884/3 = 294.67$

$$\sum(x - 18.75)^2$$

$$\sum(y - 18)^2$$

$$(x-18.75)^2$$

$$(y-18)^2$$

$$189.0$$

$$69$$

$$95.06$$

$$100$$

588.06

625

0.56

4

$$\sum(x - 18.75)^2 = 872.74 ; \quad \sum(y - 18)^2 = 898$$

$$\sqrt{\sum(x - 18.75)^2 / 3} = 17.06; \quad \sqrt{\sum(y - 18)^2 / 3} = 17.3$$

The standard deviations for library and ICT Lab visits are 17.06 and 17.3 respectively.

$$17.06 \times 17.3 = 295.14$$

The sample correlation coefficient is:

$$\begin{aligned} \sum (x-18.75) (y-18) / 3 &\div \sqrt{(\sum (x - 18.75)^2 / 3)} \times \sqrt{\sum (y - 18)^2 / 3} = 294.67 / 295.14 \\ &= 0.998 \end{aligned}$$

The analysis has established that there is a strong relationship between the two variables x and y, hence, the use of library is very much related to the use of ICT Lab. The results show that the utilization of the library resources is highly dependent of efficient and effective use of the ICT Lab.,

## CHAPTER FIVE

### SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This Chapter gives the summary of findings and will discuss key findings on user characteristics and related aspects related to the utilization of library information resources provided through U.O.N. Mombasa Library. Conclusions based on findings are made by addressing the purpose of the study and offer recommendations and suggestions for further research.

#### 5.2 Summary of Findings

This study was conducted with the aim of identifying factors that affect utilization of library and information services and resources accessible through the University of Nairobi Mombasa Campus Library. Four objectives were stated based on four possible influencing factors identified.

Two indicators were used to measure awareness of library services and resources. The first indicator was users' perception of the library as a place. Based on the responses students appreciated the library and value it as a place for private study. The results on frequency of visits to the library and the students' pattern of use show that students rely on browsing and assistance from library staff. Students who visit the library with a purpose to use the services and resources account for 77.55%, drawn from all levels of study. The second indicator was visits to the ICT Lab. The percentage of students visiting the ICT Lab more than six times per semester 72 (73.47 %) is an indication that students appreciate and value the facility. The University of

Nairobi Mombasa Campus administration considers ICT Lab as an extension of the library. The ICT Lab is provided as a gateway to library-accessible e-resources in addition to providing students a platform for course-related activities such as registration for courses. The sample correlation of Library and ICT Lab of 0.998 is an indication that utilization of the library resources is highly dependent on efficient and effective use of ICT facilities.

Two indicators were used to measure the influence of familiarity of the available information resources and their formats as well as the procedure of how to access them. The first indicator was the extent with which students use print resources. The high percentage of students utilizing print resources 85.71% indicates that print resources are being utilized optimally across programmes and levels of study. The second indicator was the extent with which the students were utilizing library electronic services and resources, mainly e-books, e-journals, OPAC and its' subsequent V-Link. The low percentage of students utilizing these services and resources (6.12% for e-books; 5.10 for OPAC; 8.16 for e-journals and 0% for V-Link) is an indication that they are largely underutilized. The results reveal that knowledge of availability and location of information services and resources has no effect on utilisation.

The third objective was to explore the students' information literacy level and its effect on utilization of library services and resources. The first indicator was the ability to identify and locate needed information resources. In integrated information environment, users' ability to identify and locate information resources depends on their information skills of designing appropriate approaches to an information system. E-resources are provided through a variety of databases each of which comes with unique requirements of navigation procedures and searching

techniques. The dismal utilization of e-resources is an indication that students have low level of information literacy.

The fourth objective was to determine the extent with which ICT Lab affect utilization of library services and resources. Students were not using OPAC to identify needed books available in the library. The entire library-accessible e-resources remain largely underutilized. Students prefer browsing method to select books from the shelves, and for Internet resources, students prefer general Google to search for information.

### **5.3 Discussions**

The study revealed that the library and information services and resources accessible through Mombasa Campus Library are underutilized, especially electronic resources. The study findings show that the OPAC and its subsequent V-Link, the e-books, e-journals- remain largely underutilized. This is a major concern to the University administration in general and the library administration in particular. The university has invested extensively in resources- human, financial and machinery to develop an integrated library and information services of global standards. Continued underutilization of e-resources amounts to waste of effort. The main reasons attributed to underutilization of these resources are students' lack of library and information skills, collectively referred to as information literacy. For optimum utilization of academic library information services and resources, University administrators, coordinators and librarians among other stakeholders should ensure that the students are empowered with information literacy skills of the highest order by developing user education programmes appropriate for their environment. Information literate student will be able to recognize a need for information, determine the extent of information needed for a task at hand, access

information and critically evaluate information and its sources and incorporate selected information in individuals' knowledge for a variety of purposes.

The four factors identified by the study as being influential in enhancing utilization of library and information services and resources inter alia developing individuals to be information literate-awareness of the role of the library in learning activities, its policies and procedures as well as its resources (Loftin, Long and Rouge, 1983, p.207), familiarity with various resources' role in learning activity (Morgan,2004), library competency (Maughan, 2001; Loftin, Long and Rouge, 1983: 208), information literacy (Bruce,1999) are developmentally. Individuals have to attain competency with the lower level to be motivated to pursue the higher one. Students empowered with the highest level of information literacy are able to use information effectively to learn, create new knowledge, as well as solve problems and make decisions. In addition, information literate people are able to use information and knowledge for participative citizenship and social responsibility. In learning situations such as the university, students experience information literacy as part of independent learning and lifelong learning, whereby they are able to efficiently and effectively identify, locate, evaluate and use information resources for their learning process. Information literacy empowers library users to develop abilities and skills that enable them to assess search results for quality and relevance, evaluating the reliability, validity, authority and timeliness of retrieved information (Maughan, 2001). This concept encompasses abilities such as critical thinking, synthesis, communication, and research methodologies. Information literacy as a library user education programme of study constitutes a set of competencies related to knowledge acquisition, over and above the technical skills that extends far beyond the rank of schools and university libraries (Virkus, 2003). Competencies gained through Information



Literacy programmes in colleges are transferable to work situation in addition to empowering students to be self-directed learners. For students to be able to use the virtual library effectively, all or most of the traditional library skills as well as additional information skills will be required (Olen, 1998). Traditional library skills are skills of identifying and locating needed information to support learning activities, whereas information skills refer to abilities of determining search strategies appropriate to the purpose of needed information. Efficient and effective utilization of electronic information environment demand that users develop skills of employing advanced search strategies such as those of Boolean operators, truncation, proximity, etc. These strategies enable information seekers to narrow or broaden their search to reflect the need.

Information literacy is about empowering and educating information consumers so that they are knowledgeable about information in a way that is relevant to their lives. It enables individuals to use this knowledge to evaluate information and make informed decisions. Mounting evidence shows that those who are less information literate are more likely to have problems with learning (Yu & Young, 2004). Information literacy empowers information seekers with greater control of their information needs while making more effective use of information services and resources. It also reduces one's vulnerability to overzealous information providers and fraudulent information services. Information literate university students are enhance improve the efficiency and quality of information services in that having been empowered with a certain level of understanding of information sources, students are able to evaluate and compare information resources such as reference materials, texts, databases, and Web sites. For students to be able to find information about a topic from a variety of sources, they are expected to develop knowledge, skills and understanding of the information environment they are in and also develop

their ideas of using ICT tools to enhance the quality of their work (Loveless, De Voogd and Bohlin, 2001: 67). Knowledge of the information environment will enable students to focus on the best information source to approach for the impending need whereas, knowledge of ICT will enhance the quality of their work by sharing and exchanging information directly and through electronic media.

When writing assignments, information literate students are able to formulate and analyse the information needed, identify and appraise likely sources of information, trace and locate the individual resources, and examine, select and reject individual resources according to their relevancy. These tasks are the general requirements of any information seeker in the information and knowledge society. Students are impatient and they want information quickly, or are reluctant to learn something new. Cultural differences can be attributed to some students for being reluctant to ask questions or talk to strangers.

Based on the data collected and analyzed, during the study, a number of specific situations were identified for which students generally agreed that they might use a formal process to look for information. These included assignment writing and other knowledge building activities and project researching and writing.

Mombasa Library is also a resource centre that supports learning activities to students registered in the School of Continuing and Distance Education. The students comprise of mainly teachers and Ministry of Education administrators in the Coast region who are registered with B.Ed., M.Ed. and PhD. Programmes. The changing library services and resources, and with the growing number of distance learners, the library must evolve into a proactive entity reaching out to

students instead of being a passive entity waiting for visitors. (Buchanan 2000). It is important that distance learning students are considered for library services that will place them at par with on-campus students. There is need to recognize that the inability to access adequate library resources places many distance education/off-campus students at a distinct disadvantage. Off-campus students also need instructions in effective use of information resources, particularly those accessible using electronic technologies. Properly addressed, the problems faced by the geographically disadvantaged students can be solved given the information environment of Mombasa Campus Library.

The fact that the information skills university students gain while in colleges are transferable to their working life and that prospective employers prefer employing people with proven information skills, all the stakeholders in higher learning institutions should take responsibility to ensure that students acquiring university education are empowered with full information literacy skills. Libraries without elaborate user education programmes are overwhelmed by students' overreliance on library staff for assistance to find needed information accessible through different sources of integrated library services. The designing of a library user education programme that incorporates all the stakeholders, can assure optimal utilization of the wide range of information resources available through the library and information services.

Faced with the challenge of offering quality education and training embodied in the aspiration of learners as useful members of society, universities should ensure their graduates have interacted with adequate contents of information and knowledge in their domain through appropriate information literacy programmes.

## 5.4 Conclusions

Optimal utilization of all learning-support information resources accessible through Mombasa Library and Information services is necessary to all the students using the campus library as their resource centre. The physical resources which are identifiable using the online library catalogue leads in value by linking the physically available resources to related Internet resources, complimented by electronic books accessible through e-brary database and the journal resources accessible through subject-discipline databases. Optimum utilization of library and information resources and services can be enhanced through empowering students with knowledge of efficient and effective identification and access embedded in information literacy. Abilities and competencies in organizational and retrieval tools go hand in hand with the availability of resources, users' levels of library and information literacy, and network efficiency and coverage. There are some hindrances for the effective use of the library service and they include library administration policies, lack of cooperation between local librarian and programme coordinators and the general programmes' administration.

The findings of this study have implications for academic libraries with regard to information seeking behavior of students. Specifically, they affect university library instruction programmes, accessibility of resources, information skills of students, and instructional leadership of academic staff. It is a fact that students rely on library personnel and academic staff for help in their learning activities and using information resources. This places librarians in a key position where students' and faculty information behavior is concerned. Not only can librarians evaluate and improve their own instructional services, but should also recognize the influence they can have on academic staff. They can also influence faculty instructional services to students.

To the extent that the patterns found in the data from questionnaire, observation, interview and log analysis matched the early interpretation of the questionnaire, the internal validity of the interpretation was strengthened.

## **5.5 Recommendations**

In the view of the research findings, the research recommends the following:

1. Accessibility is a key factor that affects students' choices of resources and services. Librarians need to strive to provide appropriate library skills programmes that are easily accessed within a user-friendly environment.
2. Although graduate students may have considerable experience in the process of enquiry, they are still new to their current university library. Libraries need to create awareness among graduate students about the services and resources that are available and how to use them.
3. The considerable increase in the number of available resources makes it even more difficult to find them. Librarians can be creating awareness at all times of navigational aids available that describe the physical library and the electronic library resources.
4. Although students have varying abilities and experience related to finding and using resources, librarians can be providing instruction throughout the semester for students at all levels, targeting students who are not familiar with university libraries.
5. Librarians need not assume the entire burden of instruction but can take a lead and work with academic staff to help educate the students regarding the resources available and how to find them.

6. The library skills programme should be locally-based so as to be able take into account constantly changing local situations
7. The campus should create a library and information skills section to design and monitor timely interventions into the constantly changing information needs of students both for on- and off-campus students across programmes.

### **5.6 Suggestions for Further Research**

Although this study was limited to the students and programmes of Mombasa Campus, it provides a foundation to investigate library usability in other campuses. Research in the area of integrated library services in general is in its infancy. There is much to be done and improve integrated library services. Standardization and usability issues of integrated library services are beginning to surface. Currently University of Nairobi integrated library services are not following a standard mode of retrieving information, and many of the branch libraries, including Main Library, have problems regarding system usability. Absence of standardization and usability may result in students' negative perception toward the use of integrated library services. Therefore, these variables deserve attention in future research.

## REFERENCES

- A.L.A. (1989). *American Library Association Presidential Committee on Information Literacy*.  
Final Report. Chicago, IL: American Library Association
- Anspaugh, S. (1974) *Educating library users in two-year higher education institutions*.  
'In' *Educating the library user*, edited by Lubans J. New York, R.R. Bowker, pp 69-82
- Babalhavaeji, F., Isfandyari-Moghadam, A., Agili, S.K. and Shakoi (2009). Quality assessment of academic library performance: The case of an Iranian academic library. *Malaysian Journal of Library and Information Science*, Vol. 14, No. 2, August, 2009, pp. 58-81
- Barry, C.A. 1997 Information skills for an electronic world: Training doctoral research students. *Journal of Information Science*, Vol. 23, No. 3, 1997, pp. 225-238
- Basketrville, R.L. (1999) Investigating information systems with action research, *Communications of the Association of Information Systems*. Vol. 2, Article 19, Oct. 1999
- Beardsley, V.M. (1974) *Library instruction in colleges and universities in the seventies: A view point*. 'In' *Educating the library user*, edited by Lubans J. New York, R.R. Bowker, pp. 111-114.
- Behrens, S.J. (1992) Librarians and information literacy. *Mousaion*, Vol. 10, No. 1, 1992, pp.8188
- Bowerman, B.L., O'Connell, R.T. and Murphree, E.S. (2009). *Business statistics in practice*. 5<sup>th</sup> .edition. Chapter, 3.4. Boston: McGraw-Hill
- Bruce, C.S. (1999) Workplace experiences in information literacy. *International Journal of Information Management*, Vol. 19, 1999, pp. 33-47
- Buchanan, Elizabeth (2000). Going the extra mile: Serving distance education students. *Online Journal of Distance Learning Administration* Vol. III, No. I, Spring, 2000

- Chacha, Rosemary N. (1993) *Analyzing user problems in academic libraries. Thesis (M.A.)- Loughborough University of Technology*
- D'Elia, G. and Walsh, S. (1983) User certisfaction with library service: A measure of public library performance? *The Library Quarterly, Vol.53, No.2* April 1983, pp. 109-133.
- Dunleavy, P. (1986) *Studying for a degree in the human and social sciences.* London: Macmillan
- Dunn, K. (2002) Assessing information literacy skills in the California State University: A progress report. *Journal of Academic Librarianship, Vol. 28, No.1,* 2002, pp. 26-35
- Eisenberg, M.B. (2008). Information literacy: Essential skills for information age. *Journal of Library and & Information Technology Vol. 28, No.2,* March 2008, pp. 39-47
- Gadd, E., Hunt, M., Newbold, C. and Stubbings, R. (2001) 'In' With the new: Reviewing library induction practices at Loughborough University. *New Library World, Vol. 102, No. 1166/1167,* 2001, pp. 247-254
- Goggin, Margaret K. (1974) *Instruction in the use of university library. 'In' Educating the library user,* edited by Lubans J. New York, R.R. Bowker, pp.104-110
- Gove, P.B. (Editor), *Webster third new language international dictionary of the English,* Springfield: Merriam-Webster Inc., 1986, p 1154
- Griswold Blandy, Susan (1989) *Building alliances: General education and library skills community colleges, Vol. 24,* 1989, pp. 57-73
- Groebner, D.F., Shannon, P.W., Fry, P.C., and Smith, K.D. (2008) *Business statistics: A decision making approach. 7<sup>th</sup>* edition, Upper Saddle River, N.J.: Pearson Prentice-Hall
- Hamburg, M., Ramist, L.E. and Bommer, M.R.W. (1972) Library objectives and performance measures and their use in decision making. *The Library quarterly, Vol. 42, No.1,* Jan. 1972, pp. 107-128



- Herring, Susan D. (2002) Use of electronic resources in scholarly electronic journals: A Citation analysis. *College & Research Libraries*, Vol. 63, No. 4, Jul. 2002, pp. 334-340
- Ingutia-Oyieke, Lilian (2008) *Information and communication technologies in teaching and learning: A comparative evaluation of two university libraries in Kenya*. Thesis (MIS) - University of Pretoria.
- Jewell, T.D. (2001) *Selection and preservation of commercially available electronic resources: Issues and practices*. Available: <http://www.clir.org> Washington, D.C: Digital Library Federation (DLF) accessed: Jan. 5, 2012
- Jiao, Q.G. and Onwuegbuzie, A.J. (2004) *The impact of information technology on library anxiety: The Role of computer attitudes. 'In'Information technology and libraries.* , pp. 138-144 New York: City University of New York
- Johnson, H. (1999) An information skills model: Do we need one? *SCONUL Newsletter*, No. 17, Summer/Autumn 1999, pp. 3-5
- Jucker, J.M. (1980) User education in academic libraries: A Century in retrospective. *Library Trends*, Vol. 29, No. 1. 1980, pp. 9-27
- Kadiri, J.A. and Adetoro, N.A. (2012) Information explosion and the challenges of information and communication technology utilization in Nigeria libraries and information centres. *Ozean Journal of Social Sciences*, Vol. 5, No.1, pp. 23-31
- Kakai, Miriam, Ikoja-Odongo, R. and Kigongo-Bukenya, I.M.N. (2004) A study on the information seeking behavior of undergraduate students of Makerere University, Uganda. *World Libraries*, Vol. 14, No. 1, Spring 2004

- Kuhlthau, C.C. (1991) Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, Vol. 42, No.5, June 1991, pp.361-371
- Kunkel, S.M and Weaver, L.R. (1996) What do they Know?: An assessment of undergraduate library skills. *Journal of Academic Librarianship*, Vol. 22, No.6, 1996, pp 430-434
- Leedy, P.D. and Ormrod, J.E. (2005) *Practical research: Planning and design*. 8<sup>th</sup> edition. Upper Saddle River, N.J.: Pearson Prentice-Hall
- Loftin, J.E, Long, E.K and Rouge, B. (1893) Library orientation and library instruction for medical students. *Bulletin of Medical Library Association*, Vol. 71, No. 2, Apr. 1983, pp. 207-209.
- Loveless, A., DeVoogd, G., and Bohlin, R, (2001) *Something old, something new... Is pedagogy affected by ICT*. In Loveless, A. and Ellis, V. (Eds.). *ICT, Pedagogy and the curriculum: Subject to change* (Pp. 63-83). Routledge: Falmer
- Lubans, J. (Ed.) (1974) *Educating the library user*. New York: R.R. Bowker
- Malliari, A., Kyriaki-Manessi, D. (2007) users' behavior patterns in academic libraries' OPACs: A multivariate statistical analysis. *New Library World*, Vol. 108, No. 3/4, 2007, pp. 107-122
- Maughan, Patricia D. (2001). Assessing information literacy among undergraduates: A Discussion of the literature at the University of California- A Berkeley assessment experience. *College and Research Libraries*, Jan. 2001
- Morgan, N. (2004) Innovative library induction. *SCONUL Focus*, 2004
- Nachmias, C.F-, and Nachmias, D. (1996) *Research methods in the social sciences*. 5<sup>th</sup> edition, London: Arnold

Njiraine, Dorothy M. (2000) *Underutilization of Internet facilities at universities: A case study of Jomo Kenyatta Memorial Library (JKML) University of Nairobi and United States International University of Africa (USIUA) library*. Thesis (M.A)- Makerere University, Kampala, Uganda.

Olen,S. (1998) Information literacy and the virtual library. *Mousain*, Vol. 16. No. 2, Oct. 1998

Olen,S.(1998).Information literacy and the virtual library  
*Mousain, Vol. 16, No.2, 1998, pp. 55-58*

Quinn, B.A. (2007) Adapting service quality concepts to academic libraries, *The Journal of Academic Librarianship*, Vol. 23, No.5, pp. 259-271

Ray, K, & Day, J (1998). Student attitude towards electronic information resources. *Information Research, Vol.4, No.2, Oct. 1998: pp. 267-290*

Rockman, I.F. (2002) Strengthening connections between information literacy, general education and assessment efforts. *Library Trends, Vol. 51, no.2, Fall 2002, pp. 185-198*

Songer, N.B. (1996) Exploring learning opportunities in coordinated networked-enhanced classrooms: a case of kids as global scientists. *Journal of the Learning Sciences Vol.5, No.4, 1996, pp. 297-327*

Taylor, R.S. (1967) *Studies in the man-system interface*. Report no. 3. Lehigh University. Centre for the Information Science

Thompson, G.B. (2002) Information literacy accreditation mandates: what they mean for faculty and librarians. *Library Trends, Vol. 51, No.2 Fall 2002, pp. 218-241*

Tiefel, Virginia M (1995) Library user education: examining its past, projecting its future. *Library Trends, Fall, 1995, pp 318-331*

- Virkus, S. (2003) Information literacy in Europe: A literature review. *Information Research*, Vol. 8, No 4, Jul. 2003
- White, L.W. (1962) Independent study and the academic library, *The Journal of Higher Education*, Vol. 33, No.1, Jan. 1962, pp. 44-47
- Whitmire, E. (2002) Academic library performance measures and undergraduate library use and educational outcomes. *Library and information Science Research*, Vol. 24, 2002, pp. 107-128
- Xu, F. (2010) Implementation of an electronic resource assessment system in an academic library. *Programme: Electronic Library and Information Systems*, Vol. 44, No. 4. Pp. 374-392
- Yu, H. and Young, M. (2004) The impact of Web search engines on subject searching in OPAC . *Information Technology and Libraries I*, Dec. 2004, pp. 168-180.

## APPENDICES

### APPENDIX 1

#### INTRODUCTION LETTER

May 28, 2012

Dear Respondent,

#### **RE: RESEARCH PROJECT**

I am a student of Master of Arts Degree in Project Planning and Management at the University of Nairobi, specializing in Library and Information Science. I am conducting a study on: Factors that Influence Utilization of Library and Information Resources: The Case of University of Nairobi Mombasa Library, as a partial fulfillment for the course. However, it will also benefit our organization in that results obtained will be shared with all stakeholders with a view of addressing the factors that contribute to underutilization of Library and Information resources in Mombasa Library.

I am kindly requesting that you spare a few minutes of your precious time to fill in the given questionnaire for the purpose of gathering data for this research project. I would be grateful if you could answer truthfully the questions in the questionnaire and also share your experiences with me. To be able to complete the project in time, I will pick up the questionnaire a week after presenting it to you. The questionnaire is designed for this research only and the information you provide make will be treated in strict confidence. Your name shall not be required. All information will be coded to maintain confidentiality.

Thank you for your cooperation.

Yours sincerely,

Willy Mwatumia Mwatela (Student – **M.A. PPM**)

**N.B.** If you prefer a hard copy, feel free to pick one from the **Library Security Personnel** at the **Cloak Room** (Left Luggage Area) .

## APPENDIX II

### QUESTIONNAIRE

A:

1. (a) What is your relation with the University of Nairobi?

Certificate student [ ] Diploma student [ ] Undergraduate student [ ]

Postgraduate [ ] (b) SOB[ ] SOL [ ] SCDE [ ]

2. I have access to the Internet

a) At my work place [ ]

b) At home [ ]

c) Through my lap top [ ]

d) Through my mobile [ ]

e) At the campus Lab [ ]

f) At the Cyber Café [ ]

g) Through a friend [ ]

- 3a) How often do you use the Mombasa Campus Library?

a) More than once a week [ ]

b) More than 6 times a semester [ ]

c) Between three and six times per semester [ ]

d) Between one and three times per semester [ ]

e) Any other [ ]

b) How often do you use the Mombasa Campus ICT Lab?

- a) More than once a week [    ]
- b) More than 6 times a semester [    ]
- c) Between three and six times per semester [    ]
- d) Between one and three times per semester [    ]
- e) Any other [    ]

If you checked the last three categories (c – e), what in your opinion, is the reason? (Tick appropriate reason below)

- a) My course doesn't require library use [    ]
- b) The library is inadequate for my purposes [    ]
- c) I don't like the library environment [    ]
- d) Others: -

.....  
.....  
.....  
.....

B. Using the following scale, please circle the number that best describes your situation in

relation to the statements:

- 1. Strongly disagree with the statement
- 2. Moderately disagree with the statement
- 3. Feel neutral about the statement
- 4. Moderately agree with the statement
- 5. Strongly agree with the statement

a) My course work has benefitted from the introductions, orientations, inductions, etc. I was motivated to using the library and its resources [1 2 3 4 5].

- b) My lecturers encourage students to use the library [1 2 3 4 5].
- c) The library skills' training programme has given me all the preparation I need for finding information in the library [1 2 3 4 5].
- d) I am at a loss when faced with doing an assignment in the library [1 2 3 4 5].
- e) I feel frustrated when I have to do using library resources [1 2 3 4 5].
- f) The library should offer courses, instructions, etc. on how to use the library and its resources [1 2 3 4 5].
- g) I would take such courses, instructions, etc. if offered at a convenient time [1 2 3 4 5].
- h) When I walk into the library I feel I want to do some serious work [1 2 3 4 5].
- i) I use the OPAC, accessible through the Internet to identify the books I need [1 2 3 4 5].
- j) I feel comfortable when using library electronic resources provide through the UON library Web site [1 2 3 4 5].
- k) I walk into the ICT Lab to access library materials [1 2 3 4 5]
- l) The library is the heart of the university [1 2 3 4 5]
- m) Library users should develop skills on how to look for specific information [1 2 3 4 5]
- n) I feel well able to do research using library resources [1 2 3 4 5]
- o) I consider it is valuable for students to develop competency in computer skills [1 2 3 4 5]
- p) I think librarians are:
  - i. possessive of their books [1 2 3 4 5]
  - ii. Reluctant to tell users about the library services [1 2 3 4 5]
  - iii. Overworked and too busy to help [1 2 3 4 5]
  - iv. Resentful of any intervention [1 2 3 4 5]



v. Very concerned about users' problems [1 2 3 4 5]

vi. Do not know more of the library than users [1 2 3 4 5]

vii. Any others...

q) Whenever I am doing research for a paper in the library I get the feeling that there are information resources on my topic that I am missing [1 2 3 4 5]

r) I can find the information I need for my units through the library's Web site [1 2 3 4 5]

s) I feel there is need to learn about library e-resources [1 2 3 4 5]

C.

1. Which of the following library services/resources have you used (tick all that applies to your situation)

- |  |                              |
|--|------------------------------|
| - Reserve books [    ]                         | -Text books [    ]           |
| - Newspapers [    ]                            | - Past exam papers [    ]    |
| - OPAC (online public access catalogue) [    ] | - Electronic journals [    ] |
| - Electronic books [    ]                      | - Encyclopedia [    ]        |
| - Dictionary [    ]                            | - V-link [    ]              |
| - ICT Lab [    ]                               | - Wireless connection [    ] |
| - Theses/Dissertations [    ]                  | - Library staff [    ]       |

2. Briefly, describe the most memorable experience with one of the library resource/ service you have used

.....

.....

.....

.....

.....

.....

.....

.....

.....

3. Regarding the resources you have not used, indicate by a tick the reason(s) applicable in your situation:

- I didn't know they existed [    ]                      - I was aware of them but didn't have the time [    ]
- I didn't want to ask how to use them - [    ]       - I felt there was no need to use them [    ]
- I figured it wasn't worth the time [    ]
- I thought only librarians were supposed to use them [    ]
- I couldn't locate the service even though I knew it existed [    ]

4 (a) Which library-use programme have you participated in?

- library briefing [    ]                      - library induction [    ]       - Library orientation [    ]
- library skills/instruction [    ]                      others -

.....  
.....  
.....

4 (b) Was the programme:    - too long [    ]    - too short [    ]    or,    just right? [    ]

How helpful was the programme you participated in?

.....  
.....

4 (c) Suggest a library programme you feel could help improve your access to needed information indicating: time of the day, content, and model (small group or as a class)

.....  
.....

D.

1. How did you learn about availability of Library-enabled access electronic resources?

.....

2. Using the scale of 1-5' where 1 stands for very low frequency and 5, very high frequency

Indicate the methods you use when searching the Internet:

- Author [ ] - Title [ ] - Subject [ ] - Basic search [ ] - Advanced search [ ]
- Boolean operators [ ] - Truncation [ ] - Wild card [ ] - Proximity [ ]
- Combined search [ ] - Concept search [ ] - Key word search [ ]
- Term search [ ] - Back-of-the-book index [ ] - Web indexes [ ]

Other:

.....

3. Where do you typically begin your search for information on a particular topic?

- a) OPAC [ ] – b) Google [ ] – c) Library e-resources [ ] –
- d) Library shelves [ ] e) Other:

.....

## **APPENDIX III**

### **OBSERVATION AND INTERVIEW GUIDE**

Information seeking behavior in the ICT Lab and at WI-FI Area

Area: ICT LAB/ WI-FI

1. Users on library web site
2. Users on other sites
3. Reasons for using the site
4. Problems being experienced
5. Suggestions

Separate sheets will be used to capture information about students' activities in s