

**THE CONTRIBUTION OF INFORMATION LITERACY COMPETENCIES TOWARDS
UTILIZATION OF INFORMATION RESOURCES AMONG SECOND YEAR NURSING
STUDENTS OF AGA KHAN UNIVERSITY, UGANDA**

BY

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**A DISSERTATION SUBMITTED TO FACULTY OF EDUCATION AND ARTS IN
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ABSTRACT

The aim of this study was to examine the contribution of Information Literacy (IL) competencies towards effective utilization of information resources among Aga Khan University (AKU) Second Year Nursing Students. The study addressed the following objectives: review how IL programmes are managed at AKU, establish which IL competencies AKU Nursing Students acquire from the library staff, examine the contribution of IL competencies in the effective utilization of information resources at AKU, and identify the factors that either hinder or facilitate the utilization of information resources at AKU.

The study adopted a case study research design with a qualitative research approach to collect qualitative data from 31 Second Year Nursing Students, 14 Faculty and 2 Librarians. Findings from the study revealed that most Second Year Nursing Students were not able to use the information resources because they lacked the crucial information literacy competencies (knowledge and skills). The study further revealed that way the IL programme is organized at AKU is the reason for the low levels of IL among the Second Year Nursing Students. Furthermore, the study revealed a number of factors that hinder Second Year Nursing Students from utilizing information resources at AKU to included: Lack of or slow internet connectivity, Limited IL competencies, Limited time for visiting the library while on campus, Inaccessibility to information resources, Lack of awareness of the available information resources, Users perceptions to the library collection, Poor reading habits and the bulkiness of the books.

The study concluded that AKU IL programme has not effectively disseminated IL competencies to the Second Year Nursing Students because: IL course unit was not embedded in the curriculum, the training was designated for only freshmen, the model of training and time allocated are not effective for this complex subject, there is minimum Faculty-Librarian collaboration. The researcher recommended that the library should engage in aggressive IL advocacy, adoption of ACRL Information Literacy Standards for Nurses, designing of an IL policy to guide the IL implementation and teaching activities, promote current awareness of library information resources, and implement and market the library online spaces like OPAC and remote access.

DECLARATION

I, **Sarah Nakaziba** hereby declare that this is my original work. It has not plagiarized and has not been submitted to any other Institution for any award.

Sarah Nakaziba

Signature:

Date:

APPROVAL

I certify that this research proposal has been presented with my approval as supervisor

Dr. Sarah Kaddu

Signed:

Date:

DEDICATION

I dedicate this work to my loving parents, Dr. and Mrs. Isa Musulo, who have always loved, supported and encouraged me endlessly. And to my darling husband; Peter and our babies; Felicia and Ethan for their love, support and endurance throughout this academic journey.

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ACRONYMS/ABBREVIATIONS

IL	Information Literacy
AKU	Aga Khan University

FHS	Faculty of Health Sciences
AKUSONAM	Aga Khan University School of Nursing and Midwifery
ACRL	Association of College and Research Libraries
ALA	American Library Association
CUUL	Consortium of Uganda University Libraries
SIDA	Swedish International Development Cooperation Agency
INASP	International Network for the Availability of Scientific Publication
IR	Institutional Repository
DOAJ	Directory of Open Access Journals
UNESCO	United National Economic and Social Cultural
CILIP	Chartered Institute of Library and Information Professions
CDP	Continuous Professional Development
OPAC	Online Public Access Catalogue
SAFARI	Search Access Find And Retrieve Information

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 Background to the study

Information Literacy (IL) is a subject that has gained global recognition as an essential prerequisite to participate in education, employment and in society (Corrall, 2008). It has been widely documented by international bodies such as the International Federation of Library Association (IFLA), the United National Economic, Scientific and Cultural Organization (UNESCO), the American Library Association (ALA) and the Association of College Research Libraries (ACRL) (Sivankalai, 2018).

IL emerged because of the advent of information technologies that later led to “information overload. According to Toffler (1990) information overload implies a feeling of defeat and frustration due to the amount of available information. In addition Wurman (1989) explains that, information overload leads to “information anxiety” where students fail to navigate through the “information mess”. This is caused by the volumes of information that is constantly increasing. To gain access and effective use of the vast amount of information, users need to learn to overcome information anxiety by gaining knowledge and search skills so as to explore and utilize the available information resources (Adeleke & Emeahara, 2016). This calls for the adequate acquisition of IL competencies among information users to become enabled and empowered in using information in this global information age (Lwehabura & Stilwell, 2008).

According to the Chartered Institute of Library and Information Professions (CILIP) Council, IL is knowing when and why you need information, where to find it and how to evaluate, use and communicate it in an ethical manner (Griffiths & Glass, 2011). The CILIP definition further details a set of competencies that is required of an individual to be information literate. These specify that an individual should understand a need for information; the resources available; how to find information; the need to evaluate results; how to work with or exploit results; ethics and responsibility of use;

how to communicate or share your findings and how to manage your findings (Griffiths & Glass, 2011).

In addition, Prado and Marzal (2013) also shared that IL competencies include: the ability to define precisely the information need, the ability to locate information sources suited to that need; the ability to assess critically both the sources and the ideas expressed therein; the ability to manage the information selected; the ability to analyze and synthesize information to support arguments or generate new ideas; the ability to document the sources used; and the ability to record or communicate the results in an ethical manner. These competencies are of immense significance to institutions of higher education in accessing the various information sources (Hassani & Nfissi, 2015).

Universities need to enhance students' abilities in accessing quality sources of information, evaluate the information for accuracy, organize it and use it productively (Doyle, 2003). A number of nursing undergraduates join the university with limited or no necessary IL competencies (Hassani & Nfissi, 2015), they lack IL skills needed to efficiently and effectively locate, access and use information (Gross & Latham, 2012). This lack of IL proficiency has led to a number of higher institutions of education to introduce IL as a crucial contributor of students' competency in managing, evaluating and using information (Mednick, 2002)

According to Lanning and Mallek (2017), in USA, IL became formalized in higher education in January 2000 with the introduction of the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education. These standards had earlier on been endorsed by the American Association for Higher Education in 1999. The standards state that an information literate student should: determine the nature and extent of the information needed, access needed information effectively and efficiently, evaluate information and its sources critically and incorporates selected information into his or her knowledge base and value system, individually or as a member of a group, use information effectively to accomplish a specific purpose, understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.

Kanguha (2016) notes that IL programme initiatives have become well established in the universities of USA and Canada. On realizing that their students were not fully utilizing the vast available information resources in making critical decision in the nursing practice, the School of Nursing at the Ball State University decided to incorporate IL concepts into the nursing courses. This was a collaborative effort between nurse educators and the librarian to ensure that nursing students at all levels of the programme are equipped with the necessary competencies in order to produce nursing graduates with IL expertise as a way of promoting lifelong learning. The nursing school developed an IL module which was integrated into the curriculum as a self-contained unit (Dorner, Taylor, & Hodson-Carlton, 2001). Equally, the University of Northern Colorado introduced a Nursing IL programme with the aim of developing students' competencies in locating, evaluating and applying information for use in critical thinking and problem solving. This programme is divided into four sessions, each taking one and half hours. The content includes; locating and synthesizing information on medical conditions, research process, computer resources and search techniques (Fox, Richter, & White, 2008).

Furthermore, the Department of Nursing at the University of New York in its role to advance evidence-based practice among clinicians and students, integrated IL components into all the core course of the nursing programme. This was a move to equip nursing students with skills to be literate consumers of information in an electronic environment (Jacobs, Rosenfeld, & Haber, 2003).

According to Peacock (2007), in universities of Australia, IL has also been well-established and included in the educational curricula. This is possible because of the Nation Framework of standards, to which the universities have to adhere. He further notes that IL training in the Australian academic context is strongly supported by The Council of Australian University Libraries (CAUL). Queensland University of Technology (QUT) School of Nursing developed an InfoLit-Nursing Strategy in 2003. This was a collaboration between the staff at the School of Nursing and the QUT Library. The strategy is based on the QUT syllabus and IL Framework; it is an entire course running from year one to year three with IL learning activities. Another example is from the

University Wollongong, where the nursing academics and the librarians designed an IL programme for the Nursing programme. This programme introduces the nursing students to citations, critical analysis of articles and academic writing (Barnard, Nash, & O'brien, 2005).

In Africa, the IL concept is relatively new and is yet to be accorded its position in higher educational curricula (Ojedokun, 2007). According to Baro and Zuokemefa (2011) a few academic libraries have successfully integrated IL courses as stand-alone courses in their curricula. The lack of a regional IL frameworks or standards in Sub-Saharan Africa has hindered IL development and its integration in the curricula of most universities (Baro & Zuokemefa, 2011). Nevertheless, IL efforts can be seen in some universities from Ghana, Nigeria, South Africa, Kenya and Zambia however there were no IL initiatives specifically designed for nursing students.

Chinyere (2014) in a study carried out in five universities in the Southern part of Nigeria reported that library user education equipped the users with competencies that empowered them to independently search the literature and retrieve the required information. Similarly, a survey carried out at the University of Ilorin, Nigeria, to assess IL competencies of undergraduate students in their final year observed that their mastering of the abilities to recognize, locate, evaluate and acquire the required information was enhanced through IL. According to (Agyen-Gyasi, 2008), The Nkwame Nkurumah University of Science and Technology (KNUST) library designed their user education to equip all students with competencies that have enabled them to effectively utilize the library services and resources.

South Africa has been more active in developing IL initiatives on the African continent with several academic institutions that have integrated IL modules into the academic curricula. The Library and Information Association of South Africa (LIASA) and INFOLIT are responsible for the development of universities' IL programmes in South Africa (De Jager & Nassimbeni, 2005; Lau et al., 2007). The University of Cape Town that is part of the Cape Higher Education Consortium InfoLit Programme has successfully developed IL initiatives for the many students required for effective use of their vast collection of information sources. In the same way, the librarians at the University of

South Africa (UNISA), have over the years developed library instruction for their distance environment. They use some online methodologies that have enabled online students to use their e-resources (Rader, 2002).

Kavulya (2003) in his study, observed that in spite of scattered IL efforts, the biggest percentage of students are forced to complete the university system without ever grasping the art of information retrieval and use. The challenges hindering IL initiatives in African universities do cut across all the countries to include; shortage of qualified staff to teach IL, exclusion of IL from the educational curricula, inadequate funding and lack of clear policies on IL, lack of facilities, student's lack of interest, inadequate time, weak IL instruction, unstable power supply, inadequate internet access and computer illiteracy (Baro & Zuokemefa, 2011; Kavulya, 2003; Lwehabura & Stilwell, 2008; Sitima-Ndau, 2010).

In Uganda, the IL concept was new to most of the academic libraries in 2004 and it was introduced to them during the Standing Conference of African National and University Libraries in the East, Central and Southern Africa (SCANUL-ECS) (Mukungu, Ikoja-Odongo, & Opolot, 2011). Several libraries have implemented IL programmes in the form of library orientation, user education, current awareness, library events like library week, and scheduled library trainings. Among the academic libraries in Uganda, Makerere University library has implemented the most comprehensive IL programme. To guide their IL programme in supporting research and equipping the users with information skills, the library has adopted ACRL framework which states that an information literate student should: determine the nature and extent of the information needed, access needed information effectively and efficiently, evaluate information and its sources critically and incorporates selected information into his or her knowledge base and value system, individually or as a member of a group, use information effectively to accomplish a specific purpose, understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.

Makerere University Library has developed some IL courses such as Information Competence Management, Digital Literacy, Information Literacy, and Scholarly

Communication, LATINA course, Outreach activities in e-resources training, and Consultancy Training for other universities (Kigongo-Bukenya, Tibenderana, Mulindwa, & Kanzira, 2017). Uganda Christian University Mukono is another example of academic institutions which have implemented IL programme. The IL course is compulsory to all first years and it is examinable (Kaddu, 2005).

Consortium of Uganda University Libraries (CUUL) and other partners like International Network for the Availability of Scientific Publications (INASP) and Swedish International Development Cooperation Agency (Sida) have played a huge role in developing the capacities of librarians in the areas of information access and IL through workshops and other training programs. This is because they believe that equipping librarians and their users with adequate IL skills, the very expensive information resources will maximally be utilized. But just like other African countries, libraries in Uganda are faced with many challenges in their IL initiatives such as: IL has not been embedded in the institutions' curricula, limited knowledge in ICT, shortage of computers, limited bandwidth and countrywide power interruptions (Kinengyere, 2007). Also, Mukungu et al. (2011) reported that there is no collaboration between librarians and faculty, IL is not clear to many of the stakeholders, librarians have not fully coordinated the IL instruction, there is no IL policy to guide institutions in IL activities.

Aga Khan University (AKU) Library, Kampala Campus commonly known as Faculty of Health Science (FHS) Library was started in 2001 (Aga Khan University website, 2018). It is under the department of the School of Nursing and Midwifery (SONAM). The library is part of the global network of AKU libraries which has branches located in three continents, namely: Africa, Asia, and Europe. It gives support to students, faculty, staff and AKU alumni in their study, teaching and research needs. AKU students are trained under a blended learning program; whereby in a week, they come to campus for a two-day face-to-face session and the rest of the days, they are in the virtual classroom. The blended program is meant to support students since all of them are practicing nurses and midwives.

FHS library has a collection of over 6,000 print information resources and has access to several online resources. These resources cover the subjects of nursing and midwifery, and a few health-related subjects such as Psychology, Community Health, Psychiatry and Microbiology. Some of the online resources include Institutional Repository (IR), electronic journals and books such as; All4maternity, Wiley online, Sage, Emerald, EbscoHost, eBook Central, Cambridge Core, Clinical Key, McGraw-Hill e-books, Jstor. The use of Open Access (OA) resources like HINARI, Cochrane Library, Directory of Open Access Journals (DOAJ) and so many others are also promoted by the library (Aga Khan University website, 2018).

The university spends a considerably large portion of the library budget in purchasing the various forms of information resources available. This is done to support the institutional teaching, learning and research activities. This huge investment by the library is meant to be maximally utilized by the users to get value for money given their huge costs. However, it is not clear whether the resources are maximally utilized to serve their needs of the study, teaching and learning, hence, a need for this study to fill the gaps. Secondly, AKU established an IL programme but it is not known whether the students find it relevant and whether they are interested in the IL skills/competency trainings offered.

Much as AKU has put in place initiatives that aim at imparting IL competencies, there are challenges which could affect service delivery; Naveed and Sharif (2015) observed that AKU libraries conduct IL sessions with no formal mechanism of assessing users' training needs, their understanding, IT skills level, and background. It is against this background, that the researcher was compelled to investigate the contribution of IL competencies towards the utilization of information resources among AKU nursing students.

The AKU Faculty of Health Sciences (FHS) library implemented Information Literacy (IL) into the library programmes to impart IL competencies to their users. The IL training programme includes an introduction to electronic resources (e-resources), basics in searching and searching techniques, evaluation of information resources and referencing tools. Through the IL programme, the AKU library staff make efforts to

equip nursing students with IL competencies required to engage actively in the information-seeking process for assignments, research, and decision-making.

1.2 Statement of the Problem

The IL competencies are meant to help users to easily “find” their way in the masses of information resources acquired by the library and at the same time teach them to become lifelong learners. Hassan and Mansor (2009) observe that in this knowledge-based economy where information is a powerful commodity, students should be equipped with the right skills or competencies for them to use the information resources.

What remains unclear is whether the Second Year Nursing Students have the knowledge, skills, and abilities to optimally utilize them! It also remains unclear whether the absence of an IL policy, the absence of a well-developed IL curriculum, have affected the utilization of information resources by AKU nursing students.

1.3 Aim

This study aimed to examine the contribution of IL competencies towards the effective utilization of information resources among AKU Second Year nursing students.

1.4 Objectives

The objectives of this study were:

1. To review how IL programmes are managed at AKU
2. To establish which IL competencies AKU Second Year Nursing Students acquire from the library staff
3. To examine the contribution of IL competencies in the effective utilization of information resources at AKU by the Second Year Nursing Students
4. To identify the factors that either hinder or facilitate the utilization of information resources among AKU Second Year Nursing Students

1.5 Research Questions

This study sought to answer the following questions:

1. How are the IL programmes managed at AKU? This question sought to review how the IL competencies are delivered at AKU.
2. Which IL competencies do AKU Second Year Nursing Students acquire from the library staff? This question sought to establish the IL competencies the AKU Second Year Nursing Students acquire from the library staff.
3. How relevant are the IL competencies in the utilization of information resources at AKU by the second Year Nursing Students? This question sought to examine the contribution of IL competencies in the use of information resources among AKU second Year Nursing Students.
4. What factors hinder or facilitate the utilization of information resources at AKU Second Year Nursing Students? This question sought to establish the factors that may hinder or facilitate the Second Year Nursing Students in the utilization of information resources at AKU.

1.6 Significance of the Study

The study was expected to improve practice because the findings will help the AKU Library staff and management in formulating strategies to address challenges hindering access to information resources.

It was hoped that the study would be useful to AKU Nursing Students in such a way that they would be equipped with the relevant competencies and knowledge needed in the access and retrieval of information resources that are vital in their learning and research.

For other academic libraries in Uganda, the findings of this study are important because they would act as guidelines to be employed in the effective delivery of IL skills to the students that are required for effective and efficient utilization of these very expensive e-resources.

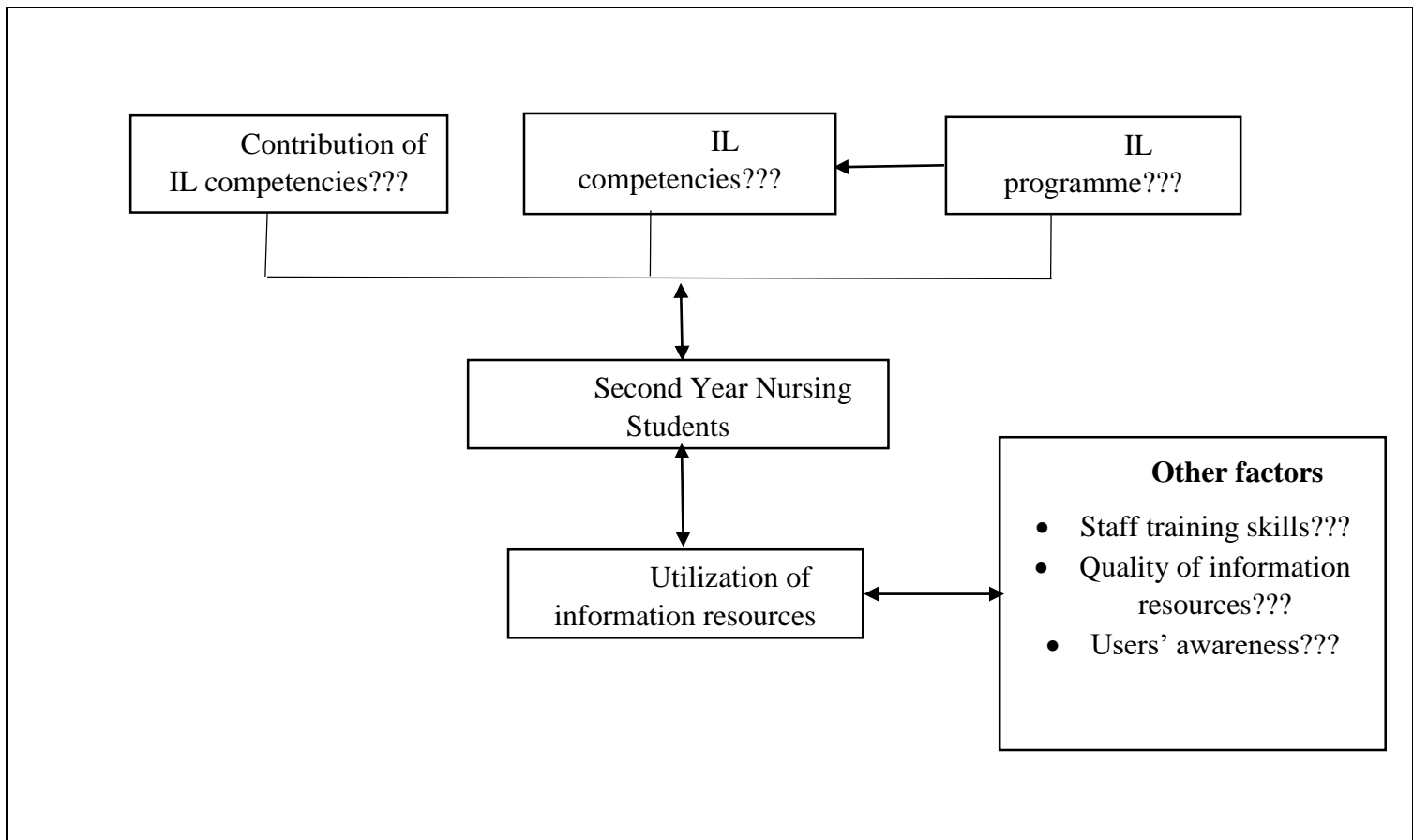
The researcher gained a vast knowledge of experience in the field of research and academics; she acquired skills like; research writing, data presentation and the

subject area under study. The research findings would serve as a foundation to the researchers who are interested in the field of IL and utilization of information resources, and at the same time act as a point of reference to them.

1.7 Conceptual Framework

In the conceptual framework below, the effect of IL competencies and how the IL programme is managed at AKU is hypothesized to influence the nursing students' utilization of the information resources. However, utilization of information resources may also be affected by other challenges like users' awareness of the available information resources, librarians' lack of training skills and the quality of these information resources. The research gaps are indicated with question marks (???)

Figure 1: A conceptual framework for the contribution of IL competencies towards the effective utilization of information resources among AKU Second Year Nursing Students



Source: Researcher, 2019

1.8 Definition of Terms

Information- The universally accepted definition of information is the statements of facts, figures, ideas and creative works of the human intellect, which are logically or by way of reasoning interrelated, and have been communicated formally or informally in any formats (Ojedokun, 2007).

Literacy- Literacy is defined as the ability to read and write (Anandhalli, 2018).

Information Literacy (IL)- IL is the set of abilities to determine the need for information, efficiently locate the needed information, evaluate information and their sources critically, effectively use information ethically and legally, and incorporate selected information into one's knowledge base (ACRL, 2000).

Competencies- Is the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform. Competency can also be an individual's demonstrated capacity to perform; possession of knowledge, skills, and personal characteristics needed to satisfy the special demands or requirements of a particular situation (Wen & Shih, 2008).

Information Literacy (IL) competencies- The term IL competencies is defined by Wen and Shih (2008) as the possession of the necessary knowledge, skills, and attitudes (the recognitions of the value, functions and roles of information) to effectively apply information technology to collect, analyze, assess, organize and synthesize information for solving problems.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Literature review is a comprehensive and systematic identification, location and analysis of previously published documents containing information related to the research problem being investigated (Mugenda & Mugenda, 2003). According to Creswell (2014), the literature review is important in determining whether the topic is worth studying and at the same time, providing ways in which the researcher can limit the scope to a needed area of study. Furthermore, the relevance of reviewing the literature is to determine what has already been done regarding the research problem under study. This is to avoid unnecessary and unintentional duplication; familiarize the researcher with the previous studies; reveal strategies, procedure and measuring instruments which have been found useful in investigating the problem; discover the recommendations and suggestions made by the previous researchers and reveals gaps in the information and areas where major questions remain (Mugenda & Mugenda, 2003). Review of literature was majorly guided by the research objectives that included: IL programmes management, IL competencies of Second Year Nursing Students, relevance of IL competencies in the utilization of information resources, challenges encountered in the utilization of information resources, and finally, a research gap was given.

2.2 Information Literacy (IL): Overview

Paul Zurkowski introduced the IL concept in United States of America (USA) in 1974. This was in a proposal submitted to the National Commission on Libraries and Information Science (NCLIS). He stated that IL would equip people with skills and techniques which are key in utilizing the information tools and sources to solve their problems (De Jager & Nassimbeni, 2005; Jiyane & Onyancha, 2010).

Doyle (1994) describes IL as the ability to access, evaluate, and use information from a variety of sources, to recognize when information is needed and to know how to learn. According to (UNESCO, 2005) "IL empowers people in all walks of life to seek,

evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals”.

ACRL (2018) stipulates that an information literate person is able to:

- determine the extent of information needed
- access the needed information effectively and efficiently
- evaluate information and its sources critically
- incorporate selected information into one’s knowledge base
- use information effectively to accomplish a specific purpose
- understand the economic, legal and social issues surrounding the use of information, and access and use information ethically and legally

According to (CILIP, 2018), IL combines various abilities and skills necessary for everyone to undertake an information related task like how to discover, access, interpret, analyze, manage, create, communicate, store and share information. The IL concept strongly advocates for the need to equip people with attributes, competencies, and confidence required to become successful users of information. It further combines the critical thinking and understanding of the political and ethical issues surrounding the use of information in all formats. IL is significant in this information age where technological changes have led to the explosion of information resources. Therefore, people need skills for making decisions in the information choices in their personal lives, workplaces and academic studies (ACRL, 2018).

2.3 IL Theoretical Model

To further strengthen and inform the study, the researcher adopted the Information Literacy Competency Standards for Nursing. This framework is based on the “ACRL Information Literacy Competency Standards for Higher Education” which is the most comprehensive, detailed and definitive extensive model developed (ACRL, 2013).

Overview of the ACRL Information Literacy Competency Standards for Nurses

This framework was developed by the Health Sciences Interest Group and submitted to ACRL in 2013. It was the outcome of an intensive study of the IL needs of

nursing students. The framework has various components that are relevant to this study:

1. Determines the nature and extent of the information needed; this standard guided the researcher in finding information on the student's ability to identify the information need, identify the various types of information sources available to them. This enabled the researcher to know whether the students are aware of AKU information resources and issues surrounding their non-use.
2. Accesses needed information effectively and efficiently; this applied to this study in such a way that researcher was able to know whether the nursing students have the necessary competencies required to efficiently and effectively formulate searching strategies in order to locate the needed information for their class assignment or research projects
3. Critically evaluates the acquired information and its sources and as a result decides whether or not to modify the initial query and/or seek additional sources and whether to develop a new research process. This standard informed this study with regards to its ability in guiding the researcher to discover whether the nursing students can sieve out the relevant information from the huge masses.
4. Individually or as a member of a group, uses information effectively to accomplish a specific purpose. The standard was applied in this study to help the researcher understand whether students had the competencies to use the acquired information to solve their problems and make decisions about their class assignments and research. The researcher was able to find out what the nursing students sought the information for
- 5) Understands many of the ethical, legal and socio-economic issues surrounding information and information technology; this helped the researcher to investigate the students' ability in understanding ethical related issues like citation, referencing etc and how to use the available technologies like the referencing tools.

Furthermore, the ACRL IL for Nurses framework underpinned this study because; it stipulates the IL competencies needed by nursing students to survive in the academia and work places. This links to the aim of this study, which was to examine the IL competencies of nursing students in using information resources. This framework is

relevant in informing this study because it aims at; providing guidelines to the nursing students and their faculty in developing IL skills for evidence-based nursing practice 2) Encouraging the use of a common language for the nursing faculty and librarians in discussing students' information seeking skills. 3) Guiding librarians and nursing faculty in creating learning activities that will support the growth of IL skills over the course of their nursing education programme and for lifelong learning. 4) Providing administration and curriculum committees a shared understanding of student competencies and needs. 5) Providing a framework for continuing education in the area of IL for the field of nursing practice and research.

Lastly, the framework was adopted for this study because the standards within are fully adaptable by an individual institution and they support nursing students in both the academic setting and the work place. Aga Khan University nursing students are all practicing nurses hence making this the most ideal choice.

2.4 Management of Information Literacy (IL) Programmes in Academic Institutions

The IL programmes in academic institutions are aimed towards helping students develop IL competencies, contribute to academic competencies, preparing them to think critically, develop problem-solving strategies, ethically use information, and learn how to learn (lifelong learning). The biggest number enter the university with no information competencies (Amunga, 2011; Gross & Latham, 2012; Kimani & Onyancha, 2015). Therefore, to equip them with the necessary competencies needed to succeed in academia where information is produced in many formats and in big numbers, IL programmes should be positioned as a key outcome for college students (ACRL, 2018).

2.4.1 IL Teaching/Instruction Approaches

According to Peacock (2007) teaching IL in academic institutions can be approached in the following four ways.

- **Intra-curricular information literacy instruction**

IL is integrated into learning outcomes, learning activities or assessment of an academic course/teaching programme. This is through a collaborative partnership between librarians and faculty.

- **Inter-curricular information literacy instruction**

This is an add-in session for an academic course/programme. The librarian is consulted by an individual faculty and attendance is a requirement.

- **Extra-curricular information literacy instruction**

This is provided by the library outside of the academic curriculum and attendance is voluntary.

- **Stand-alone information literacy instruction**

The IL programme is taught as an independent course, it is solely devoted to IL as part of the students' curricula. It is taught either as a compulsory course or as part of the general education programme in a faculty or university.

According to Trail and Hadley (2010), IL instruction methods include orientations, library tours, face-to-face lectures in classrooms, class discussions, hands-on-practices, guidebooks, group works, web 2.0 platforms, instructional videos, computer-assisted instructions, PowerPoint presentations, and web-based instruction.

2.4.2 Information Literacy (IL) Policy

According to Tshuma and Chigada (2018), an IL policy is key in the implementation, designing and teaching of the content for IL programmes in academic institutions. However, Mader (2016) noted that academic institutions around the world have done little in terms of IL policy. Yet reports from South Africa, Tanzania and Kenya academic libraries show that lack of an IL policy becomes a hindrance to the implementation of an IL programme (Mugwisi, 2015). But many library associations have developed standards that can be adopted and implemented by academic institutions. A well-known example is ACRL (2014) which developed standards in the Framework for Information Literacy for Higher Education as a foundation that could be adopted by

institutions in formulating their IL policies. The adoption of these standards provides a framework for developing, delivering and assessing instructions on finding and using the information in the higher education setting (Kimani, 2014). This is acting well in the absence of IL policies.

2.4.1 Collaboration

The librarians need to work in collaboration with the faculty and administration. The faculty establishes and guides lectures and discussions, inspire students and monitor their progress; the administrators foster staff development and create opportunities for collaboration whereas librarians initiate IL programmes, plan, budget and provide resources for the IL programmes (ACRL, 2013, 2018; Barnard et al., 2005; Breivik & Gee, 1989). However, in many universities, many librarians are running these trainings solely because there is a lack of respect and support from faculty making it hard for the IL programme to gain the needed results (Dadzie, 2007; Lwehabura & Stilwell, 2008; Mukungu et al., 2011). This can be deduced that the non-involvement of academic staff is hindering IL programmes in many universities hence affecting the nursing practice. Evidence-based is key in the nursing professional practice and this is only possible through appreciation and use of research presented in the literature (Sundin, Limberg, & Lundh, 2008). Librarians need to forge a partnership with the nursing faculty in order to use research literature to implement evidence-based practice.

2.4.2 Integration of IL into the curricula

The integration of IL into the undergraduate curriculum is a requirement for the evidence-based nursing practice (Jacobs et al., 2003). Therefore, IL needs to be incorporated across the curricula in the university services and programmes (ACRL, 2018; Kimani & Onyancha, 2015), it should be woven into the curriculum's structure, content and sequence (ACRL, 2018). Moselen and Wang (2014) reported that many institutions have managed to incorporate IL into their curricula. Cases in point, are the South African Universities that have made a lot of progress with the support from the Library and Information Association of South Africa (LIASA). The link between IL, graduate skills and lifelong learning has been paved (De Jager & Nassimbeni, 2005).

However, Baro and Zuokemefa (2011) revealed that in other parts of Africa, most institutions are failing due to problems like inadequate facilities and personnel. The Library personnel lacks the competence of demonstrating the value of IL to faculty and persuading them to effect this integration (Breivik & Gee, 1989; De Jager & Nassimbeni, 2005; Julien, 2005; Moselen & Wang, 2014; Mukungu et al., 2011). Libraries must be in a position to put forward credible arguments to convince the faculty and administration of the relevance of incorporating IL into the universities' curricula otherwise IL might continue as a stand-alone and one-shot course for a long time.

2.4.3 Time allocated for IL

The IL programme in academic institutions should be given sufficient time for proper control and engagement of students on the road to the desired destination of IL (Owusu-Ansah, 2004). Unfortunately, the time allocated to IL programme is inadequate, it is insufficient for teaching such a complex field (Ivey, 2003; Johnston & Webber, 2003; Lwehabura & Stilwell, 2008; Polit & Beck, 2012) and to grasp the salient points Rasaki (2008). According to Kimani and Onyancha (2015) many academic institutions allocate IL time to only first-year students. This creates a gap in delivering IL competencies to the entire students' community. Ensuring that all students become information literate should be an expressed goal of all academic libraries (Owusu-Ansah, 2004). For IL to make an impact, it should be allocated enough time on the time table to develop appropriate content and all students need to be involved, not just the freshmen. This is possible only if the librarians make a strong case for IL to other university stakeholders about its relevance.

2.4.4 Librarians' pedagogical skills

For librarians to run a successful IL programme, they need to have pedagogical competencies. However, many of them do not have these competencies to help deepen and broaden their understanding of IL (Breivik & Gee, 1989; Julien, 2005; Moselen & Wang, 2014), they are not qualified enough to carry out effective trainings (Ivey, 2003; Johnston & Webber, 2003). Therefore, librarians need to be trained in teaching and

learning strategies otherwise, they are bound to fail the IL programme and to receive criticism from an educational perspective (Johnston & Weber, 2003). IL could be developed if librarians acquire teaching qualifications and experience, professional development in form of mentorships, trainings, and workshops (Breivik & Gee, 1989; Ivey, 2003; Moselen & Wang, 2014) to impact relevant skills needed in addressing the challenges of the knowledge economy (Tshuma & Chigada, 2018). The biggest number of librarians are highly knowledgeable; all that is required is a little polishing of their teaching and training skills. If only they could be invited to be part of the academic staff pedagogical CPD trainings.

2.5 Students' Information Literacy (IL) Competencies

Students' IL competencies is a combination of IL and competency which combines skills, knowledge, and attitudes to recognise when and why they need information, where to locate and critically evaluate their information, how to store and retrieve information, and lastly how to legally and ethically use information (Anunobi & Udem, 2014).

2.5.1 Ability to recognize the need for information

Information need exists when uncertainty, gap or deficiency in a person's cognitive state is acknowledged (Kituyi-Kwake, 2007). Students with this IL competency, can define a task; they determine what exactly the problem is and the specific information related to that problem (Eisenberg & Berkowitz, 2001). Similarly, SCONUL (2011) refers this competence to the students' ability to identify a lack of knowledge in a subject area; identify a search topic/question and define it using simple terminology; articulate current knowledge on a topic; recognize a need for information and data to achieve a specific end and define limits to the information need; use background information to underpin the search; take personal responsibility for an information search; manage time effectively to complete a search. Information literacy addresses some abilities and concepts that can help nursing students to determine exactly what their information needs are in various circumstances.

2.5.2 Ability to locate information

The competence of locating information entails being knowledgeable about both print and non-print information materials, selecting information resources needed to accomplish a research task and knowing the issues that affect access to information resources (SCONUL, 2011). Using various search strategies, students can consult a range of literature like books, journals, internet on their research subject or information need and can prioritize the best (Baker, 2006). On the other hand, the absence of this competence makes students confused, uncertain and doubtful (Chipeta, 2010). This competency helps students navigate through the masses of information to identify information materials of interest.

2.5.3 Ability to critically evaluate information

With this competence, the IL competent students can assess the quality, quantity and relevance of the search results. They determine the need for alternative information access tools/methods, identify the gaps in the retrieved information and determine whether the search strategy needs revising (Eisenberg & Berkowitz, 1990). Students can prioritize or rank the search results according to three main criteria; approach or perspective, substantive topic and level, quality or type of the resource (Ellis & Salisbury, 2004). Through evaluating results, nursing students can determine whether they should modify the initial query and/or seek additional sources, or develop a new research process (ACRL, 2013). This is a key IL competence skill especially in this era of information explosion where students need to navigate through the large volumes of information.

2.5.4 Ability to legally and ethically use information

According to SCONUL (2011), information literate students can cite bibliographic references in their academic works and they understand issues about copyright and plagiarism. Students understand the cultural, legal, ethical and social-economic issues surrounding information; issues about privacy; intellectual property, copyright, and censorship. Short of this, academic misconduct or theft is bound to happen

(Derakhshan, Hassanzadeh, & Nazari, 2015). Academic libraries are implementing and training the use of citation/reference systems and anti-plagiarism checkers.

2.5.5 Ability to synthesize, build upon existing information and contribute to the creation of new knowledge.

Synthesizing is when students combine information and relate what they have learned to what they already know. They can communicate in the best medium which supports the purpose and the information and the intended audience (Eisenberg & Berkowitz, 1990). Besides, Kuhlthau (1993) model emphasizes the students' ability to combine concepts into valuable statements supported by evidence and then integrate old and new information to support the purpose of their projects.

2.6 Relevance of Information Literacy (IL) Competencies in the Utilization of Information Resources

ACRL (2000) posits that IL is a set of abilities requiring individuals to recognize when information is needed and can locate, evaluate, and use effectively the needed information. These sets of competencies enable individuals to identify their information needs, seek out resources to address the needs, retrieve and use the resources appropriately for the satisfaction of their information needs (Igwe, 2017). Also, Elisam and Keya (2004) in the study on building Information Literacy skills among undergraduate students reported that IL abilities and competencies of undergraduates do influence their access and retrieval of information.

2.6.1 Information overload

The Second Year Nursing students have a formidable task of keeping abreast of the ever-increasing medical information and the technological changes relevant in their practice. IL competencies provide students with the knowledge and ability to effectively cope with and use the avalanche of information (Adeleke & Emeahara, 2016). The advent of ICTs has led to a rapid increase in the amount of information published, bringing on challenges of managing and using this massive amount of information. Therefore, the acquisition of IL competencies by the students helps them

to sift through the enormous amount of information and become successful users of information materials thus becoming lifelong learners (Doyle, 1994).

IL Programmes help to equip students with competencies and abilities needed to undertake information-related tasks like, how to discover, access, interpret, analyze, store and share information (CILIP, 2018), They have specific online searching skills like formulating search strategies, incorporating Boolean logic, wildcard and truncation, and refining the search results to determine the best resources for the needed information (Hsieh, Dawson, Hofmann, Titus, & Carlin, 2014). The competencies acquired through these IL programmes help students to easily find their way in huge masses of information as they sort the quality from the garbage.

2.6.2 Critical thinking skills

Most undergraduate Nursing Students do not have university-level writing skills to produce effective health literature to support their inquiry (Tarrant, Dodgson, & Law, 2008). With IL competencies, students acquire critical thinking skills to make informed choices. This is a requirement for one to become a skilled user of information and be able to utilize information in a variety of formats (print, electronic, image, sound, visual). IL competent students can identify and effectively access the different formats and types of potential information sources. Students can deal with information issues like authenticity, validity, and reliability (Igwe, 2017). This improves their research capacity, scientific writing skills, active participation and quality academic engagements, learning outcomes (Anunobi & Udem, 2014), all of which amounts to utilization and access to reliable information resources.

2.6.3 Lifelong learning

Nurses need to appreciate IL competencies for incorporating research into practice to be able to provide safe and effective patient care in the dynamic health environment. Gaining competencies in information literacy multiply the opportunities for students' self-directed learning. IL develops deeper learners, who become more engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for further self-directed and

independent lifelong learning (Barnard et al., 2005; Kaddu, 2012). The ability to effectively and efficiently locate and retrieve information is a transferable skill for the successful utilization of information resources for university students. Furthermore, they are a prerequisite for lifelong learning and a basic requirement in this information society (Tella, Tella, Ayeni, & Omoba, 2007). IL competencies produce lifelong learners, whereby students learn how to learn.

Kinengyere, Kiyangi, and Bazirake (2012) therefore concluded that there is a significant relationship between information usage and IL competencies. This is supported by President Barack Obama proclamation of October 2009 as the National Information Literacy Awareness Month, he said:

“Every day, we are inundated with vast amounts of information. A 24-hour news cycle and thousands of global television and radio networks, coupled with an immense array of online resources, have challenged our long-held perceptions of information management. Rather than merely possessing data, we must also learn the skills necessary to acquire, collate, and evaluate the information for any situation. This new type of literacy also requires competency with communication technologies, including computers and mobile devices that can help in our day-to-day decision-making”.

2.7 Challenges in the Utilization of Information Resources in Academic Institutions

Academic libraries are an integral part of universities with a critical role to play in supporting the core mission of the university that is teaching, learning and research. They, therefore, spend large amounts of money on information resources to fulfill this mission. It is only economical and appropriate that these information resources are fully utilized to contribute to the academic achievement of both faculty and students consequently getting value for money. However, this is not the case; there are many studies reporting the factors hindering the utilization of information resources.

Inadequate Information Literacy (IL) competencies

The relatively low IL skills is one of the barriers to the efficient utilization of information resources in developing countries (Julien & Boon, 2002; Kinengyere et al.,

2012; Tilvawala, Myers, & Andrade, 2009). Pejova (2002) emphasizes that inadequate end-user training coupled with poor search skills leads to the inability to manipulate and use information effectively. IL equips Nursing Students with the competencies required to effectively and efficiently utilize information. Therefore, the absence of these skills will negatively affect the use of information resources.

Information Explosion

The advent of Information Technologies (IT), has led to increased amounts and formats of information produced. This is posing a challenge to many information users when sifting through the various masses of information. Accessing the right information is a difficult task because information is abundant, so users may not know whether it is available and/or how to locate it (Kumar & Singh, 2011). Jogan and Stocker (2015) supplement that the fast-emerging and ever-growing information explosion has made it difficult to retrieve particular information. The huge mass of irrelevant information calls for filtering of search results and can sometimes lead to failure to find information (Chukwuemeka & Azubuike, 2016).

Inaccessibility of Information Resources

This is the inability by a person to access or use information resources. This may be due to many reasons like poorly arranged shelves, inadequate catalogues, lengthy or tedious process of retrieval. More accessible information resources are likely to be used. Students will use information sources that require less effort to access Kinengyere et al. (2012). Chukwuemeka and Azubuike (2016) discussed that inaccessibility leads to poor utilization, this may be a result of few computers which limit users' access to information resources; it could also be slow internet or lack of skills to make productive searches.

Awareness

Lack of awareness may negatively affect the utilization of information resources. Rehman ur and Ramzy (2004) discussed the view that low awareness is among the reasons for under-utilization of information resources. Several libraries are experiencing underutilization because many users have limited knowledge about the

availability of information resources. (Eiriemiokhale, Arebamen, & Oladele, 2017) summed it up that users cannot desire and search for something they are not aware of.

Information Communication Technologies (ICTs) Infrastructure

This challenge is distinctive in most academic institutions in developing countries; there are limited numbers of computers for use and few students have personal laptops. This has influenced the usage of information resources (Chukwuemeka & Azubuike, 2016). In addition, slow internet has been reported by many studies as a challenge to utilization of information resources especially those from online sources (Agrapu, 2013; Senthil Velmurugan, Kogilah, & Devinaga, 2010). Low internet bandwidth is a big challenge faced by many libraries. This frustrates Nursing students because it makes the information retrieval process lengthy.

Users' Perception

The way Nursing Students perceive the services offered by the library especially the information collection affects their willingness to utilize them. Kinengyere et al. (2012) reaffirm that the users' negative perception and lack of interest or commitment towards information resources are evident in the low utilization of these resources. The negative impression the Nursing students have on the library resources affects their usage.

Power Outage

Several academic libraries in Africa are faced with the challenge of power cuts. The inconsistent power supply affects the effective utilization of information resources (Fagbola, Uzoigwe, & Ajegbomogun, 2011; Kinengyere et al., 2012). The effective utilization of information resources is dependent on the constant power supply. Nursing students need the power to access library online resources and for the print resources, they need the power to use the Online Public Catalogue (OPAC).

2.8 Related Studies on IL Competencies

2.8.1 The effects of information literacy on the utilization of electronic information resources in selected academic and research institutions in Uganda by Alison Kinengyere.

Kinengyere (2007) examined the effect of IL on the usage of electronic information resources in academic and research institutions in Uganda. The study focused on Makerere University's innovations to ensure all library users in research institutions in Uganda acquire training on how to access, evaluate and apply the variety of available information in addressing their needs. She reported that many resources are underutilized because either users are unaware of their availability and do not know what they are or they lack the skills to access them. Based on the findings, she recommended the implementation of continued IL programmes and that institutions should embed IL in the curricula to give it more significance. However, in her recommendations, she does not provide strategies institutions can adopt to successfully incorporate IL in the curricula. There is no mention of professional building for librarians yet they need to acquire training skills and knowledge to effectively run the IL programmes. Furthermore, in her findings, she mentions that many trainees do not utilize the skills acquired and therefore recommends the application of knowledge gained from IL workshops but does not clearly state how this can be attained. This study will cover more about the strategies that librarians can adopt to successfully embed IL into the curricula, furthermore, the study will stipulate the importance of building librarians' training skills and how this can be achieved.

2.8.2 Incorporating Information Literacy Competency Standards and Information Literacy Competencies into Staff Development Programmes: A Case Study of the National Library of Uganda by Sarah Kaddu.

Kaddu (2012) 's study aimed at examining the action taken by the National Library of Uganda (NLU) in conceiving and implementing a programme towards Information Literacy Competency Standards and IL competencies into staff development programmes. Some of the challenges reported are lack of an effective staff development programme, lack of IL competency skills and lack of continuity in

applying IL skills. However, the recommendations she provides are well suited for a national library setting but not very applicable in academic libraries yet the challenges cut across. She recommends partnerships with schools, telecenters, community centers; seeking funding from the central and local government to promote IL initiatives. This necessitated a study into the IL competencies in academic institutions.

2.8.3 Strategies for enhancing Information Literacy: Study among University Graduates in Uganda by Fredrick Mukungu.

In his study Mukungu et al. (2011) aimed at developing the strategies for enhancing IL among university graduates in Uganda to enable effective use of information in their workplaces for effective services delivery and optimized production for development. He observed that some studies recommended the development of IL programmes, yet little has been written on IL programmes. In support, Kaddu (2005) reported that limited research about the level and effectiveness of IL programmes has been carried out. Mukungu et al. (2011) proposed strategies like the development of IL (programmes, infrastructure, and capacity building for staff) at universities, a collaboration between universities and employers in assessing the performance of graduates, a collaboration between faculty and librarians but he does not explain how this can be achieved. Among the suggestions made for further studies was; the need to do further research in other study programmes and universities to prove the findings of this study.

2.9 Research Gap

The literature reviewed above indicates that there are lots of studies on IL and IL Competencies. However, there has never been any study carried out on the Contribution of Information Literacy Competencies towards utilization of information resources among Second Year Nursing Students. Hence a need for this study to fill this gap.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter describes the process and procedure that was followed in conducting the study. The chapter explains the area of the study, research design, population of the study, sampling and sampling techniques, sample size, data collection methods and instruments, data quality control issues, presentation and analysis of data, ethical issues, limitations, and delimitations.

3.2 Area of Study

The study was carried out at Aga Khan University (AKU) Faculty of Health Sciences (FHS) Library. The library is located at AKU on plot 9/11 Gadafi Rd, Kampala. FHS library started in 2001. It is under the department of the School of Nursing and Midwifery (SONAM). The library is part of the global network of AKU libraries that has branches located in three continents; Africa, Asia and Europe (Aga Khan University website, 2018). The choice of the FHS library was informed based on the fact that, in the quest to fulfill its role as a major partner in teaching, learning and research activities of the Nursing programme, the library initiated the IL programme. The Nursing Students are introduced to IL in their first semester of joining AKU. These IL trainings aim to impart knowledge and skills to the students to enable them utilize the various formats of information materials to satisfy their needs.

3.2.1 Library Vision

To be a regional center of excellence in the provision of information resources for the education of multidisciplinary healthcare professionals.

3.2.2 Library Mission

FHS Library is committed to providing the university community with access to comprehensive, multi-disciplinary information resources, in print and digital formats, in support of its research, teaching and learning activities. This access will be provided through innovative services and state-of-the-art systems.

3.3 Research Design

According to Creswell and Plano (2011) research designs are procedures for collecting, analyzing, interpreting and reporting data in research studies. Kanguha (2016) noted that a particular study's choice of research design hinges on its appropriateness in addressing the research problem and it is guided by the research questions. To adequately address the research problem, the researcher adopted a case study research design for this study. A case study is an intensive, descriptive and holistic analysis of a single entity or a bounded case. It is ideally suitable for studies where a contextual in-depth analysis of a specific topic, policy, programme, institution or system to generate knowledge and inform professional practice, policy development and community/civil action (Simons, 2009).

The case study aided the researcher in conducting an in-depth investigation into the phenomenon of the selected case, this produced relevant information on respondent's experiences and perceptions that adequately addressed the research objectives. Therefore, the case study design was appropriate in investigating the contribution of IL towards the effective utilization of information resources among AKU Second Year Nursing Students.

3.4 Research Approach

There are three main approaches to research; qualitative method, quantitative method and mixed methods (Creswell, 2009; Mugenda & Mugenda, 2003). This study adopted the qualitative methodological approach. A qualitative methodology is an in-depth approach for exploring and understanding the meaning people ascribe to a human or social (Creswell, 2014). This research approach was appropriate for this study because it allowed the researcher to carry out an intensive study by probing participants to get a deeper understand of their feelings, perceptions, and experiences regarding the contribution of IL towards the effective utilization of information resources. Through their own words, the researcher was able to capture the respondents' points of view on the IL programme and utilization of the information resources. Creswell (2014) stated that selecting a methodology is dependent on the

research problem. Besides, Durrheim, Painter, Martin, and Blanche (2006) noted that the selection of a research method is informed by the study purpose, type of data expected to fulfill the purpose and that it has implications for the research designed.

3.5 Population of the Study

A population is a complete set of individuals, objects of cases with mutual observable characteristics from which the researcher concludes (Mugenda & Mugenda, 2003). The population for this study was thirty-one (31) AKU Second Year Nursing Student. Out of these, twenty-five (25) were Females and six (6) were Males (Academic Registrar, 2019). The AKU Second Year Nursing Students' population was considered for the study to provide their experiences and perceptions about the IL at AKU since they are assumed to have attained IL competencies from the IL trainings attended in their freshmen year. Furthermore, the Second Year Nursing Students are presumed to appreciate the importance of information materials more than other students because they are engaged in research.

3.6 Sample Size

The researcher adopted the entire population of 31 Second Year Nursing Students as the sample size because it was well defined, small and ideal. This avoids biases that might arise from sampling. This is supported by Morse (1994) who suggests a 30-50 sample size for a qualitative study.

The researcher acquired the Second Year Nursing Students' information list from the Academic Registrar's office totaling to 31 students.

The study also involved the Library population of 2 Librarians; these included: 1 female and 1 male. This population was part of the study because of their involvement in IL activities at the university and their participation in fulfilling the users' information needs. This made their perspectives critical in informing students' IL perspectives and experiences.

Lastly, AKU has a population of 14 Faculty members. These included 9 Females and 5 Males. The researcher also included all the 14 Faculty/staff involved in the

teaching and learning of the Nursing students in order to support facts given by the Nursing students.

Table 1: Total Sample size of the Study

Respondents	Sample Size
Second Year Nursing Students	31
Faculty	14
Librarians	2
Total	47

Source: Primary Data, 2019

3.7 Data Collection Methods and Instruments

Data collection in research is important for measuring the variables of the study (Mugenda & Mugenda, 2003). The type of data collected determines the choice of which data collection method to adopt (Creswell, 2009). The researcher used a combination of data collection instruments to obtain data for this study. These included: Interviews and Open-ended Questionnaires as the main tools used in collecting data.

3.7.1 Semi-structured Interviews

An interview is a person to person verbal communication where one person asks another questions which are intended to elicit opinion or information (Oso & Onen, 2008). A semi-structured interview was used to collect data from AKU library staff purposively selected to participate in the study. This method helped in providing flexibility for the researcher to further probe the respondents for additional details at the same time keeping the researcher focused on gathering information needed to answer the research questions (Gill, Stewart, Treasure, & Chadwick, 2008). The interview questions designed by the researcher were guided by the research questions (**See Appendix E**). After permission to carry out research at AKU was granted (**See Appendix A**), the researcher requested for appointments from the purposively selected Librarian respondents to hold the interviews. These Librarians were selected because of their involvement in IL activities and attendance to users' information needs. There

were several failed appointments despite confirmation beforehand; for the Library Assistant, the researcher made the appointments two times and scheduled appointments with the Head Librarian three times. Finally, the researcher was able to conduct the Interview (**See Appendix G**). There were two interviews: the first one was with the Library Assistant, this was conducted within the library and it took 30 minutes. The second interview was with the Head Librarian and it was carried out in her office and this took 25 minutes. During the interviews, the researcher introduced herself and the research topic to respondents, discussed their privileges and confidentiality (they had a right to either participate in the study or not). The researcher read the interview questions (**See Appendix D**) to obtain data from these respondents. The semi-structured interview allowed the researcher to further probe the respondents when it necessitated. The researcher was able to collect information that is hard to observe or put in writing like the nods with their heads. The interviews with the librarians enabled the researcher to carry out an in-depth investigation of the research problem.

3.7.2 Open-ended Questionnaires

A Questionnaire is a collection of items to which a respondent reacts to in writing (Oso & Onen, 2008). The researcher adopted self-administered Open-ended Questionnaires that were used to collect qualitative data from AKU Second Year Nursing Students and Faculty to achieve the objectives of this study. The researcher developed Open-ended Questionnaires to enable respondents to easily express their views and opinions (**See Appendices E and F**). This Questionnaire Method was ideal for this study since the target population was large and literate, they easily interpreted the questionnaire items (Oso & Onen, 2008), and the time was limited since the Second Year Nursing Students are on campus for only two days in a week of which the entire day is spent attending lectures. The researcher designed the Open-ended Questionnaires based on the research questions to fulfill the objectives of this study. The researcher delivered the Questionnaires to the Second Year Nursing Students physically, introduced herself, explained the topic and the aim of the study, she discussed their privileges and confidentiality issues (they had a right to either

participate in the study or not) (**See Appendix H**). After the Questionnaires were filled, they were collected by their class representatives for confidentiality purposes.

The researcher issued out *consent forms* and *participant information sheets* to the entire Faculty population (**See Appendices B and C respectively**). Upon consent, the researcher collected the consent forms and delivered the Open-ended Questionnaires to those 10 faculty who had accepted to participate in the study. After filling these questionnaires, the faculty were directed to drop them in the box marked “IL Competencies” kept in the office of the principal’s secretary to protect their privacy (**See Appendix I**).

3.8 Analysis and Presentation of Data

According to Mugenda and Mugenda (2003), data analysis entails bringing order, structure, and meaning to the bulk information collected. In analysis and presentation of data, the researcher adopted the Creswell (2014) model, which stipulates six steps: 1) Organizing and preparing data for analysis, 2) Reading all the data 3) Coding the data, 4) Generate categories and themes, 5) Description of the themes 6) Interpretation. This was the preferred model for this study; it specifically explains the steps with easy to follow guidelines for handling this qualitative data. After collecting all the data, the researcher transcribed the data from the recorded interviews. The researcher read through the transcribed data together with the filled questionnaires to familiarize themselves with the data. To easily make sense of the data, the researcher sorted the data into shorter meaningful units and assigned them with headings like “*benefits of IL*”, “*challenges of IL*”, “*recommendations of IL improvement*”, “*information access hindrances*” etc... And then created categories of units with similar meaning like “*accessibility*”, “*time, internet*”, “*IL skills*”, “*awareness*”, “*continuity*” etc... The researcher then analysed and organized the data into meaningful categories into themes and sub-themes like “*goals of IL programme*”, “*management of IL programme*”, “*gains of IL competencies*” etc. Lastly, the researcher started compiling the report during the analysis of the data and presented the data in accordance to the research objectives, and the generated themes and sub-themes. The findings were

presented in a narrative format and this included using verbatim quotes, tables and figures.

3.9 Data Quality Control Issues

Oso and Onen (2008) discussed that quality control involves ensuring satisfactory levels of validity and reliability.

3.9.1 Validity

Validity shows the extent to which the results from data analysed in a study accurately represent the concept under consideration (Mugenda & Mugenda, 2003). According to Creswell (2014), validity addresses issues like authenticity, credibility, and trustworthiness.

Triangulation of methods

The researcher triangulated two types of data collection tools: these are Semi-Structured Interview and Open-ended Questionnaires. The use of both tools ensured that the appropriate data required for the study were collected. It also enables comparison to gauge the correctness of issues.

3.9.2 Reliability

Reliability is when a particular technique yields the same results every time it is applied (Rubin & Babbie, 2008). To ensure the stability of the research instruments, the researcher piloted the research instruments.

Piloting

To improve the reliability of the study, the researcher carried out a pilot study. According to Creswell (2014), piloting the survey is to establish the content of the instruments and improve on the questions, format, and scales. This is one way of removing ambiguities from the research instruments and to ensure that they are appropriate and clearly understood by the respondent (Rubin & Babbie, 2008). In piloting, the researcher selected 3 Nursing Students, 1 Faculty and 1 Librarian. The selected Nursing Students and Faculty were from AKU whereas the Librarian was from Makerere University Library because the population of the AKU librarians' population

was small. These Nursing Students were convenient samples easily accessible to the researcher on the day of piloting. The Faculty was selected for her active participation in teaching information related course units like Nursing Informatics and Academic Writing. The 3 Second Year Nursing Students and the Faculty were requested to complete the Open-ended Questionnaires. The Librarian was purposively selected for his active involvement in IL and was, therefore, requested to provide the pre-test data. This pilot study helped the researcher to make proper planning, it was easy to know how long the Students and Faculty would take to fill the Questionnaires. The Faculty took 17 minutes to complete the tool, and the students' Questionnaires took 15 to 20 minutes. The interview with the Librarian took 25 minutes. Therefore, the researcher knew exactly how much time to request from the different respondents for their participation in the study. The Questionnaires had 2 questions which were not clear; the questions that were aimed at collecting the challenges encountered by the Second Year Nursing Students during the IL trainings and the one requesting faculty to explain how IL was embedded in the curriculum. The researcher modified the questions to remove the errors from the data collection tools. The numbering of 2 questions in the students' Questionnaires was not consistent with the rest of the questions. The researcher had to renumber these questions accurately.

3.10 Ethical Issues

Ethical issues entail observing ethical standards during the planning of the study, selecting and using data collection methods and analysis, and the use of results (Mugenda & Mugenda, 2003).

3.10.1 Ethical clearance

The research proposal was submitted to the Uganda Christian University (UCU). Ethical approval was granted by the Ethical Research Committee. Furthermore, the researcher obtained formal permission from AKU to carry out research (**See Appendix A**).

3.10.2 Confidentiality

In conducting any type of research, the researcher must at all-time be aware of the impact that their research will have on participants and society as a whole and must, therefore, act accordingly (Oso & Onen, 2008). The researcher did not capture the respondents' names or link any findings to any individual respondent. To protect the respondents; the researcher referred to the Librarians as Library respondents, furthermore, a box was placed in the Principle's Secretary's office where the Faculty's filled Questionnaires were dropped and lastly, the Nursing Students' filled Questionnaires were collected by their class leaders.

3.10.3 Informed consent

The researcher sought the respondents' consent to be part of the study. The respondents were informed that being part of the study was voluntary; and that they were free to pull out at any time during the study if they so wished. The student respondents received a clear briefing on the objectives and expected outcomes of the study before administering the questionnaires. To obtain the Faculty and Librarian respondents' consent, the researcher issued out *information sheets* and *consent forms* before administering the questionnaires. Only those who had signed the consent were involved in the study.

3.10.4 Academic honesty

The researcher honoured copyright and intellectual property. Credit was given through citing and acknowledging authors of the information sources used, they were properly referenced. The researcher followed the American Psychological Association (APA) Ethical Principles as the writing style.

3.11 Limitations and Delimitations of the Study

3.11.1 Limitations of the study

The biggest limitations the researcher was faced were:

1. The Second Year Nursing Students were always in class on Wednesdays for the whole day attending lectures and spent almost the entire Thursdays in clinical

practice; it was hard for the researcher to get free time to talk to them and administer the questionnaires.

2. Given the nature of the faculty's work and the fact that they are all busy with their studies, it was hard to collect data from them.
3. The library has limited staff, getting them to sit for an interview took several repeated rescheduling of appointments.

3.11.2 Delimitations of the study

The above-mentioned limitations were addressed through the following:

1. The unavailability of the Second Year Nursing Students' respondents was overcome by the researcher by requesting for time from their Faculty to schedule time to talk to them and administer the questionnaires
2. Through constant reminders, the researcher was able to collect data from the faculty respondents
3. On the issue of the repeated appointment rescheduling, the researcher did not give up but kept on rescheduling until the interviews were conducted.

CHAPTER FOUR: PRESENTATION AND DISCUSSION FINDINGS

4.1 Introduction

This chapter presents and discusses the findings. The chapter is organized following data to the four research objectives and further subdivided into themes and sub-themes. The findings of the study were narratively presented, in some cases providing verbatim extracts.

4.2 Response rate

Out of the 45 Open-ended Questionnaires administered, 39 were returned. This gives a response rate of 94%. Two interviews were conducted with a 100% response rate. The total response rate of the interview and questionnaires was 87%. This is adequate for analysis and presentation as asserted by Mugenda and Mugenda (2003).

Table 2: Response rate

Category of respondents	Expected respondents	Actual respondents	Percentage
Second Year Nursing students	31	29	94
Faculty	14	10	71
Librarians	2	2	100
Total	47	41	87

Source: Field Data, 2019

Table 1 above shows that the biggest respondents were the Second Year Nursing Students totaling 29 (94%). This is because Nursing Students formed the biggest component of Aga Khan University and their information was most important for this study. This was followed by the Faculty of 10 (71%) and 2 Librarians (100%).

Some of the respondents chose not to fill the questionnaires and they gave no reason for the non-response. The table indicates that of the 31 targeted Second Year Nursing Students, only 29 completed and returned the questionnaires. Out of the 14

target Faculty, only 10 filled and returned the questionnaires. All the targeted Librarians were reached for the interviews.

4.3 Management of Information Literacy (IL) Programme at Aga Khan University (AKU)

The first objective of the study was to examine how IL programmes are managed at AKU. This objective aimed to examine the IL competencies delivery at AKU. The data collected on this objective was analyzed and two main themes emerged: *goals of the IL programme* and *management of IL programme*. The second theme was further divided into more sub-themes as indicated in the presentation.

4.3.1 Goals of the IL programme

This theme emerged from the analysis of the data related to the first objective which examined the IL programme delivery at AKU. About the relevance of the IL programme at AKU, the study established that the main goal of teaching IL was to equip students with knowledge and skills that can help them search and access the various formats of information, and the application of related ICTs. Regarding the goals of IL, the students said:

1. *“to empower students with skills to identify relevant information using different resources which can be electronic or manual”.*
2. *“to help students know how and where to get the information”.*
3. *“to empower students in accessing important information and later on use it to improve their scope of practice”.*
4. *“to make students aware of and appreciate the library information materials to use them for their assignments”.*
5. *“to support students in research, assignments and exams”.*
6. *“to improve academic writing; the library teaches students on APA referencing style, how to use Endnote referencing tool, how to avoid plagiarism”.*

The above shows that the respondents were relatively aware of what the AKU IL programme was intended to achieve. Data showed that the IL programme was geared towards making students IL competent to be able to locate and use information. These findings support the statement by UNESCO (2005) that: IL goals were to empower people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals”. Furthermore, Jiyane and

Onyancha (2010) also reported that the libraries' IL goals were to aid students in accessing, selecting and using information.

4.3.2 IL Programme Management at AKU

This was the second theme under the first objective. Through interviews, the respondents were requested to state how the IL Programmes at AKU is managed. The data analysis presented four sub-themes: *IL delivery*, *collaboration between faculty and librarians*, and *embedding IL in the curriculum*.

1. IL delivery

This was intended to establish the pedagogical approaches in delivering the trainings. The findings revealed that IL training was presented through the lecture method. The data further indicated that IL was allocated slots on the table time for the new batches during their first semester of joining AKU. According to many respondents, this was not ideal because, during this time, most of the Nursing Students do not appreciate its importance and the time allocated to it was not enough for such a complex subject as noted by one respondent: *"It was a little bit hard to understand compared to other course units"*. A number of them proposed that the programme runs continuously not only at the beginning of the course. *"Otherwise, they can easily forget"* as noted by a particular respondent.

Based on the findings, AKU library IL trainings were formally scheduled for the Nursing Students at the beginning of their academic journey. This is in agreement with Amunga (2011) who noted that IL is ideal for first-year students because the biggest number enter university with no information competencies. However, this is contrary to Kimani and Onyancha (2015) who recommended that IL should not be just for first-year students as this creates a gap in its delivery because the freshmen do not fully appreciate the relevance of IL. In a nutshell, IL would make more impact if it was taught throughout one's academic journey.

Additionally, the time allocated on the timetable for the IL programme at AKU was inadequate for such a complex subject. This finding supports Lwehabura and

Stilwell (2008) and Johnston and Webber (2003) who studied *IL in higher education and Tanzanian universities respectively*. Their findings revealed that most academic institutions allocate insufficient time to teach a new difficult field with hard to grasp salient points. Furthermore, the findings indicated that AKU' lecture model of delivery was ineffective; given that this is a new subject to the nursing students, the trainings should be more interactive and participatory. This implies librarians' lack of pedagogical skills in implementing adequate learning and teaching strategies. In support of this, Moselen and Wang (2014) reported that many librarians are not qualified enough to carry out effective trainings, their lack of pedagogical competencies is bound to fail the IL programme.

Results also revealed that IL trainings were organized for students through one-on-one sessions as one particular librarian noted: *"...those students who come to us with training needs we schedule for them one-on-one trainings depending on their needs"*. The data also showed that the library engages faculty for one-on-one IL training. According to one library respondent:

"Initially we used to organize group trainings for faculty but these stopped because it is hard to get most of them in one room for a training, so we resorted to one-on-one. And the same applies to the new faculty during their induction, the library schedules a one-on-one training for them"

The findings further indicated that the library was using one-on-one training to disseminate the IL competencies to the Second Year Nursing Students and the Faculty. This was initiated to address the issue of lack of time by both the students and the faculty to participate in the group IL programmes. However, these one-on-one arrangements might pose some gaps, like Julien and Hoffman (2008) reported that there was little formal instruction given because one-on-one guidance most times occurs at reference or customer service desks.

The findings further revealed that the library organizes occasional special IL sessions depending on the demand. As noted by one librarian: *"During that time when*

students are busy with their research projects, we organize trainings on how to use Endnote referencing tool, APA tips and information searching basics". Nevertheless, some respondents remarked that these training sessions were organized on days when they are busy at work so they miss out.

This indicated that the special IL training sessions organised by AKU library were not well attended because the Second Year Nursing Students are unavailable; they are busy at work during those days when not attending lectures.

2. Collaboration between Librarians and Faculty

The study set to investigate whether Faculty and librarians collaborated to ensure that Second Year Nursing Students acquire IL competencies. The faculty respondents explained that there was some collaborative work in delivering IL to the students as indicated in the quotes below;

"We are always sending and referring the students to the librarians for help in areas such as getting the right articles and the right journals for their study or assignment, and for helping them with reference managers such as EndNote".

"Faculty refer students to the librarians; librarians send current and weekly databases of the week to faculty in order for them to help students; librarians organize training sessions for faculty; faculty consult librarians when there is need"

However, responses from the librarians showed that there was minimum faculty-librarian collaboration regarding delivering the IL programme at AKU. They emphasized the need to nurture the partnership between the faculty and the library to uplift the IL trainings. One library respondent noted:

"...if we could fully bring the faculty on board, the IL dissemination process will become smooth because students hold their faculty in high regard".

From the findings, there is some collaboration between the faculty and the librarians in improving the nursing students' information-seeking behaviour. But the collaboration should go deeper for the IL programme to realize its objectives as was

asserted by ACRL (2013) that the Faculty should work with the Librarians in establishing and guiding IL trainings and discussions, inspiring Nursing students and monitoring their progress. However, the IL training at AKU is solely a responsibility of the librarians; this is hindering the programme. This corroborates with the findings of Lwehabura and Stilwell (2008) who noted that non-involvement of the academic staff is deterring IL programmes in many universities. Findings showed that for IL to realize its objectives, Faculty support is key.

Embedding IL in the Nursing Curriculum

This sub-theme was derived from the question that sought whether IL was embedded in the nursing curriculum. The Faculty who participated in the study pointed out that IL is embedded in most of the course units taught at AKU. They further mentioned that most course units have elements of IL through enlightening students on the importance of information and how to use it. The Faculty respondents were asked to mention some of the course unit embedded with IL, findings revealed Research, Academic Writing, Nursing Informatics, Epidemiology, Nursing Documentation, Evidence-Based Nursing Practice, Trends and Issues, and Advanced Nursing Concepts as the most mentioned course units. The quote below is what a particular faculty respondent had to say about the sub-theme.

“Information Literacy is embedded in nearly all courses/modules taught at AKU. Students are acquainted with sources of information including the library, electronic sources and published articles. Students are also introduced to appraising information before inclusion in their assignments, reports or academic writings”

This view was echoed by another informant who said that;

“All subjects in the nursing curriculum regime information literacy because each student is required to search for information and write up portfolio based on literature search”

The findings above indicated that there are some elements of IL are embedded in quite a number of course units taught at AKU, this partly answers the call by ACRL

(2018) to have IL interwoven into the curricula structure, content and sequence. However, the findings further revealed that IL as a stand-alone course is not part of the curriculum and in most cases it is taught as a one-shot training and that the library has no well-developed IL curriculum. This was strongly emphasized by a particular respondent who said;

“Information literacy is not part of the curriculum at AKUSONAM. But because of its importance the teaching team agreed to include it on the time tables during the first semester of the 1st academic year of all students.... Include the course/programme in the curriculum such that it is allocated credit units”

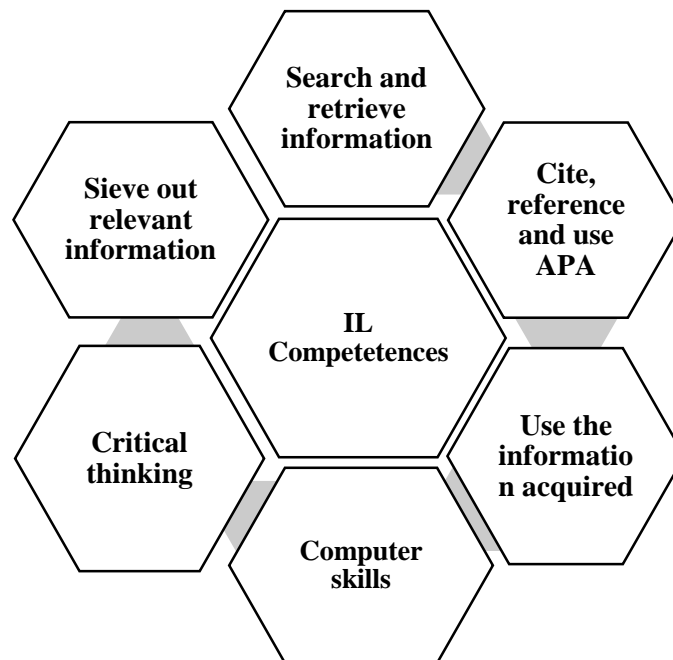
The findings established that a number of nursing course units had a few elements of IL embedded in them. However, the IL course unit is not part of the AKU nursing curriculum, therefore, it is not examinable. and findings also revealed the absence of an IL curriculum. This has failed to earn IL its rightful position and this might be because the librarians at AKU have not been able to fully convince faculty and administration of the relevance of having it as a stand-alone course in the curriculum. This accords with Moselen and Wang (2014) who noted that Library personnel lacks the competence of demonstrating the value of IL to faculty and persuading them to effect this integration. Additionally, the absence of an IL policy and a well-developed IL course curriculum may also be obstacles. Once IL has been allocated credit units, examining it at the end of the course, will convince the nursing students to give it attention.

4.4 Information Literacy (IL) Competencies AKU Nursing Students Acquire from the Library Staff

The second research objective sought to establish the IL competencies AKU Second Year Nursing Students acquired from the library staff. The main purpose of this objective was to establish whether AKU Second Year Nursing Students have been able to acquire any skills and knowledge from these IL trainings. The main theme discussed here was the *Information Literacy Competencies*. This emerged from the data collected from respondents in trying to answer question number four of the open-ended questionnaires that solicited for the benefits of IL. Below are some of the highlights derived from the students' responses

1. *"I have been able to search for information from different databases, which I did not have an idea before"*
2. *"I have learnt how to search for information and make citation using APA style, I have learnt also how to use endnote that has replaced manual way of citing"*
3. *"I can now send an email and use it effectively"*
4. *"I have gained computer skills"*
5. *"I can use applications like endnote to make citations"*
6. *"It has helped me know the authentic sources for information retrieval"*

Figure 2 IL competencies obtained from librarians



Source: Field data, 2019

The findings reveal that students have been able to attain some of the knowledge and skills required by an IL competent student. These are in support of some of the standards of ACRL (2013) Information Literacy Competency Standards for Nursing which emphasize that a nursing student should be able to:

- accesses needed information effectively and efficiently
- critically evaluate the procured information and its sources and as a result, decides whether or not to modify the initial query and/or seek additional sources and whether to develop a new research process
- individually or as a member of a group, uses information effectively to accomplish a specific purpose

- understands many of the ethical, legal and socio-economic issues surrounding information and information technology

However, the findings show a gap in the acquired competencies; whether the Second Year Nursing Students can recognize the need for information, which is key in using information, according to Eisenberg and Berkowitz (2001), students with this IL competency, can define a task; they determine what exactly the problem is and the specific information related to that problem. Similarly, SCONUL (2011) refers to this competence to the students' ability to identify a lack of knowledge in a subject area.

4.5 Contribution of Information Literacy (IL) Competencies in the Effective Utilization of Information Resources at AKU

This objective aimed to examine the contribution of IL competencies in the use of information resources by AKU Second Year Nursing Students. In answering question three, the respondents described how the competencies gained from IL have enhanced their information-seeking behavior as indicated in the following sub-themes:

Locate information resources

In the study, many of the respondents noted that with IL competencies, they were able to access relevant information. The findings further revealed that the knowledge attained from IL trainings helped the Second Year Nursing Students to easily search and find the information needed in the huge collection. The study participants shared that with the skills obtained from IL trainings, they were able to locate the necessary information needed for class assignments, research and to pass exams. Responses noted from the participants include:

“I have been able to search for information from different databases which I didn't have an idea before”

“It avails me with skills or how to search needed information accurately in shortest period of time”

“It simplifies work and enables us gain accessibility to important information resources (books and journals)”

“I am able to help others find reliable sources of information”

“We need information literacy at Aga Khan University because it helps us improve on the skills of how to look for information especially during research”

“...it equips the students with knowledge of how to access information through technology and how to use technological equipment to access data or information...”

These results demonstrated that those Second Year Nursing Students who attained some IL competencies were able to utilize them to easily locate the required information. The skills gained to play a big role in information retrieval. These results are in line with the second standard of the ACRL (2013) IL Framework for Nursing, which states that “an information literate nurse should be able to access the needed information effectively and efficiently”. This IL model stipulates that with IL, Second Year Nursing Students can apply various strategies to retrieve online and print information resources. These findings are following SCONUL (2011), which stipulates that student with IL competencies are knowledgeable about both print and non-print information materials and can select which information resources are needed to accomplish a given research task and knowing the issues that affect access to these resources.

Awareness of information resources

Data shows that awareness of the available databases is another contribution of IL. Respondents shared that through IL, the library informs them about the available information resources. A particular Faculty respondent noted that the library is engaged in *“orienting students on the various sources offered by the library”* this was supplemented by a quote from another respondent that: *“librarians send current and weekly databases of the week to faculty for them to help students”* and as noted by a particular respondent: *“to promote awareness”*. According to one respondent, this is: *“to ensure that students are familiar with information sources”* and another added that with IL; *“you get updates about information”*

The data on awareness was summed-up with the following quotes:

“Students are acquainted with sources of information including the library, electronic sources and published articles”

“It enables learners know the available literature”

This indicates that the Second Year Nursing Students were able to learn about the various library information resources through the IL trainings. During the IL trainings or communications, the Librarians share with the students the available resources and this promotes awareness at AKU. Awareness is vital in the utilization of information resources. This is in support of Rehman ur and Ramzy (2004) who noted that many libraries are experiencing underutilization because their users have limited knowledge about the availability of information resources. This was summed up by Eiriemiokhale et al. (2017), that users cannot desire and search for something they are not aware of.

Information Communication Technology (ICT) skills

Data shows that respondents linked ICT skills to IL; they noted that these skills are a necessity for all nursing students at AKU to access information resources. As noted by a particular respondent:

“Aga Khan has e-learning programmes so students must be able to discover information/knowledge using current technologies”.

Another respondent echoed that:

“Aga Khan University uses technology to transfer/give information to its students almost all forms of communication therefore as a student it is important to be taught information literacy”

The study revealed that respondents appreciated that ICT was embedded in IL; this has exposed them to the world of computers that is essential in this era. One respondent said: *“...because it makes my life easy in looking for information while doing assignments and no longer naïve about computer like when I had just joined”*. With these acquired ICT skills, they can utilize information resources as noted from the data;

“...This is because by the time we join as new students, most of us have no any idea about IL and computer usage as a whole, so it is better for us to be equipped with IT knowledge in order to do our assignments and research”

Another respondent who had learnt how to use the referencing software said;

“I have learnt also how to use endnote that has replaced manual way used to do things, this made life easy”

The data clearly showed that some Second Year Nursing Students have gained ICT skills, which is paramount in the utilization of information resources, especially in this technologically driven era. This agrees with De Jager and Nassimbeni (2005) who said that ICT knowledge and skills are required to effectively manipulate information.

Critical thinking

The findings showed that critical thinking was another gain, Second Year Nursing Students have been able to acquire from IL. As noted: “*It helps me to broaden my knowledge*”, “*has promoted and improved the thinking capacity of students and answering questions*” and “*to promote problem-solving approaches and thinking skills*”. The study discovered that these critical thinking skills acquired from IL have played a role in information use as noted in these specific responses:

“It helped me widen my knowledge and think smart, which helps us in handling our coursework and research without difficulty”

“It promotes problems solving approach and thinking skills by helping us to evaluate and make decisions hence making research writing easier”

This shows that the respondents have gained some problem-solving skills that are guiding them in making a decision related to the use of information resources in handling their research projects and class assignments. Critical thinking skills are part of the IL competencies expected of students as supported by Kanguha (2016) who reported that critical thinking skills are a must-have for students for guidance in their research and suitable use and evaluation of information. Critical thinking skills promote decision-making or problem-solving concerning using information.

Evaluation of information

The data presented the ability to be able to evaluate information and their sources as another contribution from IL, as noted by the respondents:

“it helps us know where and when to find information that is valid and recognized, “...evaluate and create information effectively to achieve our educational goals”.

A particular Second Year Nursing Student shared that:

“I am able to download the information I want and sieve it”. This was supplemented by another who said that: *“it introduces us to knowledge on looking up information and being able to analyze it”*

The findings revealed that the respondents have gained skills needed in evaluating the information and their sources; they were able to locate valid and appropriate sources for their information needs. The respondents who acquired the IL skill of evaluating information were able to comfortably use information. This is supported by the *Standard Three* of the ACRL (2013) Information Literacy Standards for Nurses, which states that “an information literate nurse critically evaluates the procured information and its sources, and as a result, decides whether or not to modify the initial query and/or seek additional sources and whether to develop a new research process”. The skill of evaluating information promotes utilization of information.

However, data showed that many Second Year Nursing students lacked the above-mentioned competencies mainly because they either forgot what was taught or they had IL sessions before they had realized its importance so they did not give it the deserved attention.

4.6 Factors that Facilitate or Hinder the Utilization of Information Resources at AKU

The fourth objective sought to identify factors that either facilitate or hinder the utilization of information resources by Second Year Nursing Students at AKU. Through Interviews and Open-ended Questionnaires, respondents were required to

state the challenges encountered in the utilization of information resources and those factors that facilitate their utilization. The findings were presented using three major themes: *Factors facilitating utilization of information resources*, *Factors hindering utilization of information resource* and *Strategies for improving utilization of information resources*.

4.6.1 Factors that facilitate utilization of information resources

Participants were asked to state the factors that facilitate the use of information resources at AKU. The findings revealed the factors discussed below:

Acquisition of Information Literacy (IL) competencies

The Second Year Nursing Student respondents indicated that with the knowledge and skills gained from the IL, they can search and use information resources. As relatedly stated by one respondent:

“information literacy empowers students with skills to identify relevant information using different resources which can be electronic or manual”

Another respondent said:

“It empowers students in accessing important information and later on use it to improve their scope of practice”.

This implied that those Second Year Nursing Students who acquired IL competencies can use the library information resources. This relates to the ACRL Framework which specifies that an information literate nurse can determine the nature and extent of the information needed, access needed information effectively and efficiently, critically evaluates the procured information and its sources, individually or as a member of a group, use information effectively to accomplish a specific purpose

and understand many of the economic, legal, and social issues surrounding the use of information and accesses and use information ethically and legally.

This finding is in support of Mednick (2002) who reported that IL is a crucial contributor to students' competency in managing, evaluating and using information. Therefore, IL knowledge and skills are crucial in the utilization of information resources. According to CILIP (2018), IL concept strongly advocates for the need to equip people with attributes, competencies, and confidence required to become successful users of information.

Availability of relevant information collection

Findings show that the information resources at AKU are relevant to the nursing curriculum. When discussing the AKU library information collection, a library respondent said: *"We pride ourselves as having the richest nursing collection in the country"* Data indicated that Faculty are involved in the collection development process and; this aided acquiring the most relevant books and other information resources. This confirmed what a Faculty respondent said:

"...Faculty participate in identifying books to be bought".

This was further supplemented by Second Year Nursing Students who shared that the reading materials are relevant and up-to-date. As noted by one respondent:

"The library is well equipped with up to date books with a very good source of information used for our assignments"

Data demonstrated that AKU library information resources' collection is ideal for the Second Year Nursing Students' information needs, which is key to their usability. This finding supports Chukwuemeka and Azubuike (2016) who noted that huge masses of irrelevant information can lead to failure to find and use information.

Accessibility of the information resources

The Second Year Nursing Student respondents noted that they could easily find the print information resources, mainly because the collection is well organized, the

shelves are well labeled and to crown it all the library has open shelves. According to a particular Second Year Nursing Student:

“We are just walk to the shelves pick out whatever we want to use and sometimes you can find a better choice”

The students are allowed to browse the collection; this promotes usage of the information resources. Findings also revealed that internet connection plays a huge role in the accessibility of electronic resources (e-resources). One particular respondent said:

“availability of wifi makes downloading much easier because of the speed”.

Data also revealed that AKU library has remote access for their subscribed online resources, this was explained by a librarian respondent that:

“The library has remote access called VPN where students can access the IP authenticated online resources from the comfort of their homes or workplaces”.

However, some are not aware of these services like this particular Second Year Nursing student said:

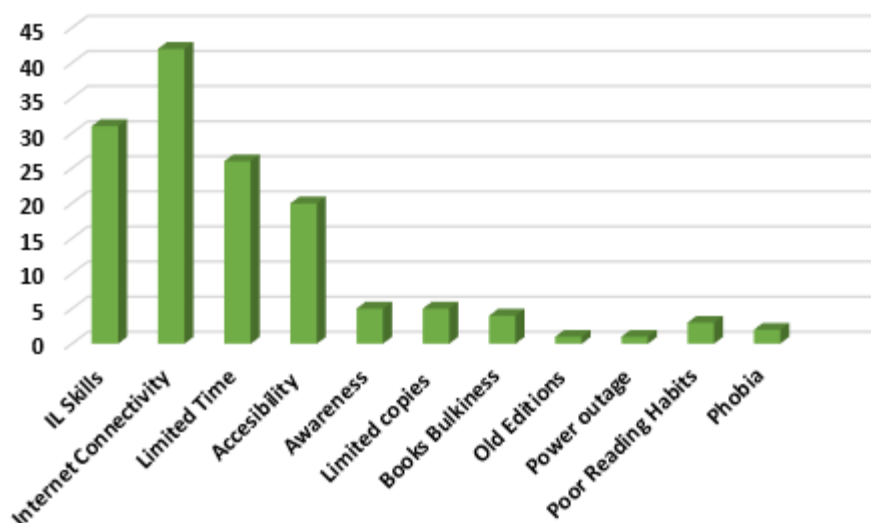
“...if all links should be accessible outside university premises”

Ease in the accessibility of information resources promotes the use of information resources at AKU, this is because of the enhancers like wifi, well-organized shelves, open access and shelf guiding labels. This is in agreement with Kinengyere et al. (2012) who revealed that more accessible information resources are likely to be used.

4.6.2 Factors that hinder utilization of information resource

The study findings on the factors hindering utilization of information were summarized in the figure 4

Figure 3: Factors hindering utilization of information resource



Source: Primary Data, 2019

Lack of internet connectivity

According to the figure 4 above, findings indicate that with forty-two responses (twenty-seven percent) cited internet challenges. The respondents complained of no or slow internet connection when they are off-campus, this is a challenge because they are only at the campus for just two days and yet they need to access the library information resources for their assignments. As noted by some of the Second Year Nursing Students respondents:

“The main challenge I face is internet access, at times when I want to access the information outside school, internet limits me” and “We don’t always have available internet like the WIFI provision at Aga Khan University in our homes hence hindering access to information”.

This was supplemented by a Faculty respondent who said:

“...and yet internet is a burden for searching when students are at home, it may be expensive for some students”

The implication is that the lack of internet connectivity was the major challenge hindering the utilization of information resources at AKU. This frustrates the students when trying to access online resources. In earlier studies, Agrapu (2013) opined that internet connection is a major challenge to the utilization of information resources.

Limited IL competencies

Data indicates that limited IL skills were the second most cited challenge hindering the use of information resources by the second Year Nursing students. This research revealed sixty-seven of the student respondents did not know how to use the OPAC. There were thirty-one responses (twenty percent) indicating limited or inadequate knowledge and skills needed for searching and retrieving information online.

Some of the challenges from the data include:

1. “Lack of knowledge on how to access the material from either the online library or internet”
2. “Forgetting the instructions on how to access the exact information I need”
3. “I sometimes get stuck on the way as I look for information, how to search for information appropriately”
4. “I lack sufficient knowledge on reading books and journals on the net”,
5. “Shortage of knowledge on how to use some information services like SAFARI & HINARI”
6. “I don’t know how to search for information from the books in the library”
7. “Lack of skills (user skills) to access the information ie computer literacy skills and search skills hinder use”

These findings showed that the Second Year Nursing Students do not remember what was taught in IL. The lack of IL knowledge and skills had hindered their ability to retrieve information thus limiting them from using the library resources. This agrees with Adeleke and Emeahara (2016) findings that emphasized that to gain access and effectively use the vast information, users needed knowledge and search skills to explore and utilize the resources.

Limited time

Twenty-six responses (sixteen percent) citing time constraint as the reason why they did not effectively use the library information resources. The research revealed that AKU runs a work-study programme, whereby the Second Year Nursing students are on campus for only two days in a week, of which most of day 2 is spent in clinical practice. They are at their duty stations for the rest of the week. Some of the Second Year Nursing Student respondents said:

1. "I do not have enough time to access the library since I work from Mbale which is a far distance and have only two study days (Wednesday and Thursday)"
2. "Time factor, sometimes I may need to acquire a book but then am limited with time, time of reading it is not there so I end up not getting a book"
3. "Inadequate time since it's on a busy schedule only 2 days at school ...no time to come to library because there is no time in between the lessons and clinical practice"

The findings indicated that the AKU work-study programme left the Second Year Nursing Students with practically no time to utilize the library information resources. They spent all the time in class and clinical practice during their face-to-face days. Those who borrow the books most times failed to read them because they are busy at their duty stations. The busy schedules hindered the utilization of information resources.

Inaccessibility

The research revealed inaccessibility as another reason hindering access. Figure 4, shows twenty responses and some who noted: *"some browsers are limited with some information and some articles need the authorization to access them"*:

"I don't remember the passwords to open and this makes me limited to only google and google scholar".

On accessibility off-campus, a respondent said;

“Most of these books and articles can only be accessed when in school and not outside school”.

From the data analyzed, four respondents mentioned a lack of ICT equipment. Lacking ICT equipment especially laptops, Ipad, tabs and computers hinder their access to information resources. And the power issue was mentioned by one of the respondents as a hindrance factor for the accessibility to Library information resources.

These results show that many accessibility issues are hindering the use of information resources. These include a lack of ICT equipment, power outage, and pay-walled online resources. Inaccessibility, according to Chukwuemeka and Azubuike (2016) leads to poor utilization. This may be a result of a few computers which limit users' access to information resources.

Lack of awareness

Research revealed awareness as another factor affecting the use of library resources by the Second Year Nursing Students. According to some respondents:

“Not knowing the names of the database”,
“Sometimes am not sure of the search engines”, “Not
knowing the different sites to get the right information”

This fails their quest for information. Many respondents said that they did not know how to use the library OPAC (SAFARI) and some were not even aware of its existence.

The findings imply that users have limited knowledge of the available information resources; they cannot navigate the library collection because the OPAC which is key in promoting awareness is either not known to them or they do not know how to use it thus hindering utilization of information resources. This correlates with Rehman ur and Ramzy (2004) who reported that low awareness is among the reasons for the under-utilization of information resources. Otherwise, how will they request for a resource whose existence is not known?

Users perceptions and poor reading habits

Respondents mentioned poor reading habits and phobia as reasons, some information materials were not utilized by the Second Year Nursing Students. This means the negative impression these students have on the library resources also affects their usage. Kinengyere et al. (2012) discussed that the users' negative perception and lack of interest or commitment towards information resources were evident in the low utilization of these resources.

4.6.3 Strategies for Improving Utilization of Information Resources at AKU

In the final part of the study, respondents were requested to propose ways of addressing the challenges hindering the utilization of information resources in 4.4.4.2.

IL programme

The findings revealed that the most cited strategy was the enhancement of the IL programme. The respondents suggested the following:

The implementation of continuous trainings to sensitize the Nursing Students on the best ways of accessing the information resources to enforce optimum use. Respondents urged that these library trainings (IL) should be held in all the semesters and most especially towards their research projects. Some of the respondents said that:

“IL should be continuous but not only at the beginning of the study before we have understood its relevance; these trainings could also be in form of seminars and workshops”.

“Continuous training/lesson should be done to remind students where to get information”

“The course/training are supposed to be done every semester”

“Regular trainings and updates should be provided”

“Yes, more daily trainings are needed to enhance effective use of journals or search engines”

The findings indicated that several respondents supported the idea of having IL trainings scheduled continuously. The continued IL sessions would help in updating their IL competencies needed for using the information resources. This agrees with Owusu-

Ansah (2004) who reported that there was a need for continued IL trainings to fortify and reinforce students' skills and knowledge.

Data revealed that the time allotted to these trainings was insufficient; respondents proposed that IL trainings needed more time because they find the subject too complex to understand within the designated one hour.

“Information Literacy was taught but it was given limited time, I think we should give it more time because it is useful throughout the course”

“Practical sessions should be given enough time in order to allow learners gain the knowledge too”

The findings show that allocating more time to the IL sessions would impact a lot on improving the students' information competencies. IL should be given enough time to meet its objectives. In their studies, Rasaki (2008) and Lwehabura and Stilwell (2008) reported that sufficient time is needed to teach IL which is such a complex subject so that the students can grasp the salient points.

The respondents suggested the adoption of the student-focused learning approach of teaching IL other than the lecture-based approach. This will enhance students' engagement and interaction.

The study indicated the strategy of integrating the IL programme in the nursing curriculum such that this course is allocated credit units. As a particular respondent commented: *“...this will go a long way to showing the seriousness of this programme.* Two respondents proposed that IL needs to be taught right from primary school, as noted: *“...it should in syllabus right from primary level, such that students get used”*

The findings revealed that IL course unit should be part of the curriculum and examinable. Then it would gain more prestige and respect it deserves from the nursing students. Owusu-Ansah (2004) noted that if the library offered IL as a credit unit, it will offer deeper engagement with issues inherent in and skills attendant to IL. This will

enhance the acquisition of IL competencies necessary in the utilization of information resources.

Build awareness

Data revealed that respondents suggested that the library should keep them updated about the available information resources and send them lists of the new arrivals. This will improve awareness of the available information resources among the second Year Nursing Students. As noted by these respondents:

“The library should share links with the various online resources, these can be sent via emails weekly and also pinned on notice boards”.

“To update us about current relevant sources of information that is important in our struggle to achieve our goals”

The findings revealed that, if the library frequently updated the nursing students about the available information resources, these students will be in a position to use them. This is in agreement with Rehman ur and Ramzy (2004) who mentioned that awareness promotes utilization of information resources. Students might not use some information resources because they are not aware of the existence of the resources.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions, and recommendations of this study. The summary, conclusions, and recommendations are presented according to the research objectives of the study.

5.3 Summary of the Findings

5.3.1 IL programmes management at AKU

Under the first objective, the study established that the AKU IL programme is managed in the following ways:

1. The IL sessions are allocated slots on the timetables for the nursing freshmen in their first semester of joining AKU although the time allocated was insufficient for this complex subject
2. The IL lessons were presented using the lecture model of delivery
3. There was a minimum collaboration between the faculty and the library in the delivery of IL; the trainings are mainly handled by librarians
4. IL as a standalone course unit is not part of the curriculum therefore it does not accumulate credit units. However, the findings revealed that there are some IL elements embedded in many nursing course units.
5. The library staff occasionally organize IL sessions for the nursing students depending on the demand. These are not well attended because of lack of time on the side of the students
6. The library holds one-on-one IL training sessions for those Second Year Nursing Students and Faculty upon request. The one-on-one IL delivery also applied to the new Faculty

5.3.2 IL competencies AKU nursing students acquire from the library staff

The study established that Second Year Nursing Students were able to acquire the following competencies from the library staff.

- They can search and retrieve information from databases (Location)

- They can cite, reference and use APA writing style (Ethical issues)
- They can sieve out relevant information (Evaluation)
- They can apply critical thinking in solving information-related problems
- They gained computer skills required retrieving and using information
- The nursing students can use the information acquired to do class assignments, complete the research projects and prepare for exams.

5.3.3 Contribution of IL competencies in the effective utilization of information resources at AKU

Following this objective, the findings revealed the IL competencies gained by the AKU Second Year Nursing Students have been able to facilitate utilization of information resources in the following ways:

1. **Location of information resources:** the results showed that the Second Year Nursing Students with IL competencies can locate the information they require from the various sources. They can search and retrieve information from the vast collection.
2. **Awareness of information resources:** the study revealed that through the IL session, the Second Year Nursing Students were able to learn about the available information resources.
3. **ICT skills:** This was another IL competence revealed in the findings which have helped in the utilization of information resources. The Second Year Nursing Students can discover information using the current technologies
4. **Critical thinking:** This IL competency has guided the Second Year Nursing Students in making decisions related to information use.
5. **Evaluation of information:** The Second Year Nursing students were able to sieve quality information resources from the vast collection hence location valid and appropriate information for the issue at hand

5.3.4 Factors that either facilitate or hinder the utilization of information resources at AKU

The study revealed factors that either facilitate or hinder Second Year Nursing Students from using the information resources at AKU. These were presented in the following sub-sections

5.3.4.1 Factors that facilitate the utilization of information resources at AKU

The following were established as factors that facilitated the Second Year Nursing Students in the utilization of information resources.

Acquisition of IL competencies: Results revealed that the Second Year Nursing Students who had acquired the IL competencies were able to effectively use the library information resources. These students were able to search and use information resources.

Availability of information resources: The study revealed that AKU library collections are ideal for the Second Year Nursing Students' information needs.

Accessibility of information resources: The availability of campus-wide wifi, well-organised bookshelves, and remote access have enhanced the use of information materials. However, research revealed that some students are not aware that AKU has remote access services and an OPAC.

5.3.4.2 Factors that hinder the utilization of information resources at AKU

The study revealed the following factors that hinder the Second Year Nursing Students from accessing the information resources at AKU.

Lack of internet connectivity: The study revealed that the biggest percentage of the Second Year Nursing Students were unable to use the information resources because of internet connectivity issues when they are off-campus. These students are on campus for only two days a week.

Limited IL skills: The results indicated that this was another big factor hindering information accessibility. The Second Year Nursing Students lack the skills and knowledge required for one to effectively use information.

Limited time: Research revealed that the work-study programme has made it so hard for the Second Year Nursing Student to utilize the library. They spend the whole day in class during the two days of face-to-face and when they are not on they are busy at their duty stations.

Inaccessibility: There are some Second Year Nursing Students who do not possess laptops or other ICT equipment needed in the accessibility of information materials, findings further reported that some fail to access some resources because they are hit by pay-walls.

Lack of awareness: Some Second Year Nursing Students reported that they were not aware of the existence of some information resources. The lack of or limited knowledge of the available resources hindered their utilization.

Users' perceptions and poor reading habits: Some information resources were not used because Second Year Nursing Students have poor reading habits, some have a phobia for some resources especially those online and their students' impression of the collection.

The study further revealed some strategies proposed by the respondents to improve the utilization of information resources and these were:

- a. Improving IL training programme by scheduling it continuously not just for year one, the IL classes should be allocated more time, there is need to introduce student-focused learning approach instead of the lecture model, and lastly, Librarians who engage in IL trainings should be facilitated by building their capacities
- b. The study further showed other strategies like the library should increase the number of information resources; they also requested their Faculty to create time for them during class time to visit the library; they further requested the library to extend the daily opening time and include Sundays; they pointed out the need to equip the library with more computers and also suggested that the library keeps them informed of the available and new information resources

5.4 Conclusion from the Findings

The following conclusions were drawn from the findings:

5.4.1 Information Literacy (IL) Programme Management at AKU

The conclusion drawn from the findings of the first objective shows that allocating IL classes to freshers helps introduce them to the skills and knowledge necessary for utilizing the various library information resources but this does not include the continuing students, who by then have realized its significance to their studies. Furthermore, the Second Year Nursing Students regard IL as a complex subject, therefore, it requires more time than what is allocated and given its complexity, the lecture-based model of teaching is inadequate to impart its knowledge and skills.

Additionally, every semester, the library holds special IL sessions depending on the demand but these are not well attended because most students are faced with the issue of time constraint.

Another conclusion drawn from this objective was that IL was not integrated into the curriculum as a stand-alone course unit but some elements have been embedded in some of the Nursing course units like Research, Nursing Informatics, Academic writing. Furthermore, there is no well development IL curriculum used for teaching the subject and there was minimum collaboration between Faculty and Librarians in teaching IL at AKU. All the above show a gap in the IL programme delivery.

5.4.2 Information Literacy (IL) Competencies Acquired by Nursing Students

Results revealed that the Second Year Nursing Students had acquired some IL competencies from the trainings held by the librarians. However, regarding the ACRL Information Literacy Competency Standards for Nurses, the findings showed a gap in the acquired competencies, they were ill-equipped with IL competencies; these students were unable to recognize the need for information, which is key in using information and this is attributed to the insufficient time allocated to the IL trainings.

5.4.3 Contribution of Information Literacy (IL) Competencies in the Effective Utilization of Information Resources

From the findings, the study concluded that IL competencies that are key in the effective utilization of the information resources included:

Location of information resources:

The Second Year Nursing Students were able to locate information resources; those students with IL competencies were able to search and find the needed information for the assignments and research projects. However, many of the respondents were not able to use certain information resources because they lacked IL competencies

Awareness of information resources

Awareness of the availability of the various library information resources was another IL competence which has enabled some Second Year Nursing Students to use the library information materials although the findings deduct that quite many students were not aware of the available information resources.

ICT for information retrieval and use

IL equipped students with ICT skills which are important in retrieving information, especially from the online sources. With the IL skills gained, they can download information from the online database and they are also in a position to ethically use the information using the Endnote referencing tool. But the problem was that some of them do not have ICT equipment and others do not have access to the internet when off-campus.

Evaluation of information resources

With this IL competence, Second Year Nursing Students were able to evaluate the information and their sources which promotes the utilization of information resources. Those students could know how to retrieve the most relevant information from the vast sources.

Critical thinking

The Second Year Nursing Students who gained critical thinking skills were able to make informed information-seeking decisions to enhance problem-solving in using information. This skill facilitated the nursing students to produce quality academic work

However, results showed that several student respondents lacked the above-mentioned competencies mainly because they forgot what was taught or they had IL sessions before they had realized its importance so they did not give it the deserved attention.

5.3.4. Factors that facilitate or hinder the utilization of Information Resources

The conclusions drawn from these findings are grouped as follows:

Factors that facilitate the utilization of Information Resources

- The acquisition of Information Literacy(IL) competencies by some of the Second Year Nursing Students empowered them with search, ICT and critical thinking skills needed to use the available information resources.
- The utilization of AKU information resources was because the Second Year Nursing Students find them relevant to their information needs. These resources are ideal for the nursing course curriculum.
- The well-organized and well-labeled shelves enhanced accessibility hence promoting the use of print materials; availability of internet connection through wifi and remote access enabled students to use the online resources. However, students were challenged by internet accessibility when off-campus. Furthermore, most of them were not aware of the remote access service and the library OPAC.

Factors that hinder the utilization of Information Resources

The factors that hinder Second Year Nursing Students from utilizing information resources at AKU included:

1. The AKU library information resources are not maximally used because the biggest number of Second Year Nursing Students were faced with a challenge of the limited and high cost of the internet while off-campus.
2. The way the IL programme at AKU is managed has affected the Second Year Nursing Students' acquisition of IL skills. Many of them do not remember the necessary IL knowledge and skills required in searching and using information resources.
3. The AKU work-study programme makes it hard for the Second Year Nursing Student to visit or utilize the library resources. The students spend the entire time of the two days attending lectures and in clinical practice, and when off campus they are at work, therefore, sometimes they fail to use even the borrowed information resources.
4. Second Year Nursing Students do not use some of the information materials because they are not aware of their existence. The AKU library must devise means of promoting awareness of their resources otherwise this is affecting utilization
5. Users' perceptions of the library collection coupled with poor reading habits hindered Second Year Nursing Students from using the available information resources.

5.5 Recommendations

The researcher makes the following recommendations in accordance to the above conclusions derived from the findings of the study.

Scheduling of IL programme

To address the issues of limited time allocated IL sessions and assigning timetable slots to only first-year Nursing Students, the researcher recommends that the library takes on aggressive advocacy and marketing initiatives for IL. The IL advocacy programmes should demonstrate the relevance of having and producing IL competent students and grandaunts respectively. IL advocacy needs to be a continuous effort and

the library should seize every opportunity they get and talk about the need for IL at AKU. These advocacy initiatives will help bring on board the various stakeholders like the administration, faculty, and students needed for the development of the IL programme. It will then be easy to implement continuity in the IL trainings at AKU so that the Nursing Students are kept refreshed with the IL knowledge and skills, more time will be allotted to the sessions and the faculty will realize the need to work with the librarians in promoting the nursing students' IL competencies.

Embedding IL course into the curriculum

To further address the shortcomings of the IL programme at AKU, the researcher recommends the need for developing an Information Literacy (IL) Policy. This policy can be developed by the AKU Librarians in partnership with the Faculty, and also benchmarking from other international IL policies can aid them in how best to develop one. The IL policy act as a guideline for AKU's IL implementation, designing, and teaching activities. This will affect a lot of changes to the IL programmes like incorporate IL as a stand-alone course unit into the curriculum. This means that IL will earn credits units which in turn will boost its relevance amongst the nursing students

Librarians' training skills

For the IL programme to have full impact on the utilization of the information resources, the researcher recommends the need for Librarians to attend trainings to boost their pedagogical skills and also enrich their knowledge base on the IL as a subject, this will enhance IL delivery at AKU. The AKU library management should create a budget line to facilitate Librarians' trainings needs, these could be in areas of pedagogy or the IL subject content: the Librarians need to gain teachings skills to be able to effectively communication IL competencies to the Second Year Nursing Students There are several useful online trainings which would come in handy.

IL special sessions

The IL special sessions are failing because students do not have time to attend them, therefore the researcher recommends that the library should take advantage of

the AKU eLearning platform and social media to implement an IL virtual classroom, this way students can study IL at their convenience.

Limited IL competencies acquired by Nursing students

For the study to address the gaps in the IL competencies possessed by the AKU nursing students, the researcher recommends that the library adopts the ACRL Information Literacy Standards for Nurses. These easy to adopt standards will guide the librarians in designing the IL curriculum with well-formulated content. The standards are ideal because they were specifically designed for nursing students in both academic settings and workplace which suits the AKU's work-study programme, for nursing faculty and librarians who serve nursing students. This will go a long way in enhancing the Second Year Nursing Students' IL competencies which are crucial in handling information.

Internet connectivity

The Second Year Nursing Students who are experiencing a lack of internet connectivity, the researcher proposes that they use the time when on campus to download the information materials on the gadgets. They will be able to read the resources offline when they go back home.

Limited time

The faculty together with the Academic Coordinator can create time on the timetable to allow the Nursing Student to visit the library so that they can be able to borrow books or engaged with the librarians on issues regarding information use.

Furthermore, AKU library should also endeavor to complete the work on the Libguides, these are easy to use online content management systems. Once the AKU libguides are implemented, the library can organize and share information to enhance the access and use of information resources at AKU.

Lack of ICT equipment

Some Second Year Nursing Students commented that they lacked laptops and therefore they were not able to follow the IL sessions. The researcher recommends that

AKU management goes into partnership with a prominent computer supplier; the students can acquire laptops at a subsidized rate with the help of the institution. They can also get them to hire purchase and pay over a given period.

Limited awareness

The researcher recommends that the library needs to highly market or publicize those online activities which are related to the use of information materials; these include the OPAC and the remote access. Many Second Year Nursing Students were not aware that the library has an online catalogue where they can browse the library entire collection or even that they can access the library subscribed online resources when off-campus. When students become aware of OPAC and the remote access, utilization of the information resources will go up, mainly because they need those services which enable them get access wherever they are, given that they are at campus for just two days

Additionally, the researcher recommends that Current Awareness Services (CAS) and Selective Dissemination of Information (SDI) should be implemented by the Librarians and strongly emphasized. This will keep the Second Year Nursing Students updated about the library information resources collection, which might be relevant in their field of interest.

Poor reading habits and perceptions

Second Year Nursing Students need to be sensitized about the importance of reading to appreciate the various information resources at their disposal. The library together with the Faculty can organize seminars or talks once a semester on this subject. The library can invite guest speakers from the Nursing profession to talk to the Nursing Students about the good in academics. This will change their perception towards reading.

5.6 Contribution to Knowledge

No study on Information Literacy competencies contribution to Nursing Students towards the utilization of information resources in a study programme has ever been done undertaken. This study therefore adds to the Library and Information Science (LIS)

literature. Additionally, the study emphasizes the need for IL to be implemented as a continuous process to help students understand and address their information needs.

5.7 Areas for Further Research

Further research is recommended in the following areas:

1. Information Literacy Instruction Models in enhancing Students' Learning in Higher Institutions of Education in Uganda
2. National IL Policy Framework for Universities in Uganda

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APPENDICES

APPENDIX A: INTRODUCTION LETTER TO AGA KHAN UNIVERSITY


**UGANDA CHRISTIAN
UNIVERSITY**

A Centre of Excellence in the Heart of Africa

Research Ethics Committee (UCU REC)

09-05-600-0000135

30th May, 2019

Dear Sarah,

RE: UCU-REC APPROVAL OF NAKAZIBA SARAH

In response to your REC application Proposal, the Research Ethics Committee (REC) of UCU wishes to acknowledge approval of your proposal and allow you to proceed with data collection. This also serves as an introductory letter acknowledging you (Sarah Nakaziba) as a UCU student registration number S17M63/003 pursuing a Masters degree of Library and Information Studies.

The Committee acknowledges that your work involves interaction with human participants and therefore needs to be sensitive to them as further recommendations were shown in the report. You are required to follow the ethical guidelines as suggested in the proposal. You also need to refer to the UCU Academic Research Manual with the guidance of your supervisor.

The approved Proposal is entitled "*Contribution of Information Literacy Competencies towards utilization of information Resources among Aga Khan University Nursing Students, Uganda*" of which you are the Principal investigator.

Your work is under the supervision of Dr. Sarah Kaddu.

Thank you for your cooperation.

Yours faithfully,

Ahimbisibwe Osborn
Research Ethics, UCU
rec@graduate.ucu.ac.ug



Sarah, Ple proceed
with the study.
[Signature]

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APPENDIX B: CONSENT FORM FOR PARTICIPANTS**UGANDA CHRISTIAN UNIVERSITY**

School of Research and Postgraduate Studies

“A Center of Excellence in the Heart of Africa”

Consent Form for Participants

Information Literacy competencies towards the utilization of information resources among Aga Khan University nursing students

I have read the **Information Sheet for Participants** for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I am free to withdraw from the study at any time, or to decline to answer any particular questions in the study. I agree to provide information to the researchers under the conditions of confidentiality set out on the **Information Sheet**.

I agree to participate in this study under the conditions set out in the **Information Sheet** form.

Signed: _____

Name: _____

Date: _____

Researcher's Name and contact information: Sarah Nakaziba- 0772526735

Supervisor's Name and contact information: Dr. Sarah Kaddu- 0702983837

APPENDIX C: PARTICIPANT INFORMATION CHECKLIST

Participant Information Sheet

Information Literacy competencies towards the utilization of information resources among Aga Khan University nursing students

I am Sarah Nakaziba, a student at Uganda Cristian University pursuing a Master's Degree in Library and Information Studies. I am requesting you to take part in the study that aims to ascertain the contribution of IL competencies towards effective utilization of information resources among AKU nursing students

In the study, you will be requested to fill the self-administered questionnaire. It takes about 15 to 20 minutes to fill the questionnaire. You are requested to commit this time to fill the questionnaire and drop it in a box clearly labelled "IL Competencies" in the office of secretary to the Principle.

There are no anticipated risks to you participating in the study and no incentives will be provided. Your answers will be kept confidential. The records of this study will be kept private. During report writing, there will be no information that will make it possible to identify you. In addition, the results from the study will not be given to the employer with information that maybe suggestive of data from individual participants.

Research records will be kept in a locked file; only the researcher will have access to the records. Taking part in this study is completely voluntary. You may decide to withdraw from the study before completely filling the questionnaire. It is okay and it does not compromise our relationship now or in future, or any other opportunity for your personal or professional engagement with the researcher or institution.

If you have questions later, you may contact Sarah Nakaziba at saranakaziba@gmail.com or 0772526735.

APPENDIX D: INTERVIEW SCHEDULE FOR LIBRARIANS

SEMI-STRUCTURED INTERVIEWS SCHEDULE FOR LIBRARIANS

My name is Sarah Nakaziba, a Masters (Information Studies) student at the Uganda Christian University, Mukono. I am undertaking a study to investigate the contribution of information literacy competencies towards the utilization of information resources among Aga Khan University nursing students. I thank you for agreeing to participate in this study. I would like to assure you that your responses will be treated with **utmost confidentiality** and used solely for the purpose of this study.

1. What do you understand by the concept of **Information Literacy (IL)**?
2. How is the Information Literacy programme/sessions organized?
3. What are the objectives for conducting these AKU IL sessions/programmes?
4. What aspects are covered in these IL trainings?
5. What could be the contribution of IL in utilization of information resources?
6. What are the challenges that influence effective IL learning?
7. How could the above challenges be addressed?
8. How can IL programme at AKU be enhanced?

9. How beneficial are the nursing students' IL competencies in using information resources?

10. What are the factors that enhance the utilization of information resources?

11. What are the factors that hinder the utilization of information resources?

12. How can the above challenges be addressed?

14. What is your general perception of IL as a programme in higher education?

Thank you once again for your time, and providing information for this study.

APPENDIX E: OPEN-ENDED QUESTIONNAIRE FOR STUDENTS

OPEN-ENDED QUESTIONNAIRE FOR STUDENTS

My name is Sarah Nakaziba, a Masters (Information Studies) student at the Uganda Christian University, Mukono. I am undertaking a study to investigate the contribution of information literacy competencies towards the utilization of information resources among Aga Khan University nursing students. I thank you for agreeing to participate in this study. I would like to assure you that your responses will be treated with **utmost confidentiality** and used solely for the purpose of this study.

SECTION 1: Information Literacy (IL) at AKU

IL is having the ability of recognizing when and why you need information, where to find it and how to evaluate, effectively use and communicate it in an ethical manner.

1. What are the objectives of teaching **Information Literacy** at Aga Khan University is important?

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2. Please mention any challenges encountered during the **Information Literacy** trainings?

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SECTION 2: Information Literacy competencies of AKU Second Year Nursing Students

3. What have you gained from Information Literacy trainings?

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SECTION 3: Contribution of Information Literacy competencies to effective utilization of information resources at AKU

4. Kindly share the benefits gained from **Information Literacy** trainings in using information materials (book, journals etc.)

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5. How do you think these **Information Literacy** trainings can be improved to facilitate the use of information resources?

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SECTION 4: Factors that either hinder or facilitate the utilization of information resources at AKU

6. What factors enhance the utilization of information materials (Books and journals articles)?

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7. What challenges are hindering your access to information materials (Books and journal articles)?

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8. Kindly share recommendations that can help to promote the use of information resources?

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Thank you for your time and contribution to this research project.

Researcher

Sarah Nakaziba

Masters (Information Studies) student

Uganda Christian University, Mukono.

+256772526735

sarah.nakaziba@gmail.com

APPENDIX F: OPEN-ENDED QUESTIONNAIRE FOR FACULTY

OPEN-ENDED QUESTIONNAIRE FOR FACULTY

My name is Sarah Nakaziba, a Masters (Information Studies) student at the Uganda Christian University, Mukono. I am undertaking a study to investigate the contribution of information literacy competencies towards the utilization of information resources among Aga Khan University nursing students. I thank you for agreeing to participate in this study. I would like to assure you that your responses will be treated with **utmost confidentiality** and used solely for the purpose of this study.

SECTION A: Information Literacy Programme at Aga Khan University (AKU)

Information Literacy is having the ability of recognizing when and why you need information, where to find it and how to evaluate, effectively use and communicate it in an ethical manner.

1. Explain how Information Literacy is embedded in the nursing curriculum at AKU

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2. How do AKU Faculty and Librarians collaboration to ensure that Nursing students acquire Information Literacy competencies?

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3. What are some of the AKU nursing course units that require utilization in Information Literacy?

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4. What are some of the hindering factors associated with the Information Literacy programme at AKU?

SECTION C: Factors that influence the utilization of information resources at AKU

5. What are some of the factors that can help Second Year Nursing Students utilize information resources?

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6. What are some of the challenges encountered by Second Year Nursing Students in accessing library information materials?

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7. Please suggest ways in which the challenges in question 7 above can be addressed

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Thank you for your time, and offering information for this study.

Researcher

Sarah Nakaziba

Masters (Information Studies) student

Uganda Christian University, Mukono.

+256772526735

saranakaziba@gmail.com

APPENDIX G: SEMI-STRUCTURED INTERVIEW

The researcher interviewing one of the respondents



APPENDIX H: ADMINISTERING OPEN-ENDED QUESTIONNAIRES

The researcher administering questionnaires



APPENDIX I: IL COMPETENCIES BOX

The box where filled questionnaires were placed

