Information behaviour of fourth year students of Mzuzu University in Malawi

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ABSTRACT

The study investigated the information behaviour of fourth year students of Mzuzu University in Malawi. The study specifically intended to establish the information needs, preferred information sources and information seeking behaviours of fourth year students at Mzuzu University. The study also aimed at ascertaining whether emotions experienced by these students conformed to some of those identified by Kuhlthau's Information Search Process (ISP) model. The study used the Kuhlthau's Information Search Process model as a theoretical framework because of its being closer to reality on how students search for information.

The target population of the study was seven hundred and fifty two (752) fourth year students belonging to the five faculties of the University (Mzuzu University website, 2013). A mixed method survey employing both qualitative and quantitative approaches was used. The study used the probability sampling method. Specifically, stratified sampling in which students were divided into different strata according to the faculty they belong to was adopted.

The study used the sample size of two hundred and fifty four (254) students of which two hundred and forty three (243) responded to the questionnaire.

The results of the study revealed that most of the fourth year students (65.4%) needed information for their academic studies. The study also found that most of these students (62.5%) preferred electronic and not printed information sources. Most students indicated that they did not use e-journals (66%), subscription databases (94%) or printed journals (52%).

As sources of information, students relied mainly on the Internet (64.6%), search engines like Google (56.2%) and the OPAC (45%). When searching for information, the majority of students did not use truncation (98.3%) or Boolean logic (98.8%).It has also been established that students did not fully conform to Kuhlthau's ISP model of information behaviour. Some of the obstacles met during

information seeking were lack of financial resources as well as lack of essential textbooks and important books.

The findings suggest that the students lack information literacy skills and it is recommended that the university should re-examine its information literacy education.

It is expected that the findings of this study will assist the researcher and the Mzuzu University library and the Learning Resources Centre to establish more effective and user centred services to meet the needs of their students. It also adds to the body of knowledge on information behaviour of students, especially in Malawi.

Keywords

Information

Information behaviour

Information seeking

Academic libraries

Fourth year students

Information needs

Mzuzu University,

Malawi

Acronyms

CD-ROM	Compact Disk Read on Memory
ICT	Information Communication Technology
IL	Information literacy
ISP	Information Search Process
LIS	Library and Information Science
MUST	Malawi University of Science &Technology
MZUNI	Mzuzu University
OPAC	Online Public Access Catalogue
SADC	Southern Africa Development Cooperation
SPSS	Statistical Package for Social Sciences.
TEEAL	The Essential Electronic Agricultural Library
UML	University of Malawi Libraries
UNDP	United Nations Development Program
USA	United States of America
UWC	University of the Western Cape

Declaration

I declare that ***Information behaviour of fourth year students of Mzuzu University in Malawi*** is my own work, that it has not been submitted before for any degree or examination in any other university, and that all sources I have used or quoted have been indicated and acknowledged as complete references.

Maloto Green Chaura

November 2014

Signed.....

Dedication

I dedicate this thesis to my dear wife Patricia and my two children, Temwanani and Yilinase. I love you all.

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I would be failing if I do not acknowledge the following for the part they played in my studies here at the University of the Western Cape.

Firstly, to God Almighty, who gave me good health throughout the duration of this program.

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Chapter one: Introduction and background

1.0 Introduction

Understanding students' information behaviour is paramount in the information service delivery of any academic library. When the library is aware of and understands the information behaviour of its students, it can re-design its services to match those behaviours. It can also enable the library to produce services and collections which will meet the needs of the students since information has always been an important resource sought after in academic activities (Doris and Ndubumna, 2013). However, this is more pronounced when these students enter their final/fourth year in college.

In academic libraries, the assumption is that a fourth year student has developed more skills than any other student in how to interact with information and the library. Therefore, a study of the fourth year student information behaviour might help the library to be aware of how students behave. In turn it will accord the library the opportunity of knowing how to handle and intervene during their search process. Thus the current study aimed at investigating the information behaviour of fourth year students with regard to information searching at the Mzuzu University, Malawi. In Malawi, students undergo a four year undergraduate degree program of university education. Fourth year students are undergraduate students in their final year of university education.

This chapter, therefore, provides a general introduction to the study. It provides the background to the study. It describes the problem under investigation, presents aims and objectives of the study and the research questions. It also describes the Kulthau's ISP model the theoretical framework partly guiding this study. This chapter also outlines the significance of the study. Finally it explains how the whole thesis has been organised.

1.1 Background to the study

Malawi is one of the least developed countries in the world. Currently it is ranked at one hundred and seventy (170) on the human development index in the world (UNDP, 2013). Higher education in Malawi still remains low compared to other countries in the Southern African Development Cooperation (SADC)region(The education system in Malawi, 2010, p. 4).In Malawi 51 per 100,000 inhabitants will earn a higher education qualification.

From 1965 to 1997, Malawi had only one university, namely the University of Malawi. In 1999 the Malawian government opened a second university, the Mzuzu University, to address the ever increasing demand for tertiary education. The main objective of these two public universities is to help in the production of the much needed human capital through provision of higher education in different fields that will develop the economy of Malawi. More recently, the Lilongwe University of Agriculture and Natural Resources and the Malawi University of Science and Technology (MUST) have been established bringing the total of public universities to four.

Apart from these public universities, there are also private universities spread across the country. They augment the efforts of the public universities in increasing enrolment. In December 2013, there were a total of seven private universities – most of them being church owned. This, however, does little to increase the tertiary education because the tuition fees are too high for the average Malawian student.

Furthermore, Ajiboye and Tella (2007:40) have observed that developing countries are faced with more challenges in providing quality higher education programmes than their counterparts in developed regions. Malawi has not been spared from this. Mapulanga (2012, p.121) found that the University of Malawi Libraries (UML) are heavily underfunded - below 6% of the annual budget. This resulted in libraries failing to procure needed books and to subscribe to journals.

At the Mzuzu University, acute shortage of essential and prescribed textbooks has resulted in students relying on the few resources available instead of searching for additional information. Most students rely entirely on the reservation desk (short loan section) for their information needs.

This is the case despite the observation that Malawi has made progress in transforming towards the information knowledge economy (Malawi National ICT Policy, 2013). Current statistics indicate that out of the population of fifteen million, 17% use the Internet and 27% use mobile or landline telephones. However, information provision services to the Malawian public are still mostly print based. The majority of people in Malawi presently still rely on printed information sources with the minority having access to online information through the Internet. This has an impact on information behaviour, especially that of students.

1.1.1 Students information behaviour

For many years people have been seeking, making sense of, and using information in order to manage their work, solve their problems, or simply to survive. All these activities constitute information behaviour. Wilson (2000, p.49) defined the term information behaviour as the 'totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking and use'.Wilson (1999, p.250) also indicated that information seeking behaviour includes those activities a person may engage in when identifying their own needs for information, searching for such information in any way, and using or transferring that information.

Ikoja-Odongo and Mostert (2006, p.148) stated that information seeking is seen as a process with which humans engage to purposefully change their state of knowledge. In order to proceed with information seeking, the process requires an information seeker to apply their knowledge and skills. If students do not have skills in information seeking, they fail to utilize all the resources which are available. As a result students have been noted to heavily depend on the short loan section of the library for their information needs and to disregard the other library

sections with equally or better information. Fidzani (1998, p.337), found that because graduate students in Botswana, lacked basic skills on how to use the university library services and resources, they developed heavy dependence on textbooks and lecture notes. Having basic skills in using the library may prevent challenges faced by the students.

As emphasized by Nkomo, Ocholla and Jacobs (2011, p.281) knowing and understanding the information seeking behaviour of students will streamline the provision of better library services and enable the design of information systems. In this era of competition, it is very important for information providers to design and offer appropriate user-centred information services.

Information technology communication (ICT) and the Internet has simplified the whole process of information provision. Information seeking is no longer associated with physical facilities like a library and people can access information from outside the library. Saad and Zainab (2004, p.4) found that almost 99% of final year undergraduate students were using the Internet as an information channel. Many of these factors affect students' information behaviour. The challenge facing students currently is how to retrieve relevant, reliable and scholarly information effectively and efficiently.

A number of unpublished research studies on the information needs and seeking behaviour of undergraduate students have been undertaken at the Mzuzu University, Malawi (Selemani, 2010; Tambala, 2010 and Warren, 2008). In Malawi students come from secondary schools without operational school libraries and are therefore not information literate. As observed by Warren (2008, p.1) although students undergone an information literacy program when they arrive at the university, it seems students are still struggling to find the relevant information in the library. Therefore, it is important to investigate the information behaviour of fourth year students with regard to information searching at the Mzuzu University, Malawi.

1.2 Research problem

Although students are trained in library skills and information use when they first arrive at the university, it has been observed that many students still face challenges in their information seeking activities in the library (Warren, 2008, p.1). Having accumulated twenty five years of experience working in the library, the researcher observed several challenges faced by students while they are searching for information. These problems are more pronounced when they need information for their academic activities like writing assignments and research proposals. Fidzani (1998, p. 337) also noted that graduate students at the University of Botswana lacked basic skills on how to use the University library services and resources, which resulted in heavy dependence on textbooks and lecture notes. Kuhlthau (1993, p.36) observed that most often users have difficulties in the early phases of information seeking. Even when they begin with enthusiasm and initial success, many become confused, hesitant and uncertain on how to proceed after a short while. This raises the question of why students despite being trained on how to retrieve and locate information, are still facing numerous challenges in their information seeking.

Knowing what type of information is needed, how this information is sought and for what purpose students seek the information may guide library service provision. George, Bright and Hulbert (2006, p.2) claimed that for a library to provide effective services to satisfy its users, the library must be aware of the different information behaviours of its users. Thus this research study investigated the information behaviour of fourth year students at Mzuzu University in Malawi.

1.3 Definition of key concepts

Information

Information is understood with different undertones even within the Information Science context. According to Ajiboye and Tella (2007, p.40), information is data that have been processed to be well understood and to satisfy the user's query. They further indicated that information is data which has value and assist in

planning, decision making and evaluation of any programme. They concluded by stating that information is crucial to individual's survival.

Information needs

Information needs are understood in Information Science as stemming from a vague awareness of something missing and as culminating in locating information that contributes to understanding and meaning. It is anomalous state of knowledge, or gap in individuals' knowledge in sense making situations. For a person to experience an information need, there must be a motive behind it (Ajiboye and Tella, 2007, p. 42).

Information behaviour

Bates (2010) claimed that information behaviour is the current umbrella term being used to describe the many ways in which people interact with information, in particular the ways in which people seek and utilize information. Previously, information behaviour studies were known as use studies. Information behaviour in this study encompasses all aspects of information behaviour of fourth year students that require them to communicate and seek information that is relevant to their information needs.

Information seeking

Marchionini (1995, p.5) described information seeking as a process which people purposefully employ in order to change their state of knowledge. On the other hand, Wilson (2000, p.49) defined information seeking as a form of human behaviour dealing with the purposive seeking for information in order to satisfy an information need.

1.4 Aims and Objectives

Just like other students in any university, fourth year students at the Mzuzu University are engaged in information seeking on a daily basis to close their information gaps. Therefore, this research study aimed at doing the following:

- To ascertain the information needs of the fourth year students at Mzuzu University in Malawi.
- To determine the information seeking practices of fourth year students at Mzuzu University.
- To determine the information sources preferred by these students.
- To find out if fourth year students at Mzuzu University conform to some of stages of the Kuhlthau's ISP stages in their information searching process.
- To find out the obstacles encountered by these students during information seeking.

Research questions

This study sought to answer the following questions**:**

1. What are the information needs of fourth year students of Mzuzu University, Malawi?
2. How do fourth year students at Mzuzu University seek and obtain information?
3. What are the preferred sources of academic information in the University used by fourth year students of Mzuzu University, Malawi?
4. Do fourth year students of Mzuzu University conform to the initiation, exploration and ending (search closure) stages of the Information Search Process (ISP) model?
5. What are the obstacles faced during the information seeking process?

1.5 Theoretical framework

Many information-seeking models have been developed in the past for studying the information behaviours of users. One of such models is Kuhlthau's model. Kuhlthau's Information Seeking Process (ISP) model was developed in the United States of America in the early 1980's.Kuhlthauobserved how high school students showed signs of being confused and anxious when searching for information in

the library in order to write their assignments (Kuhlthau, 1993, p. 34). Wilson (1999, p. 265) indicated that Kuhlthau's ISP model owed its origins to George Kelly's personal construct theory and it depicts information seeking as a process of construction. A small scale research study was conducted targeting twenty five high school students in the USA to develop the model. The model was then tested in two longitudinal studies and further been verified in two large-scale studies (Kuhlthau, 1993, p.55).

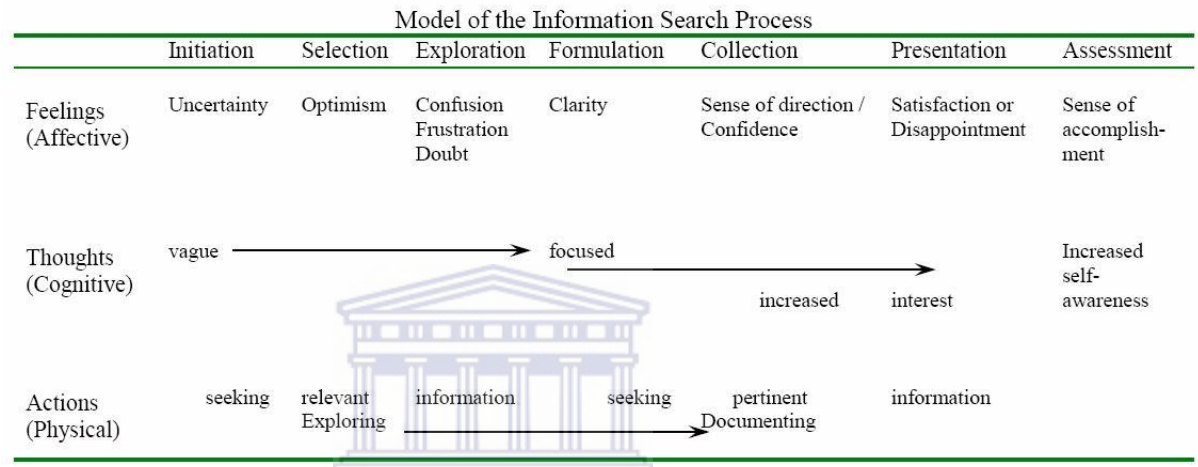
The ISP model presents from the user's perspective a holistic view of information seeking in six stages (Kuhlthau and Tama, 2001, p.34). It incorporates three realms of experience: the affective (feelings), the cognitive (thoughts) and the physical (activity). It also describes the user's experience in the process of information seeking as a progression of thoughts, feelings and actions. This is why it is a suitable model to be used when studying information behaviour of students.

Hyldegard (2006, p.294) used the ISP model in a study to explore if group members during a project assignment behaved differently from the individual modelled in the ISP. The study found that there was no emotional turning point resulting in certainty and relief by the end of information seeking process. In addition some of the members still felt uncertain, frustrated and disappointed at the end of the project.

The ISP model was used in this study because it addressed the objectives of the study and supplied guidelines for designing and framing the investigation of information behaviour - especially that of students. According to Kuhlthau (1993, p.38) the ISP presents the sequence of feelings commonly experienced by users during the search process. Additionally, Robinson and Robinson (2011) noted that the ISP model is a good model as it holistically tackles the emotions of the information seeker when going through the information search process. They further claimed that the ISP has eased the problem of human information behaviour as a complex process by presenting information seeking as a linear process with consecutive stages.

The ISP presents a realistic way of what a student goes through when searching for information in both print and digital environments from the beginning to the end with the relevant accompanying emotions at each stage. This is very imperative for librarians so that they may know when to intervene during the search process and/or to understand the emotions experienced by students.

Figure 1: Kuhlthau's ISP Model 2004



Initiation:

When a person realizes they lack knowledge or information on a subject, the user becomes aware of an information need. During this stage, users frequently experience feelings of uncertainty and apprehension.

Selection

The user identifies and selects the general topic for seeking information. This is an important point in the ISP, as a user may be overwhelmed by feelings of anxiety about identifying the best topic. The user also experiences a brief sense of optimism and a readiness to begin the search.

Exploration

Exploration is when users are beginning to assimilate and relate to themselves the information they are encountering. The majority of users tend to abandon search at this stage, due to feelings of inadequacy, failure to comprehend the information,

will abandon the search at this point. The feelings of uncertainty expressed during the first part of the ISP are common and essential. Those feelings help users to refine their searches in order to find a sense of success upon completion of the ISP.

Focus formulation

The user is now able to structure the problem which needs to be solved. The feeling of uncertainty diminishes and user confidence increases. Problems between the user and the information system are minimal.

Collection

Pertinent information from relevant information is gathered. Uncertainty subsides as the interest and involvement in the task deepens.

Presentation

Users feel relief, regardless of whether the process was deemed fruitful or not. This enables the user to put information to use and report on findings.

Assessment

At the end of the process, users assess the presented information and are overcome with either a sense of fulfilment or disappointment (Kuhlthau, 1993, p.43).

1.6 Purpose of the study

This research study focused on investigating the information behaviour of fourth year students of Mzuzu University, Malawi. This included what their information needs are, how they seek for information, their searching techniques, where they obtain their information, preferred information sources, obstacles that they encounter during the information seeking exercise and if the initiation and exploration stages of the ISP were evident in their search strategies.

1.7 Significance of the study

Since Mzuzu University was opened in 1999 the library has never conducted a fully-fledged study to understand the students' information behaviour. Understanding the information behaviour of students can help an academic library, like Mzuzu University to provide timely and efficient services. Wilson (1977, p.1) cited in Kuhlthau (1993, p.2) emphasised the need for libraries to connect between the way users use and search for information and the way libraries and information systems provide information. The results of this study would guide and prompt the library to create user centred programs which would best meet the needs of the students. It would also assist the library and the learning resource centre to evaluate its programmes, services and collections. Findings and recommendations would enable librarians to create quality services to meet the information needs of students. Findings would also identify the type of resources preferred by students and would enable the library to prioritise purchases against the limited budget. The information gained from this study could assist in this important function.

Furthermore it is hoped that these results would contribute to the growing body of knowledge in the study of information behaviour of students especially in this part of Africa.

1.8 Scope and limitations of the study

The focus of the study was to explain the information behaviour of all the fourth year students of the Mzuzu University in Malawi. The study looked into their information needs, how fourth year students go about searching for their information, methods and strategies applied, information sources preferred and if at all there were signs that students conformed to the ISP in their information seeking. The main limitation was the unstable calendar of the university due to financial constraints which render it sometimes not to open according to the university calendar. This adversely affected data collection as the main population, students, were still on vacation until the end of March 2014.

Furthermore the researcher would have loved to conduct the research as a longitudinal study to understand the students' behaviour better. As the study had to be completed within the time frame stipulated by the University of the Western Cape rules for master degree completion, data collected were about students enrolled in 2014 only.

1.9 Ethical statement

In this study, the researcher adhered to the ethical guidelines of the Senate Research Committee of the University of the Western Cape and Mzuzu University where the research study took place. The researcher also managed to obtain the informed consent of his research participants.

1.10 Chapter outline

Chapter one: Introduction and background provides the reader with the background to the study including the research objectives and questions, the significance of the problem, limitations and the ethical statement.

Chapter two: The literature review provides a comprehensive review and synthesis of the existing research and professional literature on the information behaviour of students at universities around the world and close to the research area, Malawi.

Chapter three: Research design and methodology provides an overview of the research design and methodology, identification of the study area and study population. It also presents the techniques employed to collect data.

Chapter four: Data analysis, presentation of findings and discussion describes and presents the study findings collected through the questionnaires.

Chapter five: Summary, conclusion and recommendation. Summarises research findings, provides recommendations and concludes study.

1.11 Chapter summary

This chapter has introduced the study by presenting the background, statement of the problem, and theoretical framework of the study. It has also stated the research objectives and research questions. The following chapter two will present the literature review on the information behaviour of undergraduate students in tertiary institutions around the world.

Chapter Two: Literature review and theoretical framework

2.0 Introduction

This chapter reviews literature on information behaviour of students in higher education institutions. It describes the information needs of students, their preferred sources of information and the obstacles faced by students in their information seeking. Finally, it describes the theoretical framework that partly guides the study

2.1 Review of the literature

According to Wilson (1999, p. 249), information behaviour is the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking, and information use. In their study of graduate students' information seeking behaviour, George, Bright and Hulbert (2006, p.1) claimed that for a library to be able to provide better services which can meet the needs of its users, there is need to be aware of the different information behaviours of the users. Although the literature covers a wide variety of literature on information behaviour, this review focuses on information behaviour of students during the information seeking process. This review will firstly focuses on students' information needs followed by student information behaviour then students' preferred sources of information. Finally, it will review literature on obstacles faced by students in information seeking.

2.1.1 Students' Information needs

Students at any educational setting will likely need information in their daily learning and research activities. Kuhlthau (1993, p.161) defined an information need as the gap between the user's knowledge about a problem or topic and what the user needs to know to solve the problem. Naumer and Fisker (2009) additionally claimed that an information need is one of the most central concepts within Library and Information Science. A clear information need is often considered to be the motivating force behind a user's action to seek information. It

is the information need caused by "uncertainty due to lack of understanding, gap in meaning, or a limited construct" that triggers information seeking (Kuhlthau, 1993, p.347).

To understand the information behaviour of students better Kakai, Ikoja-Odongo and Kigonga-Bukenya, (2004, p.15) investigated the information needs and seeking behaviour of undergraduate students of Makerere University, Uganda. The sample of the study comprised of 104 students from their first, second and third year of study. The findings revealed that the main information needs of these students included course work and assignments (86), preparation for examinations and tests (68), general reading to complement lecture notes (55), class and group discussions (44), tutorial presentations (15), dissertation research (15) and seminars or preparation for workshops (10). As indicated in this study, the information needs of these undergraduate students were all to do with the studies in either way.

Ajiboye and Tella (2007, p. 48) in their study of undergraduate students, concluded that academic information was the predominant information most sought by these students. The results indicated that academic information was highly rated by 1282 (64.1%) students. Other information required was for personal development (12.5%), health information (11.25%), employment information (9.3%) and global information (2.85%). This study differs slightly with that of Kakai, Ikoja-Odongo and Kigonga-Bukenya because of the different information needs such as personal development, health, employment and global information.

Baro, Onyenania and Osaheni (2010, p.114) found that among the reasons for searching information by students, academic information was rated the highest(93.2%), followed by personal information (4.0%) and sports information (2.8%). The study revealed that the students needed academic information to write their course assignments, seminar papers, prepare for their class discussions, prepare for their examinations and tests, and to write their final year research papers.

Oladokun and Aina (2009, p.45) examined the library and information needs of continuing students at the University of Botswana as well as barriers in using information sources. The study used random sampling on 274 students in year second and third year of their studies. The results of the study concluded that the majority of the respondents (95%) indicated information related to their subjects as their main information need. This finding was supported by the findings of Nkomo, Ocholla and Jacobs, (2011, p.293) who in their studies conducted at the University of Zululand and the Durban University of Technology in South Africa, also found that the major information need of students was academic information to support their studies. This indicates that despite there being many reasons for students seeking information, information to support their academic activities was a major reason for seeking information.

It is clear from the above that although students may have many information needs, information needs to support their studies tend to appear as a major need.

2.1.2 Information behaviour

According to Fidzani (1998, p.330) a lot of research had been conducted on the information behaviour of different library user groups. Information behaviour of students in higher education institutions around the world usually involve searching for information in order to complete course assignments, prepare for class discussions, seminars, workshops, and write research projects (Baro, Onyenania and Osaheni, 2010, p.109). Information behaviour of students includes all information seeking practices.

Pettigrew, Fidel and Bruce (2001, p.45) defined information behaviour as the study of how people need, seek, give, and use information in different contexts. This definition is consistent with Wilson, who defined information behaviour as "the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking, and information use" (Wilson, 2000, p. 49). Wilson further added that, information-seeking behaviour, information searching behaviour and information use behaviour are subcategories of information behaviour.

Students in Oklahoma, USA behaved differently when seeking information for research projects (Denison and Montgomery, 2012, p.381).Denison and Montgomery concluded that most college students found the process of information searching and retrieval difficult and frustrating. From the study, three unique groups emerged which are:

- experienced critiques
  - These students were aware of the need to evaluate and judge every piece of information that is used in a research project. They compared information found on free Internet resources to that in databases. However, these students found it difficult to get started, did not enjoy the process of looking for good information and disliked Wikipedia.
- technology admirers
  - These were students who considered themselves as great Internet users but did not possess strong information literacy skills. They had experience in finding information on the Internet that met their day-to-day needs but lacked the skills to critique and locate scholarly information. They also found databases difficult and confusing.
- extrinsic motivators
  - These students were only concerned with completing the assignments and not what they will learn during the process. Although they liked using Wikipedia, they were aware of its unreliability as an academic source of information. They blindly trusted the reliability of other free Internet resources and they were aware of what they wanted to research before they got started although they did not know how to access the best information.

Most studies have noted that students depended on other people other than librarians for guidance during information seeking. George, Bright and Hulbert (2006, p.10)explored graduate students' information behaviour at Carnegie University, America. The results showed that people indeed play an essential role in graduate students' information seeking exercises. In the study, the professors guided the students in terms of which information resources to search for. The

study also noted that students tended to use citation chaining in their information seeking and finally all students acknowledged the big role that the library played in their research. Similarly, Kerins, Madden and Fulton (2004, p.9) reported that students learned their information seeking strategies from their educators. This reduced the role of librarians as not a priority in their information seeking but rather as people leading them to sources as directed by their lecturers. This eventually resulted in students adopting information seeking strategies that excluded libraries and library staff. The researchers suggested that in some cases academics can mislead their students. This is quite common in universities where a student would rather get advice from the lecturer than a librarian even if the issue was a library domain concern. This practice results in students getting misguided in their information seeking and fails to get the right information that they require.

Another interesting research study finding was that, instead of students embarking on their own search to find the most appropriate materials to use, students were found to concentrate on using particular materials recommended by either their lecturers or fellow students who have used the material before. This implied that sometimes students were lazy to seek information on their own and would rather depend on other people like friends and lecturers (Kakai, Ikoja-Odonga and Kigonga-Bukenya, 2004, p.15).

Additionally, Julien (2009, p.5059) maintained that the current crop of students enrolled in universities belong to the so-called net generation or generation Y group. They are good and competent technology users who prefer using online information sources. Because of the attractiveness of easy access, students will rather use Google than library databases. However, the study by Brindesi, Monopoli and Kapidakis (2013, p.791) revealed that students at the University of Athens were not very good at evaluating information and did not possess good searching skills. It was found that the undergraduate students displayed a preference for familiar, flexible and easy to use information resources that provided quick access to information. The study also found that these students rarely visited the library and were not aware of the existence of some basic

information sources. Additionally, it was revealed that these students could be termed ordinary searchers as they tended to use only one or two search terms and did not use advanced searching techniques like Boolean logic operators when they were searching online databases.

Karlsson, Koivula, Ruokonen, Kajaan, Antikainen and Ruismaki (2012, p.584) conducted an observational study at the University of Helsinki in Finland to investigate the information-seeking competencies, practices, and knowledge of university students. The aim of the study was to determine the processes of the different ways of searching for scientific information. The results of the study revealed three types of information seekers namely: 1) the novice who uses random information seeking style of trial and error, 2) the survivor who will use natural language when searching, has difficulties to form search statements and does not master search techniques like Boolean logic and 3) the experts in information retrieval who have knowledge of information sources and have mastered search techniques like Boolean logic. However, the study concluded that scientific information seeking was a complex experience. These findings tend to be in agreement with what Julien (2009, p.5059) found. As noted above, these findings indicate that indeed information seeking by students can be a challenging experience and most often students struggle during the process.

Liyana and Noorhidawati (2010) explored the extent to which postgraduate students in Computer Science might constitute a special unique user group. The study which involved one hundred and forty (140) students, took place at the University of Malaya. The assumption was that the Computer Science students with their special IT skills and experience in seeking information on the web would be accomplished information seekers. Result revealed however that these students faced challenges with information overload culminating from their ability to retrieve more information than others. As a result they faced problems in evaluating the information. The study further revealed that because they knew the query process and how to use keywords combined with Boolean operators, their ability to conduct information searches was quite different from others. The study also found that students do an Internet search first when they start their

information search processes. The study concluded that being ICT literate alone doesn't assure one to be a competent information seeker.

Recent studies have established that students use Google as a first choice of information source (Haglund, 2008, p.55).It was found that a few researchers had knowledge of Google scholar. The study noted that the search pattern of the researchers can be described as "trial and error" as it was mostly random. While, Abdoulaye (2002, p.194) in a study of African students studying in Malaysia, found that the Online Public Access Catalogue was the mostly used channel of information (55%), Baro, Onyenania and Osaheni (2010, p.114) revealed that students tend to browse library shelves to find information in library collections. The reason could probably be attributed to lack of the OPAC skills.

The importance of teaching users how to use the library and to find information through librarians cannot be overemphasised. This is echoed in the studies by Fidzani (1998, p.337), Karobilli, Malliadri and Zapounidou (2011, p.161), Kakai, Ikoja-Odongo and Kigonga-Bukenya (2004, p.20) and Adio and Adeola (2012, p. 27) who established and concluded that most students lack the basic skills in using the library, retrieving relevant information online and using the information obtained. The researchers argued that support in the form of information literacy programs can assist to alleviate these problems faced by students.

2.1.3 Information sources preferred by students

Selection of information sources is one of the most crucial steps during the process of information seeking. Information sought can be accessed through different channels, for instance libraries, Internet or mobile devices.

According to George, Bright and Hulbert (2006, p.13), of the many information sources available to graduate students, the Internet has of late proved to be a popular information source. In this study, it was reported that almost all students (94%) preferred online digital resources. This could be attributed to convenience, speed and ease of access – characteristics which are often associated with online resources. This result was consistent with what Adio and Adeola (2012, p.27) found in their study. Their findings revealed that the Internet was the most

effective information resource and it was a preferred source of information to 74% of agricultural students.

Recent studies have indicated that the Internet has a great influence on the information seeking behaviour of students and academics. This has been observed by Vezzosi (2009, p.69) when he conducted an exploratory study on doctoral students in the Biology field. The study used an in-depth semi-structured interview to explore the information sources students used, research strategies adopted, the role played by people in their information seeking process and the attitude students had towards library services. It was discovered that doctoral students relied heavily on the Internet for their research work and that their use of library was minimal. Ajiboye and Tella (2007, p.48) concurred with these findings in their study carried out at the University of Botswana. The study found that the Internet was the most preferred source of information by the students. The Internet as a preferred source was followed by lecture notes and lastly the library. Additionally, Greenberg and Bar-llan (2013) reported that the Internet through search engines (Google specifically) was a primary source of search for students in Israel.

Many researchers have identified factors and reasons for information source selection in different information seeking situations. According to O'Brien and Symons (2007, p.413) students preferred the web over alternative sources of information. Their study revealed that the web was the information tool of choice as 79% of the respondents indicated that they use it often. It was also found that 80% of the students consulted electronic journals and 69% consulted print journals frequently. This is because current information is always available on the web. Lee, Paik and Joo (2012) investigated the selection of information sources and factors associated with resource selection by undergraduate students. The study employed a self-generated diary method with 233 undergraduate students. The study revealed that online resources were more frequently selected (67.1%) than other types of sources, such as human resources (18.4%), printed resources (11.5%) and mass media broadcasting (3%). Resource features were the most widely reported factors in relation to source selection. Some of these features

which influenced selection of sources included credibility, coverage, ease of access, currency and free access. Furthermore, perceptions of users were investigated focusing on usefulness, credibility, accessibility, familiarity with sources, satisfaction, and intention of continuous use. It was concluded that multiple factors influenced the resource selection of undergraduate students.

Although general preference for digital sources among students in earlier studies were noted, Majid and Tan (2002, p.323) found that students in Computer Engineering at Nanyang Technological University, Singapore, preferred books instead of electronic sources. Completeness, ease of use and accessibility were given as reasons for preferring books. They also reported that the use of electronic journals and databases were very low.

Although many studies have indicated that students preferred the Internet, a low exploration of websites that hosted scholarly materials was observed by Nkomo, Ocholla and Jacobs (2011, p.285). They also noted that most of the students in the study accessed the internet from university facilities. This finding was echoed by Karobilli, Malliadri and Zapounidou (2011, p.161) who revealed that students rarely used databases and that searching databases or e-journals was not popular.

Fidzani (1998, p. 336) conducted a survey of graduate students in Botswana to investigate information behaviour and information sources usage. Based on the survey results, Fidzani concluded that many graduate students lacked the basic skills in effectively using the library and its resources. In addition, the study established that the main sources consulted by the students were textbooks and lecture notes. These findings correlated with Bhatti (2008, p.12) who found that the majority of the students (72.8%) relied on books for their academic and research needs and that only 28% used periodicals. These findings however are in contrast to the findings of Vezzosi (2009, p. 69) and Ajiboye and Tella (2007, p. 48) who found that students relied heavily on the Internet for their information requirements.

In a similar study Kakai, Ikonja-Odongo&Kigonga-Bukenya (2004, p.15) at the Makerere University in Uganda, found that lecture notes and hand-outs were the

most preferred and used information sources by the undergraduate students. It was revealed that among the resources, textbooks were the most heavily used (97%). Students also preferred having lecture notes to searching and preparing their own notes. The researchers were of the opinion that, this could be attributed to lack of awareness of other information resources like journals and CD-ROMs. It was concluded that library information literacy programs could assist in changing this scenario.

Baro, Onyenania and Osaheni (2010, p.115) investigated the information needs, sources and the information searching strategies of undergraduate students in three universities in Nigeria. It was found that all students used textbooks, journals, Internet, and relied heavily on human resources for information. However, there existed a significant difference between male and female students in the Humanities regarding sources used and search strategies.

Kim and Sin (2007, p. 662) investigated the relationships of problem-solving abilities and styles, source perceptions and selection behaviour of college students. Findings of the study suggested that users' belief in their problem solving styles had an impact on the source use behaviour. Confidence in their problem-solving abilities and approach-avoidance style were found to affect the perception and use of sources while, personal control of their emotions and behaviour influenced selection criteria. The study noted that accuracy/trustworthiness was rated as the highest selection criteria influencing selection of sources. Accessibility and ease of use were not regarded as important as accuracy/trustworthiness. In terms of perception of sources, it was revealed that the web search engines and web sites were rated highly as participants tended to perceive that resources available on the web were highly accessible and easy to use. Online databases were perceived as less accessible, less easy to use and less accurate.

Oladokun and Aina (2009, p.48) examined the library and information needs of continuing education students in Botswana. They noted that the majority of students (90%) consulted their lecturers for information followed by colleagues (71%), and library resources (55%). Dependence on lecturers could be attributed

to lack of library instruction in the use of library resources as students were not exposed to other sources of information.

A study by Agboola (2010, p.64) of the use of print and electronic resources by agricultural students in Nigerian universities revealed that there was a significant difference between the use of library and electronic resources. The Essential Electronic Agricultural Library (TEEAL), a specialised electronic agricultural database, was the most used (52.2%) electronic information source while 42.1% of the respondents indicated using textbooks regularly. It was further observed that students preferred textbooks to all other printed resources. The researcher suggested that this could be due to the fact that textbooks provided them with information they needed and they can be used outside the library.

Greenberg and Bar-llan (2013) stated that students were in the habit of using different sources of information during the writing of academic assignments. In their survey involving one hundred and fifty one Israeli students, it was revealed that there was a significant difference between native language groups regarding the use of search engines, the use of library services, and in the patterns of conducting academic research. It was also found that the majority of the students used search engines as a source of information. The major differences were as follows:

- On preferred method of information retrieval, there was a statistically significant difference in using search engines for retrieving academic information between the Hebrew and the Russian language groups, who preferred search engines more than the Arab language group.
- Both the Hebrew and the Russian language groups did not use the help of the reference librarian when searching for information contrary to the Arab group which frequently used these services.
- The Russian immigrants were the heaviest users of the web as an information source than any other group.

Marumo (2000, p.94) conducted a survey of the information seeking behaviour of members and students of the Dental Faculty of the university of the Western Cape

who used the Oral Health Centre Library. The study found that journals and the Internet were the most preferred sources of information by both students and faculty. This could be attributed to the fact that the Internet provides easy and current information which meets the needs of the students and academics alike.

2.1.4 Obstacles encountered during the information seeking

Most research study findings agreed that students face obstacles in their information seeking exercises. Mellon (2006) cited in Baro, Onyenania and Osaheni (2010, p.110), concluded that undergraduate students encountered technical problems to locate materials from university libraries.

A study by Duncan and Holtslander (2012, p. 25) established that the main obstacle students encountered while searching databases was the inability to formulate keywords as search words or phrases. This resulted in students getting frustrated. This finding conformed to Kuhlthau's (1993, p.46) description of the exploration stage where an information searcher experienced confusion, uncertainty and doubt when interacting with databases. This will lead to feelings of frustration and anxiety. Kuhlthau further observed that students experienced great difficulties regardless of the topic of the assignment or their ability level to complete assignments.

On the other hand, Kakai, Ikoja-Odongo and Kigonga-Bukenya (2004, p.16) and Fidzani (1998, p.337) observed that low levels of information literacy is another notable challenge to information seeking by students. Lack of information literacy skills was the reason students fail to find relevant materials to satisfy their information needs. This observation was supported by Bhatti (2008. p.15) who found that 48% of the respondents faced difficulties in using the catalogue, 22.5% in finding other bibliographic aids and 52.3% in finding the required materials on shelves.

The researchers emphasised the importance of information literacy programs and suggested that library instruction programmes or information literacy education, if well done, can empower students to be accomplished information seekers in a

library. Libraries must therefore offer good library instruction and information literacy programmes.

In examining the web information seeking of students and staff at University of Zululand and Durban University of Technology in South Africa, Nkomo, Ocholla and Jacobs (2011, p.293), noted that some of the challenges students meet in their quest for information included lack of proper skills in the use of online resources and information. Students tended to rely on search engines for information retrieval. This implied that students accessed general and not scholarly information. However, if they were properly trained they could have been accessing subscription databases which contain peer reviewed information. Connectivity and bandwidth, lack of access to computer facilities and blocking of some sites were also identified as challenges. After studying agricultural students in Nigerian universities, Agboola (2010, p.64) concurred with the above mentioned findings. It was discovered that the main challenges in information seeking was the limited Internet connectivity and difficulty in locating books on library shelves.

Callinan (2005, p. 94) investigated the sources of information used by students for their course-work, how they used the library as well as their awareness and use of the electronic library at the University College of Dublin. The study established that one of the biggest obstacles faced by final year Biochemistry students was accessing course textbooks from the long-term loan collection. Oladokun and Aina (2009, p.48) identified lack of a well-equipped library as a major challenge for information access by students in Botswana. They also noted that use of the Internet was significantly low (25%) due to the cost involved. Students had to pay for the time spent on the Internet.

There are not many published research studies on information behaviour of students closer to Malawi. Norbert and Lwoga (2012) conducted a study in Tanzania investigated the information seeking behaviour of physicians at Muhimbili National hospital, Tanzania. The researchers using a survey method studied 259 physicians and used Wilson's model (1996) to guide the assessment of the physicians' information seeking behaviour. Most of the physicians

indicated that patient care information is their main information need. Information for research or further personal development was not as important. The physicians also preferred formal information sources including textbooks and printed journals. This might be because of noticeable low usage of the Internet due to undeveloped ICT infrastructure, lack of access to computers, frequent power cuts and lack of time.

From the above review of literature the information behaviour of students in terms of an identified pattern and emotions that the students go through in their information seeking process has not been addressed. Thus the current study establishes this by investigating the information seeking behaviour of forth year students of the Mzuzu University.

2.2 Theoretical framework: Information search process model

Many information-seeking models have been developed to explain the information needs and seeking behaviour of users. Information seeking models describe and explain circumstances that predict actions by people seeking information. Among the developed information-seeking models is the Kuhlthau's Information Search Process (ISP) model, a theoretical framework guiding this research study. Kuhlthau's Information Search Process (ISP) model was developed in the United States of America in the early 80's when Kuhlthau noticed how high school students showed signs of being confused and anxious when searching for information in the library in order to write their assignments (Kuhlthau, 1993, p.34.). Wilson (1999, p.265) indicated that Kuhlthau's ISP model owed its origins to George Kelly's personal construct theory and it depicted information seeking as a process of construction. A small scale research study was conducted targeting twenty five high school students in USA to develop the model which was then tested and verified in longitudinal studies later on (Kuhlthau, 1993, p.55).

The ISP is a suitable model to be used in understanding student's information behaviour. It presents a holistic view of information seeking from the user's perspective in six stages (Kuhlthau and Tama, 2001, p. 34). It incorporates three

realms of experience: the affective (feelings), the cognitive (thoughts) and the physical (activity). It also describes the user's experience in the process of information seeking as a series of thoughts feelings and actions. Kuhlthau (2008, p.68) claimed that the ISP is a task model of information behaviour that describes people searching information to accomplish a task within a specific period of time.

According to Kuhlthau (2008, p.70) the model presents major decision points where users can appreciate intervention. By concentrating on these decision points, librarians can provide effective and efficient library and information services tailored to users' specific needs.

Other studies have been conducted to verify Kuhlthau's ISP model in real life situations. Hyldegard (2004, p.294) conducted a qualitative case study to explore Kuhlthau's ISP model in a group-based educational setting. The purpose of the study was to explore if members of a group behave differently from the individual modelled in the ISP. The study found that there was no emotional turning point resulting in certainty and relief by the end of information seeking process. In addition some of the members still felt uncertain, frustrated and disappointed at the end of project assignment.

On the other hand, Vakkari (2001, p.295) through his observational study of the information behaviour of students writing a research proposal for a master's thesis authenticated Kuhlthau's ISP model when it predicted the information behaviour. The study findings showed that the students in his sample followed the stages in Kuhlthau's ISP model.

2.3 Chapter summary

The literature review had noted some of the crucial issues concerning the information behaviour of students. Students perceived the information seeking process as a challenging task, preferred online information and faced challenges in their information seeking activities. Major areas reviewed include, the information

needs of students, their information sources preferred, information seeking practices, challenges that these students meet during the information seeking process and Kuhlthau's ISP model.

Finally, the literature so far reviewed, did not seem to address the actual feelings students experienced when going through the information seeking process. This study will concentrate on whether the information-seeking behaviour of fourth year students could be explained by the application of some stages of the Information Search Process model of Kuhlthau. The following chapter will present the methods and techniques which were employed to carry out this study.

Chapter three: Research design and methodology

3.0 Introduction

The aim of the study was to obtain data on the information behaviour of fourth year students of Mzuzu University in Malawi during their assignment and proposal writing. In this chapter the research method used to investigate the information behaviour of fourth year students is discussed. It outlines the research design of the study. This is followed by the study type used, pilot study, data collecting procedures, data analysis, ethical statement, problems and limitations of the study. The study aimed to answer the following questions:

- What are the information needs of fourth year students of Mzuzu University, Malawi?
- How do fourth year students seek and obtain their information?
- What are the preferred sources of obtaining academic information in the University used by fourth year students of Mzuzu University, Malawi?
- Do fourth year students of Mzuzu University conform to the initiation, exploration and ending (search closure) stages of the Information Search Process (ISP) model?
- What are the obstacles faced during the information seeking process?

3.1 Research design

A research design is a plan which guides the researcher on how to identify the respondents for a study and how to collect information from them in order to answer the research questions. The plan and structure of this research took the form of a case study design but used a survey method to collect information. This is because the study was restricted to fourth year students of Mzuzu University only. According to Kumar (2011, p.126) a case study could be anything "from an individual, a group, a community, an instance, an episode, an event, a subgroup of

a population, a town or a city". In this case fourth year students of Mzuzu University are a subgroup of a population under study. Additionally, Neuman (2000, p.285) describes the survey as a process in which researchers translate a research problem into questionnaires, and then administer it to respondents to create data.

3.1.1 Study type

This study employed a survey method in order to determine the information behaviour of the respondents. According to Connaway and Powell (2010, p.91) a survey research allows a researcher to collect data from all or part of the population to assess the relative incidence, distribution, and interrelations of naturally occurring variables. In addition, Best and Kahn (2006, p.271) claim that surveys are popular research designs in information seeking research. Connaway and Powell (2010, p.91) further indicate that, survey research study if conducted well allows one to generalize from a smaller group to a larger group from which the subgroup has been selected.

The study used quantitative methods. The study questionnaire had quantitative questions and one qualitative question. This method offers the potential or a deeper understanding of some semi-structured research questions. The researcher adopted this method because it is efficient and cost effective, and allowed the researcher to collect responses from a large group of students within a short time.

3. 2 Sampling procedures

According to Connaway and Powell, (2010, p.119) the primary purpose of sampling is to select elements that represent the total population from which the elements were drawn. The research used the probability sampling method and specifically, the stratified random sampling. In stratified sampling the population is divided into groups called strata. A sample is drawn from each stratum. Additionally, Neuman (2000, p.208) posited that in stratified sampling a researcher produces samples that are more representative of the population. This is the main reason why this sampling technique was adopted for this study.

Connaway and Powell (2010, p. 123) further added that, this technique represents a modification of a simple and systematic random sampling in that it reduces the number of cases needed to achieve a given degree of accuracy on representativeness. Since the target population of fourth year undergraduate students were spread across faculties, stratified sampling ensured that all the students from all the faculties had an equal chance of participating in the research study. In this study the population was divided into five strata according to faculties of the University of Mzuzu.

Sample size

Krejcie and Morgan (1970, p. 608) have published a table of recommended sample size in accordance with a given target population in any research study. For a population size of 752 they recommend that the sample size should be two hundred and fifty four (254) - 39% of the population. Furthermore, Kumar (2011, p.196) maintained that the greater the sample size, the more accurate the estimate of the true population will be. The researcher therefore adopted two hundred and fifty four (254) as a sample size for the study. However, the 39% of the population for fourth year nursing students and tourism students were not met as the students were unfortunately off campus doing their practical sessions in the districts during the time of the study Table 1 below reflects how the respondents were selected in proportion to the number of students in the different faculties.

Table 1: Sample size

Faculty	**Population**	**Sample**
Education	329	102
Information and Communication Sciences	45	35
Environmental Science	241	47
Health Science	87	39
Hospitality	50	31
Total	**752**	**254**

3.3 Pilot study

Before administering the questionnaire to the respondents, a pilot study was conducted. A pilot study sometimes referred to as a pre-test, gives a researcher an opportunity to identify questionnaire items that tend to be misunderstood by the participants. A pilot study can also improve reliability and validity of the study (Connaway and Powell, 2010, p. 161).

The questionnaire was tested in a pilot study during the month of March to a class of Library and Information Science postgraduate diploma students at the University of the Western Cape.

The sample was ten students (n=10). This class had similar characteristics to those of the fourth year students at Mzuzu University because they are all well versed in the information seeking strategies as they were taught how to search during library skills classes. These students were asked to make any observations and comments while completing the questionnaire.

3.3.1 Results of the Pilot Study

The participants of the pilot study indicated that the instrument was valid and reliable. A few minor changes were made to correct grammar, to make instructions more explicit, to better the structure of the questions and to correct typing errors. As the researcher also wanted to see how long it would take to administer the questionnaire, the time to complete the questionnaire was recorded. The respondents took between ten and fifteen minutes to complete the questionnaire.

3.4 Study site

This study was conducted at Mzuzu University in Malawi. The university was established by an act of parliament in 1997. It is located in the northern part of Malawi. The university comprises of five faculties namely: Faculty of Hospitality Management and Tourism; Faculty of Health Science; Faculty of Information Science and Communications; Faculty of Education and the Faculty of Environmental sciences (Mzuzu University, 2013). Additionally, the university

has four centres: Centre for Security studies, Centre for Water and Sanitation, Centre for Renewable Energy and Testing and Centre for Open and Distance learning. The current population of both undergraduate and postgraduate students stands at three thousand two hundred (3, 200) (Mzuzu University Registry, 2013).

3.4.1 Mzuzu University Faculties and Departments

Table 2 below reflects the faculties and departments of Mzuzu University.

Table 2: Faculty & Departments Mzuzu University

Faculty	**Department**
Education	Biology
	Language and Literature
	Chemistry
	Education and Teaching Studies
	Geography
	History
	Mathematics
Environmental Sciences	Fisheries
	Forestry
	Land Management
	Renewable Energy Technologies
	Water Resources Management
Information Science and Communications	Information and Communication Technology

	Library and Information Science
Health Sciences	Biomedical Sciences,
	Nursing and Midwifery
	Optometry
Hospitality Management and Tourism	Hospitality Management
	Management
	Tourism

(Mzuzu University, 2013).

3.4.1.1 Library and learning resources centre

In an effort to meet the information needs of its constituents which comprise of students, academic staff and administrative staff, the university established a university library and a learning resources centre. Both offer many services including selective dissemination of information, current awareness, reference work, lending and Internet services. The last two services have direct impact on students and will be discussed below in more detail.

Library Collection

The library collection consists mainly of information material inherited from the Teachers Training College. Due to inadequate budget, the collection is not as comprehensive as it ought to be. The collection consists mainly of books, reference materials, Malawian grey literature, printed and electronic journals as well as CD-ROMs. Printed resources include books, journals, magazines and newspapers. Electronic resources include electronic journals, subscription databases and CD-ROMs. Reference materials are mainly in the form of printed encyclopaedias and dictionaries. Due to inadequate budget and the ever rising cost of books, the library fails to procure enough books per year to ensure a vibrant and current collection. As a result the limited number of books (especially

textbooks) available cannot suffice the ever growing needs of the student community because of growing student numbers.

Lending services

The lending service offered includes the provision of information in both printed and electronic format. Undergraduate students are allowed to borrow four books which they may use for a week. This is to ensure that the scarce resources circulate as much as possible. Printed journals are not allowed to circulate as photocopies of articles can be made in the Library and Learning Resources Centre reprography room. Electronic journals can be accessed in the library's Internet room. However, accessing the Internet is not free although these resources are supposed to be free. Students are required to pay a small fee (equivalent of 1 rand per 30 minutes) to access the Internet.

Internet services

The library and the learning resources centre is the hub of the university. It coordinates all ICT services and provides campus wide Internet and e-learning services. The e-learning service is used by students to interface with their lecturers. In addition to wireless hotspot sites around the campus, it also provides three computer laboratories with Internet access. The three computer laboratories are housed in the main library, in the American corner (an annex of the main library building) and in the ICT department. The computer laboratory in the ICT department has more computer facilities as it is also a teaching laboratory (Mzuzu University, 2013). The fact that students can access information on the Internet provides a wider choice of information sources in addition to the printed information sources made available through the library.

3.4.2 Population

The target population of this study was all fourth year students from the five faculties of Mzuzu University. The study deliberately chose fourth year students because this is the time that these students embark on writing their research projects proposals and additionally it is in this year that grades matter most in

regards to the classification of their degrees. The students should therefore be motivated to perform well in seeking information for their assignments and research projects proposals. Fourth year students have also undergone three years of information literacy training offered by the library and learning resources centre. The assumption was therefore that the students have acquired enough skills in information seeking and that they are good information seekers.

According to the Mzuzu University Registry, in 2014seven hundred fifty two (752) fourth year students were registered. The distribution of the students according to faculties was as follows:

- Faculty of Education – three hundred twenty nine (329),
- Faculty of Information and Communication Science – forty five (45),
- Faculty of Environmental Science - two hundred and forty one (241),
- Faculty of Health Sciences – eighty seven (87) and
- Faculty of Hospitality and Tourism Management - fifty (50).

3.5 Data collection instrument: questionnaire

Newell (1993, p. 96) cited in Hall and Hall (1996, p .98) defined a questionnaire simply as a set of questions for respondents to complete. The researcher opted for the questionnaire because of the following advantages it offers:

- The questionnaire facilitates the collection of large amounts of data in a short period of time.
- They are not expensive. (Connaway and Powell, 2010, p.147).
- Questionnaires also offer greater anonymity as face to face interaction is absent.

According to Kumar (2011, p.149) some of the disadvantages of using questionnaires are:

- Their application is limited to a population which can read and write only.
- There is usually low response rate due to self-administration.

- There is a self-selecting bias because not everyone who gets the questionnaire will return it.
- Because there is no face to face interaction there might be lack of clarification on some issues.

3.5.1 Questionnaire design

Only one questionnaire was designed and administered to solicit information on the information behaviour of fourth year students. The questions in the questionnaire were designed and aimed at obtaining information about the information behaviour of fourth year students at Mzuzu University in Malawi. It aimed specifically to obtain feedback on their information needs, preferred sources of information, to ascertain if these students do conform to the initiation, exploration and search closure stages of the Information search process model of Kuhlthau. Focus was on the initiation stage-where uncertainty is commonly experienced, the exploration stage-to see if they experienced the 'Dip', the last stage of search closure stage, and lastly, obstacles that they face during their information seeking process. The researcher concentrated on these stages only because these are the prominent stages with prominent emotions. Uncertainty and the "Dip" might cause the end of information seeking.

The researcher made sure that the wording of the questions was clear and unambiguous. This ensured that respondents were able to understand and follow instructions for completion, and that the questionnaire was of good length. The questionnaire contained six sections with a total number of twenty three quantitative questions and one qualitative question. The questions comprised multiple choice questions; closed questions and open-ended question (see Appendix B).

Section A: Personal information (questions 1-4). This section of the questionnaire gathered demographic information about the respondents. It included faculty, gender, age, and residence status (whether staying on or off campus) of respondents.

Section B: Information needs (question 2). This section solicited information about the information needs of fourth year students for their daily lives as well as during their assignment and proposal writing.

Section C: Information sources (questions 6-9). This section aimed to determine which information sources are preferred, frequently used and depended on for daily information seeking activities by students.

Section D: Information seeking behaviour (questions 10-14). This section sought to discover the information seeking practices of students. How they seek information in the library or on the Internet.

Section E: Conforming to Kuhlthau's ISP model (questions 15-22). This section wanted to establish if at all fourth year students conform to the initiation, exploration and search closure stage of the information search process model of Kuhlthau.

Section F: Obstacles and/or challenges (question 23). The last section wanted to find out if students face obstacles during their information seeking.

3.6 Data collection

The actual study took place at Mzuzu University in Malawi during the months of April and May 2014. Permission to conduct this study was sought and given to the researcher by the University Registrar of Mzuzu University (see Appendix A). The researcher obtained a timetable of all fourth year classes. As the researcher had prior authorisation from the office of the University Registrar, the process was made simpler. He negotiated with lecturers of all fourth year students across departments to spare at least 10-15 minutes for the administering of the questionnaire during a pre-arranged lecture time. This was done to maximise the response rate from the respondents.

The researcher gave a brief introduction to the study before distributing the self-administered questionnaire randomly to the strata to the willing respondents. The researcher waited in the lecture venue and collected the completed questionnaires. This exercise resulted in the researcher obtaining 243 completed questionnaires.

3.7 Data processing and analysis

Data analysis involved primarily categorising and interpretation of information obtained from the study. Collected quantitative data were coded, cleaned and analysed using the statistical package for social sciences (SPSS).The results are presented using MS-EXCEL in frequency tables and graphs. The only qualitative question was analysed manually by using content analysis where similar responses from the responses were categorised in themes. Content analysis has been described by Neuman (2000, p. 34) as a technique for examining information, or content, in written or symbolic material.

3.8 Ethical statement

In this study, the researcher adhered to the ethical guidelines of the Senate Research Committee of the University of the Western Cape and managed to obtain the informed consent of his research participants.

A letter was written to the University Registrar of Mzuzu University seeking permission to conduct this research study at Mzuzu University, Malawi. The researcher respected the participants' human dignity, free and informed consent, privacy and confidentiality. Therefore, consent was also sought from would be respondents before they completed the questionnaires. The anonymity of the students was assured as no form of identity was required from the respondents. The respondents were informed beforehand that participation in this study was on a voluntary basis, that they can withdraw at any time if they wish so and that their identity will remain confidential. In addition participants may decline to answer some questions if they feel like it.

3.9 Problems and limitations

The following challenges were encountered during the data collection exercise at Mzuzu University in Malawi:

- The researcher failed to sample the whole class of fourth year Nursing and Tourism students because some were away from campus doing their practical sessions in the districts.

3.10 Chapter summary

This chapter has described the research methods used in this study. The methodology including the research site details, the population involved the sampling technique and sample size used and how data was collected and analysed have been presented and explained in detail. The findings collected through the methodology described in this chapter will be analysed, interpreted and discussed in the coming chapter four.

Chapter Four: Results, presentation and discussion

4.0 Introduction

This chapter presents and discusses results from the data obtained from the questionnaires distributed to fourth year students at Mzuzu University, Malawi. The analysis of results is made within the framework of the research aim, which was to investigate the information behaviour of fourth year students of Mzuzu University in Malawi. It firstly presents demographic information of the fourth year students. It describes the information needs, preferred information sources and the student's information behaviour. It also describes the feelings of the students feel in accordance with Kulhthau's ISP model. Obstacles that the students encounter will also be outlined.

A total of 254 questionnaires were administered. Two hundred and forty three (243) completed questionnaires were obtained. It represents a response rate of 95.7%. Data was analysed using SPSS. There will be differences in totals (N) in the tables due to respondents not answering each and every question.

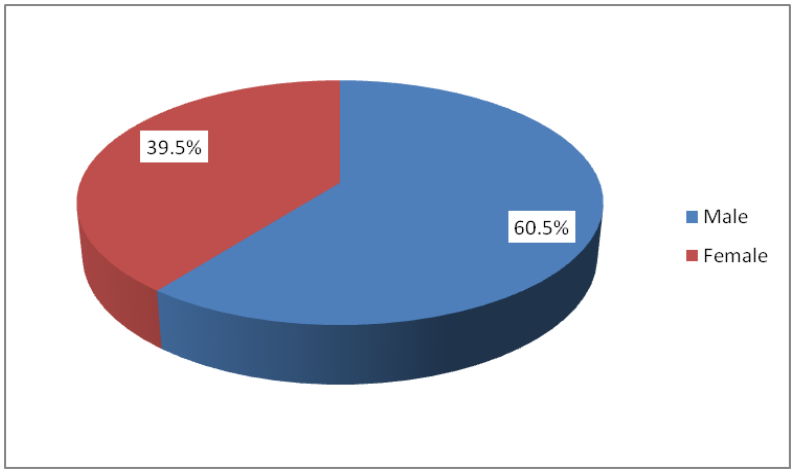
4.1 Demographic information

This section sought to determine the demographic information of the respondents. This information comprised of the gender, age, faculty, and residence status - namely whether staying on- or off-campus.

4.1.1 Gender

The first question of the section on demography requested the respondents to indicate their gender. Figure 2 below reflects that out of the 243 fourth year students, 147 (60.5%) were male and 96 (39.5%) were female. This can be attributed to the fact that there is a high dropout rate of girls due to unplanned pregnancies and early marriages in both primary and secondary schools in Malawi. This eventually causes more male than female enrolment at tertiary education institutions.

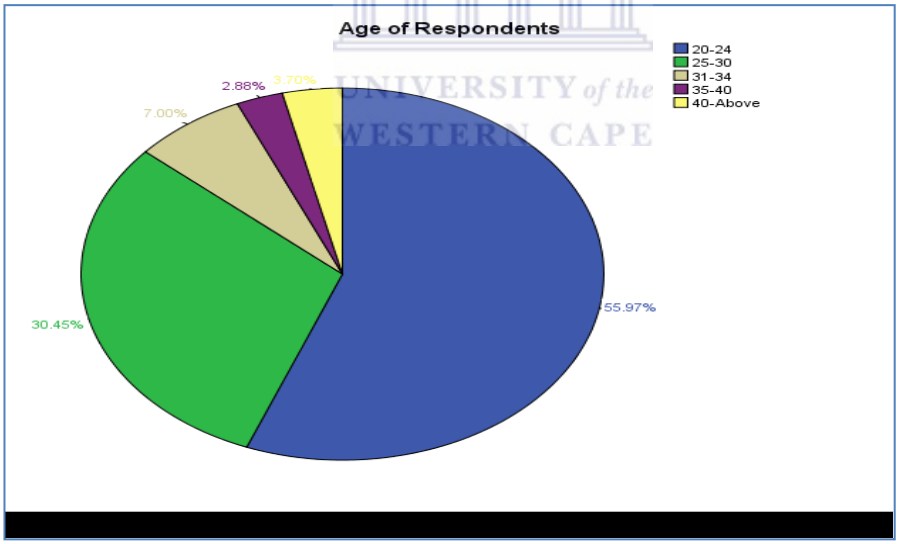
Figure 2: Gender of respondents



4.1.2 Age

The students were asked to indicate how old they are by choosing the appropriate age category. In Figure 3 below the age distribution of respondents is depicted.

Figure 3: Age of respondents

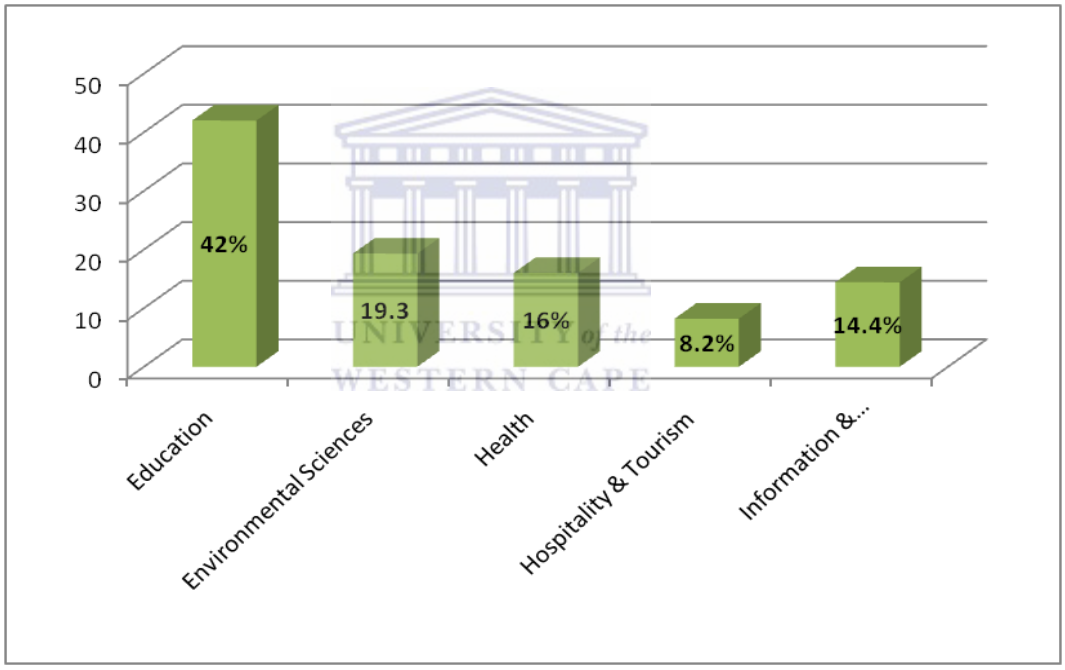


Results revealed that the majority (56%) of the fourth year students were aged between 20 and 24 years. This group represented students enrolling at Mzuzu University a year after completing secondary schooling. Only 2.9% was aged between 35 and 40 years while 3.7% indicated that they were older than 40 years. These latter groups represented the mature students who joined the university only after several years of working.

4.1.3 Faculty affiliation

Respondents were also asked to state the faculties in which they are registered. Figure 4 below indicates that the majority of students 102 (42%) were registered in the Faculty of Education. The Faculty of Environmental Science had 47 students (19.3%), the Faculty of Health 39 (16%), the Faculty of information and Communication Science 35 (14.4%) and the Faculty of Hospitality and Tourism 20 (8.2%) students respectively. The Faculty of Education is the biggest faculty at Mzuzu University. This is because originally the university was established to fill the gap in the training of secondary school teachers.

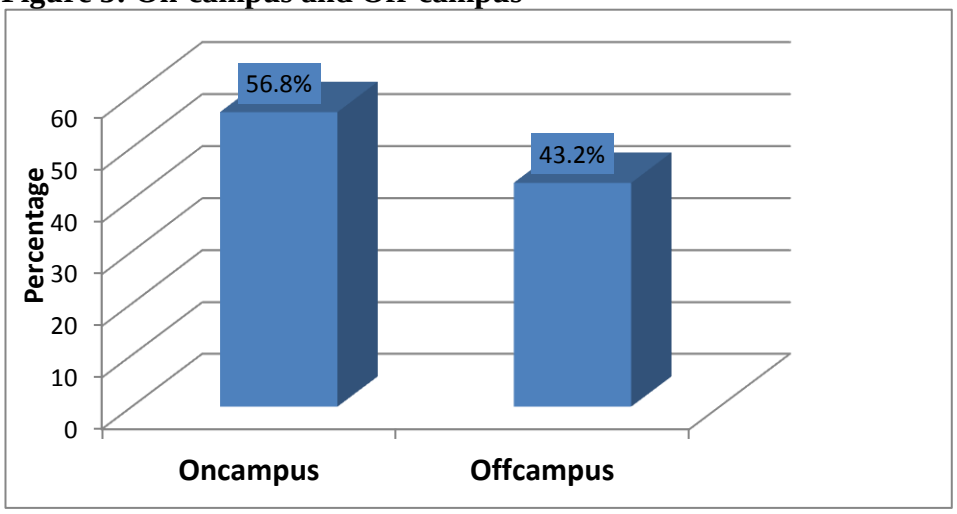
Figure 4: Faculty affiliation



4.1.4 Residence status

Respondents were asked to indicate their residence status, whether they were staying on- or off-campus. The findings are displayed in Figure 5 on the next page.

Figure 5: On-campus and Off-campus



Findings showed that more students (56.8%) were staying on-campus. Although more students were staying on-campus, slightly equal numbers of students were living off campus because student's accommodation on campus is not adequate and only a few students are accommodated on campus.

4.2 Information needs of fourth year students

It is important for academic libraries to identify the information needs of students in order to meet those information needs and to ensure satisfied users. The aim of question 5 in section B of the questionnaire was thus to ascertain the reasons for seeking information and how students use the retrieved information.

Responses on the reasons why they need information were as follows:

Table 3: Information needs

N=243						
Information need	***f***			**%**		
	Yes	No	Total	Yes	No	Total
Day to day studies	139	104	243	57.2	42.8	100
Updating knowledge	118	125	243	48.6	51.4	100
Writing assignments	109	134	243	44.9	55.1	100

Preparing for examinations	84	159	243	34.6	65.4	100
Writing research proposal/project	95	148	243	39.1	60.9	100

Results showed that 139 (57.2%) respondents indicated that as fourth year students they needed information for their day to day studies.

One hundred and eighteen (48.6%) respondents needed information to update their knowledge. However, slightly more respondents 125 (51.4%) indicated that they did not need information for updating their knowledge.

In terms of information needs for writing assignments, 109 (44.9%) respondents indicated that they needed information for writing assignments compared to 134 (55.1%) respondents who indicated that they did not need it.

Results also depicted that 159 (65.4%) respondents did not need and 84 (34.6%) needed information for preparing to write examinations. The difference is significant enough to indicate that respondents did not need information for preparing for examinations with a Binomial test result of .000.

One hundred and forty eight (60.9%) and 95 (39.1%) respondents indicated that they did not need and needed information for writing research proposals/projects respectively.

From the findings presented above it is apparent that the major information need of fourth year students at Mzuzu University was to support their day-to-day studies. This finding is consistent with the earlier findings of Kakai, Ikoja-Odongo and Kigonga-Bukenya (2004), Ajiboye and Tella (2007), Baro, Onyenania and Osaheni (2010) and Oladukun and Aina (2009) who concluded that the main information need of students was academic information to support their studies.

However, many students did not realize the importance of using information. Only 44.9% needed information for writing assignments, 34.6% for preparing for examinations and 39.1% for writing a research proposal/project**.**

4.3 Information sources

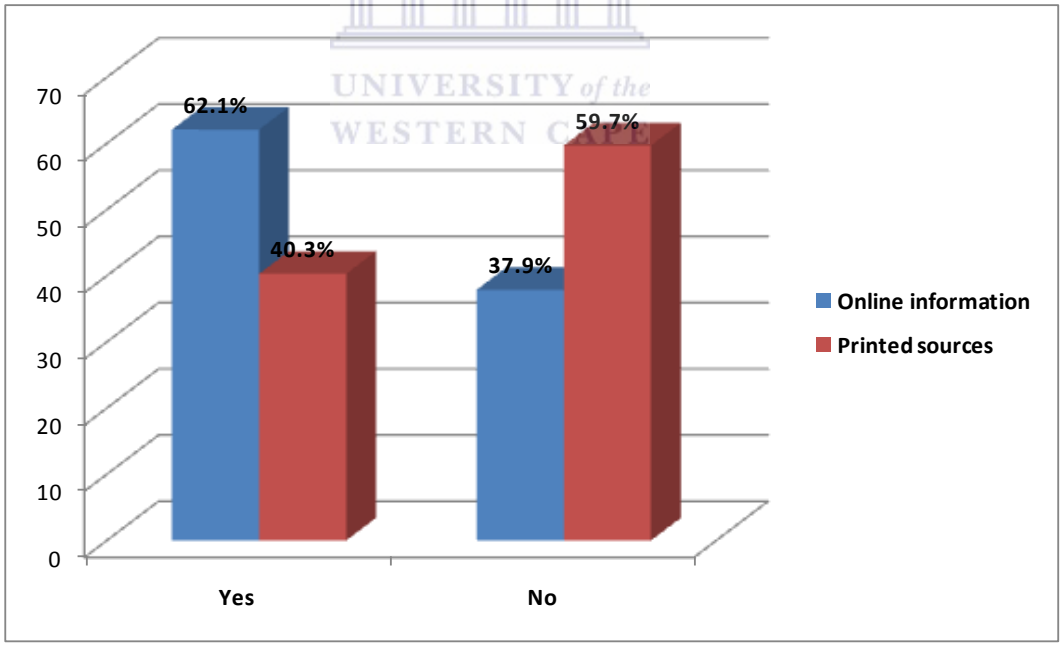
Undergraduate students at universities use and rely on different sources of information for the many assessment tasks that need to be completed. Choice of which information source to use may depend on many factors.

4.3.1 Printed versus online digital sources

Question 6 of the questionnaire sought to determine from respondents the type of information sources they preferred. They had to indicate preference between printed information sources (like books) and online digital information sources (like Internet).

Figure 6 below reflects that only 98 (40.3%) respondents' preferred printed sources of information while 151 (62.1%) preferred online web based sources of information.

Figure 6: Information source preference



These findings confirm similar findings by Lee, Paik and Joo (2012) whose study revealed that online resources were more frequently selected than other types of sources. Furthermore, findings by George, Bright and Hulbert (2006, p.13) noted that almost all (94%) students preferred online digital resources.

There are several possible explanations for this result. Firstly it can be attributed to the fact that 56% of the respondents were aged 20-24. Thus they are part of the Internet generation – students who are characterized as being technology savvy, own electronic devices like tablets, uses ICT tools and have been using the Internet since a very early age. Secondly it can be speculated that because of the acute lack or shortage of essential textbook as indicated in chapter one, students are forced to find alternative information sources.

4.3.2 Online digital information sources

In this multiple follow up question, respondents who indicated that they preferred online digital sources were further asked to indicate which online digital sources they preferred. Results presented in Table 6 below, revealed that from the 100 students who answered the question, most of them (59%) preferred to use general search engines. Others preferred to use Google Scholar (47%), e-books (43%), e-journals (34) and subscription databases (6%).

The majority of the students (94%) did not prefer using subscription database or e-journals (66%). Although 59% of the students indicated that they use general search engines, only 47% indicated Google scholar usage. These findings are consistent with those of Karobilli, Malliadri and Zapounidou (2011, p.161) and Nkomo, Ocholla and Jacobs (2011, p.294) who found that there was low usage of databases and subject portals by students compared to ordinary websites.

Table 4: Preferred online digital sources

N=100						
Source	**Yes**	**%**	**No**	**%**	**Total**	**%**
E-books	43	43	57	57	100	100
General search engines & websites	59	59	41	41	100	100
E-journals	34	34	66	66	100	100
Google scholar	47	47	53	53	100	100

Subscription database	6	6	94	94	100	100

Students in their final year of study and embarking on their proposal writing are expected to use subscription databases. This may imply that students were not aware of the importance of journal articles in their academic information seeking process. This presents doubt if at all the students went through information literacy education classes. Another reason could be that most students accessed the Internet from their hand held devices (mostly mobile phones and a few from their laptops and dongles).These devices could not access e-journals or subscription databases as these sources can only be accessed through the Internet protocol address of the university library. To access e-journals you need to register your institution's Internet protocol address.

4.3.3 Acquiring information

The multiple response question number 7 solicited data regarding where respondents acquired the information. The question had several options from which the respondents had to choose. The options from where they could obtain information were: Mzuzu University Library, Departmental libraries, Internet, friends and lecturers. The results are presented in Table 5 below:

Table 5: Where information is obtained

N=243										
	University Library		**Departmental Library**		**Internet**		**Friends**		**Lecturer**	
	f	**%**	***f***	**%**	***f***	**%**	***f***	**%**	***f***	**%**
Yes	188	77.4	21	8.6	165	67.9	42	17.3	35	14.4
No	55	22.6	222	91.4	78	32.1	201	82.7	208	85.6
Total	243	100	243	100	243	100	243	100	243	100

The findings, as reflected in the table above, revealed that majority of the students (77.4%) obtained information from the Mzuzu University library. One hundred and sixty five (67.9%) respondents obtained information from the Internet, 42 (17.3%) from friends, 35 (14.4%) from lecturers and 21 (8.6%) from departmental libraries.

4.3.3.1 Places where Internet is accessed

Respondents who indicated that they retrieved information from the Internet were further asked where they access it. The options presented were: Mzuzu University Internet room (located in the main Library complex), ICT Departmental Internet laboratory (an ICT teaching laboratory), the American corner (located in the annex of the main library), mobile smart phone, Internet cafes in town, friends and other. One hundred and seventy seven students responded to the question. Table 6 below is a summary of the responses.

Table 6: Where Internet is accessed

N=177													
	Mzuzu University Internet Room		**ICT Depart-mental Internet Lab**		**American Corner**		**Mobile smart phone**		**Internet Cafes in town**		**Friends**		**Other**	
	f	%	***f***	%	***f***	%	***F***	%	***f***	%	***f***	%	***f***	%
Yes	62	35	11	6.2	42	23.7	123	69.5	15	8.5	15	8.5	10	17.7
No	115	65	166	93.8	135	76.3	54	30.5	162	91.5	162	91.5		
Tot	177	100	177	100	177	100	177	100	177	100	177	100		

From Table 6 it is clear that the majority of the students (69.7%) accessed the Internet from their mobile smart phones. Others accessed it from the Mzuzu

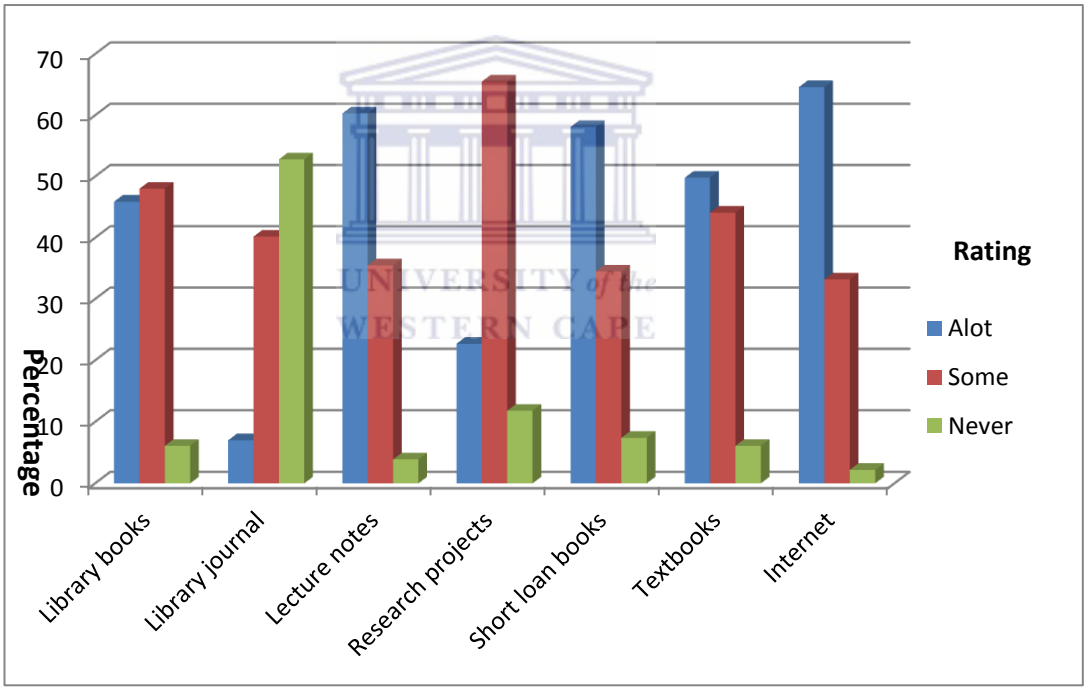
University Internet room (35%), the American corner (23.7%), Internet cafes in town (8.5%), friends (8.5%) and from the ICT department laboratory (8.5%).

The 10 respondents (17.7%) who chose the option 'other' indicated that they accessed it from their laptops using a mobile Internet dongle.

4.3.4 Sources of information relied most upon for course work and research activities

The objective of question9 was to determine which sources of information the respondents relied upon most during their course work and research activities. Results are reflected in Figure 7below.

Figure 7: Source most relied upon.



The findings revealed that the majority of the students (64.6%) relied on the Internet for their information. This was followed by lecture notes (60.3%), short loan books (58.1%), textbooks (49.8%), library open shelves books (45.9%) and research projects (22.7%). An earlier finding in this study has also shown that students also obtained their information from the Internet.

The findings on the reliance on the Internet was in conformity with the findings of Adio and Adeola (2012, p.27) and Vezzosi (2009, p.69) who discovered that the

Internet was the most preferred source of information by students. However, these findings did not support the study of Oladokun and Aina (2009, p.45) who found that the majority of the students (71%) preferred print formats.

The fact that most students (52.8%), did not rely on the library's printed and e-journals as a source of information corresponded with the earlier findings in this study. Two possible explanations for this may be suggested. The first might be that library user education program was not comprehensive enough. This is reflected in the failure of these senior students in using all the information resources available for instance journals. The other reason could be the cost of using the Internet to access e-journals. Students are required to pay a fee of 35MK (equivalent of 1Rand) to access the Internet. This has proved to be a deterrent to access as many students did not have additional money.

4.4 Information behaviour

University students behave in different ways when seeking information. This section sought to gain a better understanding of the information behaviour of students. It included their information seeking practices in the library and on the Internet, the retrieval tools used for locating both print and online information and the frequency of information seeking activities.

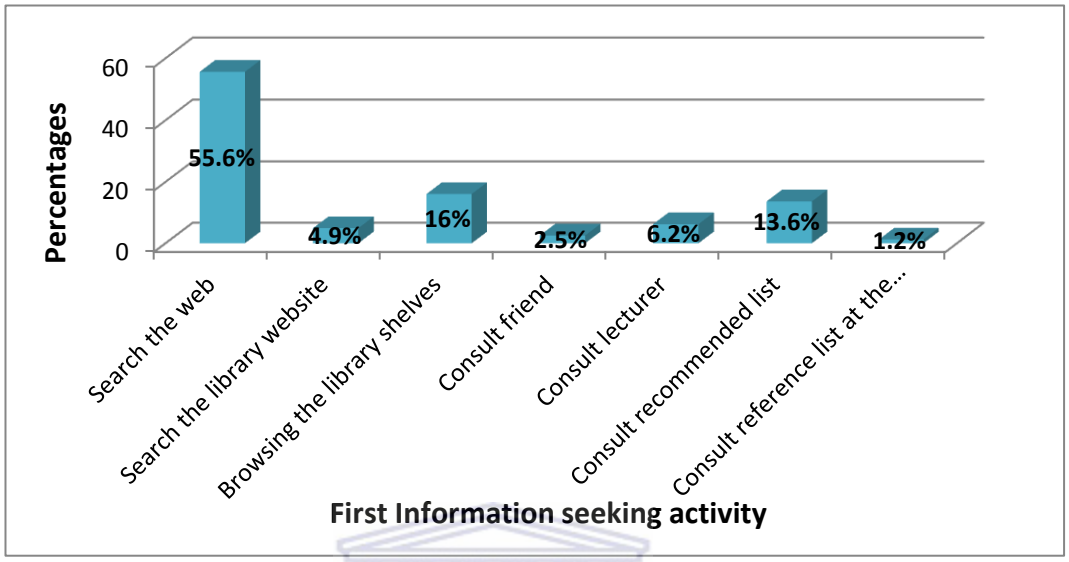
4.4.1 Information seeking activities used when starting a search.

Question 10 asked respondents to mention the first activity they engaged in when searching for information.

It is clear from Figure 8 below that the majority of students (55.6%) searched the Internet first. The rest of the students browsed the library shelves (16%), consulted the recommended list of books (13.6%), consulted the course lecturer (6.2%), searched the library website (4.9%), consulted a friend (2.5%) and consulted the reference list at the end of an article or a book (1.2%). The finding that students would search the Internet first before doing anything else was consistent with the findings of O'Brien and Symons (2007, p. 413) who revealed that the web is often the information tool of choice of 79% of their respondents.

The reason thereof can probably be attributed to the fact that websites are easy to use and information is retrieved quicker.

Figure 8: First information seeking activity



4.4.2 General conduct of information search (steps undertaken)

Question 11 was an open ended question which sought to determine how students generally go about searching for information and if there was a general pattern (steps) that the students followed. Only 176 participants responded to this question. Sample responses received are categorised in Table7 below.

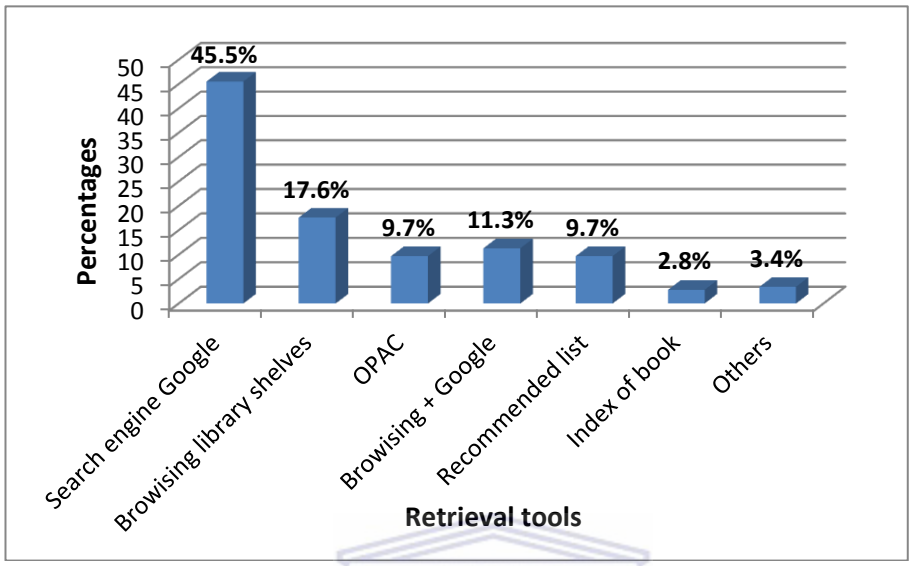
Table 7: General conduct of information search

Category	Samples of responses
Recommended list of books	• Consulting recommended list on the course outline • By consulting the recommended textbooks • Checking prescribed and recommended list of books on the course outline and then go into the library to start searching for the information. • I go for recommended books then reference
Search engine-Google	• Ask a question on Google • Type the question on Google search

	• Google it. • Downloading e-books related to the topic from books. • Browsing on the opera-mini. • By using Google.
Index of book	• Search the topic, consult the index find • Browsing book in content and index section. • By going through table of contents and index.
Through OPAC	• Go on the OPAC; enter title or author of book, then go where the books are found. • OPAC then the shelves. • In case of library, I search books on the OPAC to find the call number then browse the shelves.
From books and Internet	• Borrowing books from the library, sharing ideas and Google • Looking in books then surf on Internet • Google the topic in question and check the table of contents in library books. • I read different books plus internet searching
Others	• Encarta student Microsoft 2009 • Questionnaires • Qualitative method. • Mostly I use serendipity.

The responses are summarized in Figure 9 below.

Figure 9: How respondents search for information.



The findings revealed that the majority of the students (45.5%) used the search engine Google, while 17.6% of the students would go straight to browsing the library shelves, 9.7% of the students used the online public access catalogue in the library and 11.3% of the students combined browsing books in the library and using the search engine Google. One student described the process as "first I Google to see if the information is available and see the other related topics, then books". Another stated "by punching the relevant phrase or question on Google search engine on the Internet. Additionally, another put it as if Google can and is the only source of information by saying "I usually search on Google and Google gives me everything".

It is apparent from the statements above that students relied on Google for most of their information needs. The study had also established earlier on that students mostly search the Internet first (55.6%) when seeking for information. This finding was in conformity with the findings of Denison and Montgomery (2012, p.381) who identified three unique groups of information seekers. One of these groups was the extrinsic motivators who blindly trust the reliability of free Internet resources and did not know how to access other information sources.

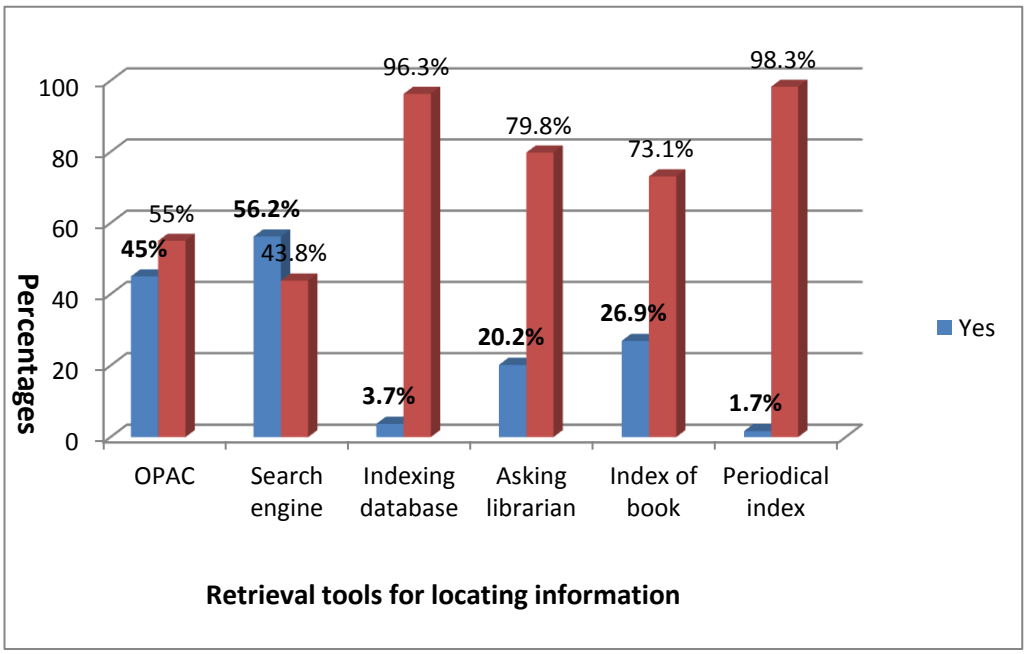
From this current study it was clear that students were dependent on the search engine Google and were not using scholarly databases. Similarly, Greenberg and Bar-llan (2013) reported that the Internet through search engines (especially Google) was found to be the primary way students in Israel search for information.

These findings additionally tended to agree with the findings of Julien (2009, p.5059) who noted that the current crop of students preferred searching for online information sources. The study further claimed that this was because of easy access and attractiveness. Students will use Google more than any other databases. It can be suggested, therefore, that during their first year, possibly these students did not acquire proper searching skills during user education program.

4.4.3 Retrieval tools for locating information

The objective of this multiple answer question 12 was to solicit data pertaining to the retrieval tools students used to locate other information. Responses are summarised in Figure 10 below.

Figure 10: Retrieval tool used for locating information.



The findings presented in Figure 10 above revealed that more students 136 (56.2%) used search engines than 109 (45%) students who used the OPAC to locate information. However, the findings also showed that only 20.2% of respondents asked the librarians for information, 3.7% used indexing databases and 1.7% used periodical indexes. Although the library provided several retrieval tools for locating information, students mainly made use of search engines and the OPAC. This may suggest that students are not taught enough regarding the use of retrieval tools available for finding information.

4.4.4 Frequency of using retrieval tools for locating information

Question 13 requested respondents to rate the frequency of using the identified retrieval tools. The options presented were: use of search engines, the library website, browsing shelves, consulting a classmate, consulting a lecturer's list or consulting a librarian to locate information. Responses are tabled below.

Table 8: Frequency of using retrieval tools for locating information

N=227												
	Search engines		**Library website**		**Shelf browsing**		**Consult classmate**		**Consult lecturer list**		**Consult librarian**	
	f	**%**	***f*.**	**%**	***f***	**%**	***f***	**%**	***f***	**%**	***f***	**%**
Very often	123	54.2	17	7.5	69	30.4	30	13.2	65	28.6	21	9.3
Often	73	32.2	54	23.7	94	41.4	115	50.7	94	41.4	46	20.3
Seldom	27	11.9	78	34.4	49	21.6	73	32.2	49	21.6	107	47.1
Never	4	1.8	78	34.4	15	6.6	9	4	19	8.4	53	23.3
Total	227	100	227	100	227	100	227	100	227	100	227	100

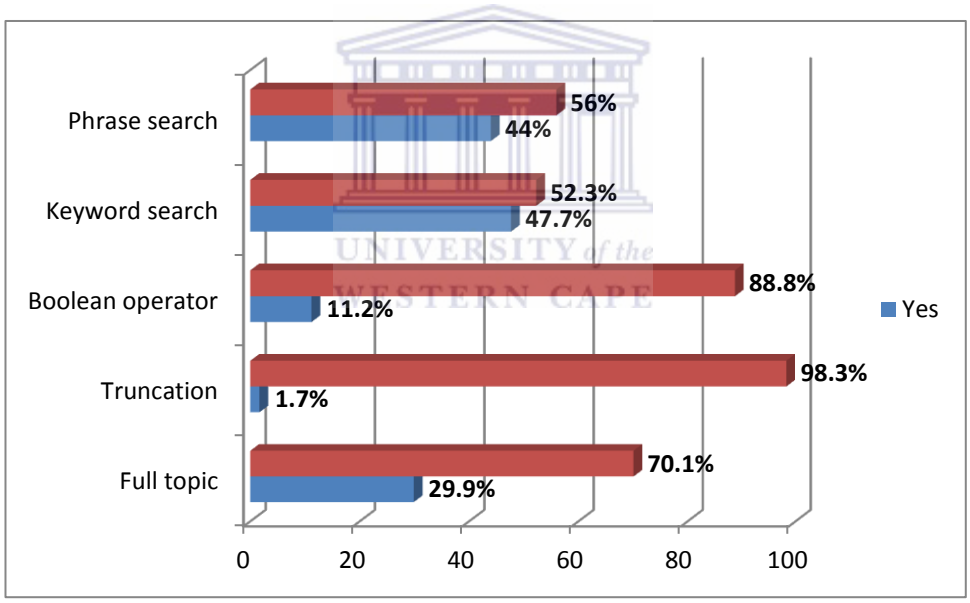
In as far as frequency of use of retrieval tools is concerned results in Table 8above revealed that most students very often used search engines. One hundred and twenty three students often used search engines. They were followed by shelf

browsing (30.4%), consulting a lecturer's list (28.6%), consulting a librarian (9.3%) and consulting the library website (7.5%). This was also reflected by the fact that 53% and 34.4% of students respectively never consulted a librarian or used the library website. This agrees once again with the findings of Nkomo, Ocholla and Jacobs (2011, p.293) who noted that students tended to rely on search engines and not the library website or librarians for information retrieval.

4.4.5 Searching strategies on the Internet

Question 14 requested respondents to indicate which search strategies they employed when searching for information on the Internet. Below in Figure 11are the results from the responses.

Figure 11: Internet searching strategies



The findings revealed that the majority of the students (47.7%) employed a keyword search strategy when searching on the internet. One hundred and six (44%) students used phrase searching and 72 (29.9%) typed in the full topic of assessment tasks in the search box. It seemed students were unaware of advanced search strategies as 98.3% indicated that they did not use truncation. Additionally, 88.8% did not use Boolean. This was in agreement with findings by Brindesi, Monopoli and Kapisakis (2013, p.791) who indicated that students could be termed as ordinary searchers as they tended to use only one or two terms, with no

use of advanced searching techniques like Boolean logic. These findings implied that Mzuzu University students were not competent at seeking information online and questions if students were taught how to search for online information properly.

4.5 Conforming to Kulthau's ISP model

This section wanted to determine if at all the students conformed to the emotions or feelings identified in the initiation stage where anxiety is common, the exploration stage to see if students indeed passed through the "Dip" and the search closure stage of Kulthau's ISP model. Some of the feelings identified by Kuhlthau were: uncertainty, anxiety, optimism, confusion, frustration, doubt and relief (Kuhlthau, 1993, p.43).

4.5.1 Feelings at the onset of information search

Question 15 requested respondents to indicate the feelings they experienced when they were about to embark on searching for information.

Table 9: Feelings at onset of a search

N=243				
Emotion	**Yes**		**No**	
	f	**%**	***f***	%
Anxiety	29	11.9	214	88.1
Uncertain	50	20.6	193	79.4
Afraid of failing	14	5.8	229	94.2
Excited	31	12.8	212	87.2
Optimistic	87	35.8	156	64.2
Confused	12	4.9	231	95.1
Doubtful	25	10.3	218	89.7

Very sure	58	23.9	185	76.1

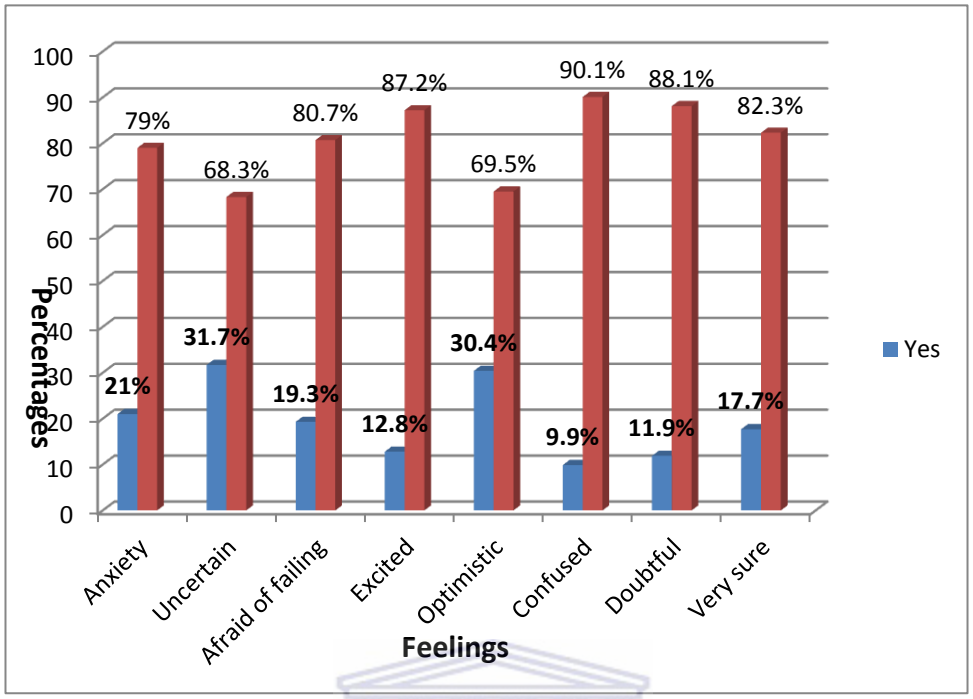
From Table 9 it can be deduced that the majority of the respondents did not experience negative feelings like confusion (95.1%), fears of failing (94.2%), anxiety (88.1%), doubtfulness (76.1%) or uncertainty (79.4%) at the onset of a search for information. The findings on the other hand also revealed that students were not excited (87.2%) or optimistic (64.2%) to start an information search. The majority of students (76.1%) also indicated that they feel very sure about their ability to find information.

The findings, therefore, suggest that the students did not fully conform to Kuhlthau ISP. However, the findings of this study did also not support those of Vakkari (2001, p.295) who concluded that students when preparing a research proposal followed the stages in Kuhlthau's ISP. The indication that students did not conform fully to Kuhlthau's ISP could be attributed to the different countries where the research took place. While students in the USA were overwhelmed by the extent of information in different formats in well- equipped libraries, students in Malawi specifically did not have access to vast volumes of information. This is due to the meagre budgets allocated to the libraries to purchase books or subscribe to online resources. Hence, students were not overwhelmed with information as available information can be easily found. Mapulanga (2012, p. 120) observed the same in his study when he found that academic libraries in Malawi are inadequately funded. The University of Malawi libraries failed to subscribe to enough e-journals and to procure enough new books. This had resulted in students depending and scrambling for the few prescribed and recommended books available.

4.5.2 Feelings when given an assignment

Respondents were further asked to identify the feelings that they initially experienced when they were given an assignment. The findings are summarised in Figure 12 below on the next page:

Figure 12: Feelings when given an assignment.

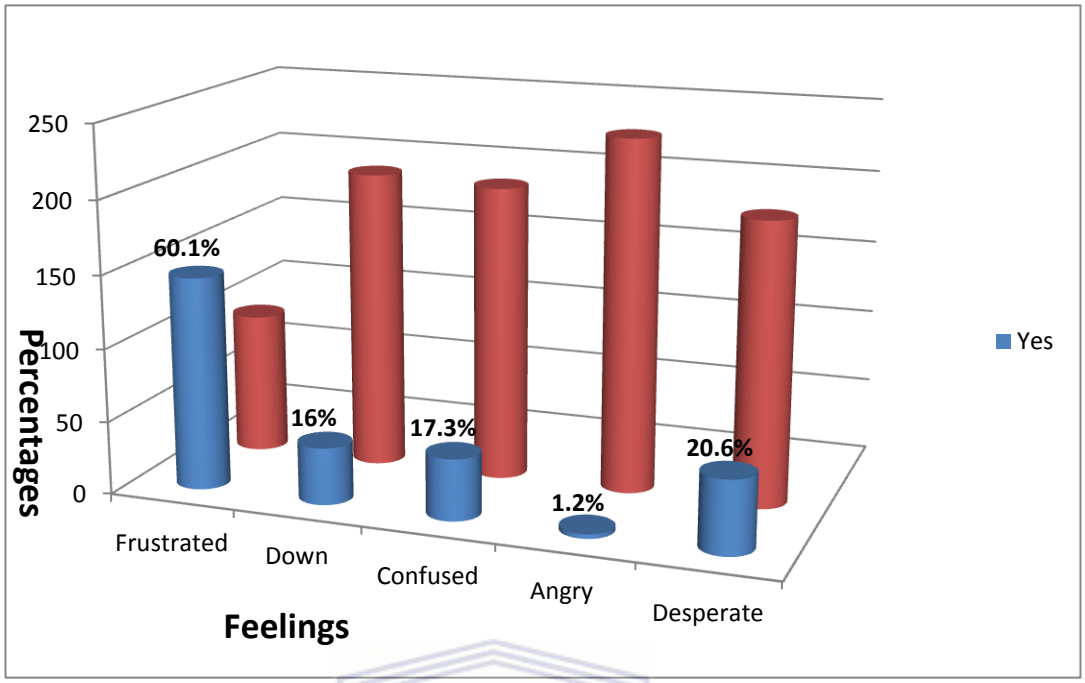


The findings revealed that after receiving an assignment, the minority of students experienced negative feelings like uncertainty (33%), anxiety (21%), afraid of failing (19.3%), doubtfulness (13%) and confusion (9.9%). Although the majority of students (82.3%) felt very sure of themselves, only 12.8% were excited and 30.4% optimistic about the assignment. These findings were again in contrast with the feelings experienced by Kuhlthau's students (Kuhlthau, 1993, p.42). The reason might be the respondents were more matured students and accustomed to doing assignments since they were fourth year students.

4.5.3 Feelings when information could not be located

Question 17 wanted to solicit data on the feelings of the students when they do not locate information that they needed. Results are summarized in Figure 13below.

Figure 13: Feeling after failing to locate information



Findings in Figure 13 above revealed that students felt frustrated (60.1%), desperate (20.6%), confused (17.3%), down (16%) or angry (1.2%) when they could not find information that they were seeking. This was in contrast with Kuhlthau's model indicating that students normally experience confusion (Kuhlthau, 1993, p.42).

4.5.4 Actions to access information

The objective of question 18 was to determine how students reacted after they had located information, but could not physically get hold of the online as well as the printed information carrier. The results of the responses are presented in the Table10 on the next page.

Table 10: Actions to access information

N=231										
	Do not do anything		**Try another library/search engine.**		**Find from a friend**		**Consult the lecturer responsible**		**Change search terms**	
	f	**%**	***f***	**%**	***f***	**%**	***f***	**%**	***f***	**%**
Strongly agree	9	3.9	82	35.5	60	26	67	29	136	58.9
Agree	6	2.6	111	48.1	131	56.7	102	44.2	67	29
Undecided	11	4.8	12	5.2	27	11.7	28	12.1	10	4.3
Disagree	51	22.1	14	6.1	7	3	24	10.4	8	3.5
Strongly disagree	154	66.7	12	5.2	6	2.6	10	4.3	10	4.3
Total	231	100	231	100	231	100	231	100	231	100

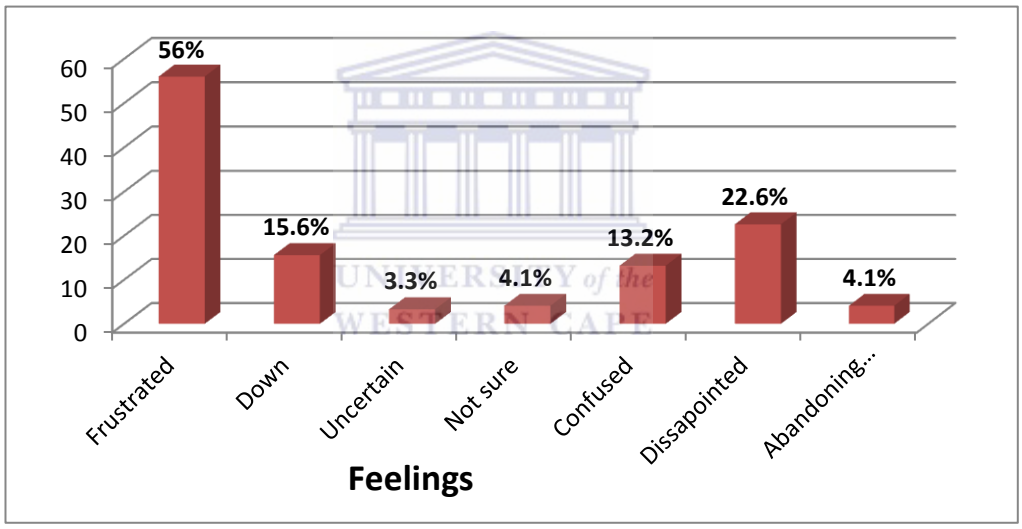
Results in Table 10 above indicated that most respondents (66.7%) strongly disagree with the statement that they would do nothing when they could not get hold of the needed information. These findings revealed that students would try other ways to access the needed information by doing a new search with new search terms (87.9%), trying another library (83.6%), asking a friend (82.7%) or consulting the lecturer (73.2%). This is partly in agreement with the findings of Oladokun and Aina (2009, p.48) when they noted that the majority of students (90%) consulted their lecturers for information. This can be attributed to the trust that the students had in their lecturers.

4.5.5 Feelings when unable to access needed information

The objective of question 21 was to find out from students what they felt when they were unable to access needed information.

Findings in Figure 14 revealed that students experienced frustration (56%), disappointment (22.6%), confusion (13.2%), feeling down (15.6%) and uncertainty (3.3%) when they could not access the needed information. However, 95.9% of the students resolved to not giving up. These findings partly resonate the emotions that were identified by Kuhlthau in the exploration stage (Kuhlthau, 1993, p.46).

Figure 14: Feeling when unable to access information.



4.5.6 Feeling to give up search process at some point

The aim of question 22 was to further investigate whether students went through the exploration stage, which Kulhthau (1993, p.46) described as a difficult stage, where users experience the sense of inadequacy, and find the situation hopeless and frightening leading to the feeling of wanting to give up on a search. Students had to indicate whether they felt like giving up or not.

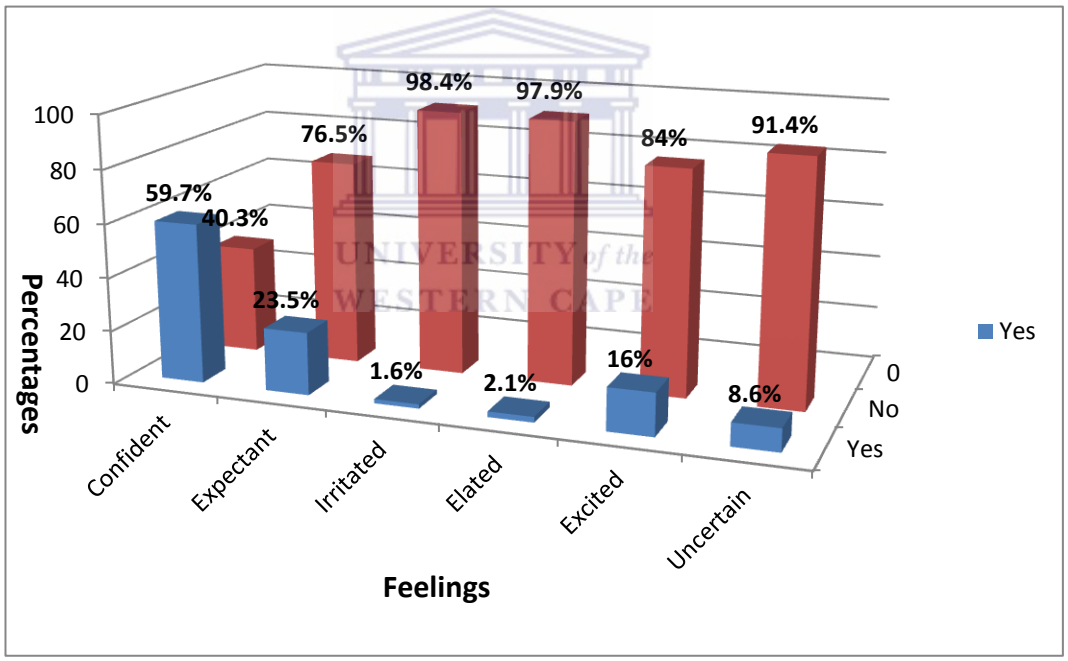
On being asked whether they will abandon a search at some stage, the majority of students (67.1%) indicated that they did not feel like giving up at any stage. This finding was in contrast with Kuhthau predictions of high tendency to abandon the

search in the exploration stage (Kuhlthau, 1993, p 46). This can be attributed to the fact that it was common occurrence not to find information that the students look for due to, as already observed, inadequacy of information sources in the library. Hence students were used to not finding what they look for and to finding alternative sources of information on Internet.

4.5.7 General feelings after the search process

The overall aim of question number 23 was to gain insight into the feelings that the respondents went through after a search process. This was in line with the last stage, the search closure of Kulhthau's ISP model (Kuhlthau, 1993, p.49). The results are presented in Figure 15 below.

Figure 15: General feeling after search.



The findings revealed that students experienced positive feelings of confidence (59.7%), expectancy (23.5%), excitement (16%) and elation (2.1%) after a search. Negative feelings experienced included uncertainty (8.6%) and irritation (1.6%). The fact that the majority of students (59.7%) felt confident after the search is in contrast with Denison and Montgomery, (2012, p. 380) who found the process of information searching and retrieval to be difficult and frustrating.

4.6 Obstacles in information seeking

The objective of question 23 of the questionnaire was to investigate the obstacles that impeded students to successfully seek for information. The findings on this are presented in Table 11below.

Table 11: Obstacles in information seeking

N=230														
	Challenges/obstacles													
	Lack of time		**Unwillingness of library staff**		**Confusion because of too much information**		**Financial problems**		**Inadequacy of library opening hours**		**Not able to use Internet**		**Lack of essential textbooks**	
Rating	***f***	**%**	***f***	**%**	***f***	**%**	***f***	**%**	***f***	**%**	***f***	**%**	***f***	**%**
Strongly agree	50	21.7	16	7	20	8.7	76	33	15	6.5	19	8.3	124	58.3
Agree	68	29.6	23	10	72	31.3	70	30.4	32	13.9	34	14.8	79	24.8
Un decided	17	7.4	55	23.9	44	19.1	15	6.5	26	11.3	15	6.5	6	6.5
Disagree	34	14.8	88	38.3	61	26.5	49	21.3	98	42.6	75	32.6	14	4.8
Strongly disagree	61	26.5	48	20.9	33	14.3	20	8.7	59	25.7	87	37.8	7	5.7
Total	230	100	230	100	230	100	230	100	230	100	230	100	230	100

The findings revealed that most students strongly agreed that the obstacles in the searching process were lack of text books (58.3%), financial problems (33%) and lack of time (21.7%). In total, students strongly agreed and agreed that the obstacles in the searching process were lack of textbooks (83.1%), financial problems (63.4%), lack of time (51.3%), information overload (40%),

unavailability of the Internet (23.1%), limited library hours (20.4%) and unsatisfactory library staff support (17%). These findings correlated with Callinan (2005, p.94) who established that one of the biggest obstacle faced by final year Biochemistry students was accessing course textbooks from the long-term loan collection. They are also consonant with the findings of Oladokun and Aina (2009, p.48) who found that the Internet was significantly least used (25%) by students because of the cost attached to usage thereof.

4.7 Correlation between gender and searching strategies on the Internet

Halder, Ray and Chakrabarty (2010, p.242) identified gender as a possible influencing variable in information seeking. To find out if there were any differences in the searching strategies between genders, a cross tabulation was conducted between gender and search strategies. The findings are indicated in Table12.

Table 12: Gender and searching strategies on the web

N=241				
Type of search	**Gender**			
	Male		**Female**	
	Yes (*f*)	**%**	**Yes (*f*)**	**%**
Typing in phrase	64	31.1	43	35.2
Using keywords	73	35.4	43	35.2
Combining Boolean	17	8.2	10	8.3
Using truncation	4	2	1	0.8
Typing full topic title	48	23.3	25	20.5
Totals	206	100	122	100

In Table 12 above, the findings show that the majority of students male 64 (31.1%) and female 43 (35.2%) type in a phrase, and 73 (35.4%) male students and 43 (35.2%) female use keywords when searching on the web.

The correlation test showed no statistically significant difference in the searching strategies of the male and female respondents *(Chi-square test=.05)*. This finding is in contrast to the findings of Halder, Ray and Chakrabarty (2010, p.246) who found that there were significant differences, with respect to gender, in information seeking behaviour. However, overall results indicated that females may be better information seekers. Additionally, the study found that males tended to find search results accidently, while searches by females were more because women behaved cautiously in choosing search sources. Women were noted to use more operators than men in their formulation of search query and women were careful and thoroughly in their search strategies. In the study it was also noted that women were generally more satisfied with the obtained results than men (Maghferaty and Stock, 2010)

4.8 Gender versus preferred sources of information

The study further cross tabulated gender and preferred sources of information to see if there were any differences in source preference according to gender. The findings are presented in the table 13 below.

Table 13: Gender versus preferred sources of information

N=249						
Gender	**Online sources**		**Printed sources**		**Total**	
	Yes (*f*)	**%**	**Yes (*f*)**	**%**	***f***	**%**
Male	88	57.9	64	42.1	152	100
Female	63	64.9	34	35.1	97	100

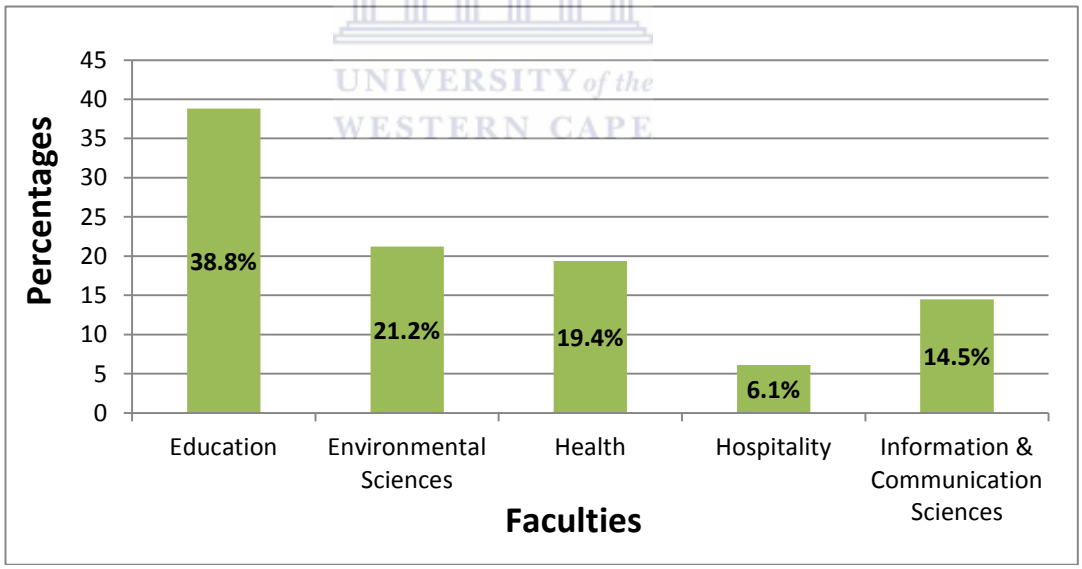
The findings in the table above clearly indicate that the majority of both male (57.9%) and female (64.9%) students preferred online sources of information.

There was no statistically significant difference *(Chi-square test= .05)*and it can, therefore, be concluded that there was no difference between male and female respondents regarding preference to sources of information. This finding is in contrast to the findings of Steinerova and Susol (2007) who found that women used library catalogues, reference resources, bibliographies and indexes more than men in their study of the use of information by library users in Slovakia. The study also noted that more men used the Internet as the first choice of resource than women**.**

4.9 Faculty and Internet use

This study has indicated that students relied heavily on the Internet as an information source. Internet usage was correlated against faculty to see if there were any differences. Results are presented below.

Figure 16: Correlation between faculty and Internet use.



The findings indicated that the Faculty of Education used the Internet more (38.8%) than any other faculty. Internet usage by the Faculty of Environmental Sciences was 21.2%, Health 19.4%, Information and Communication Science

14.5% and Hospitality and Tourism 6.1%.However, there was no statistically difference among faculties in the use of Internet *(Chi-square t=.05).*

The only notable finding was that the number of students who indicated that they used the Internet was equal to the number of students who indicated that they did not use the Internet in the Faculty of Hospitality and. This probably can be attributed to the fact that their course was more practical than theoretical and that students therefore depended more on textbooks.

4.10 Correlation between gender and feelings when starting the search process.

The study wanted to ascertain if there was a positive correlation between gender and feelings experienced when respondents started the search process. The findings are summarized in Table 14 below.

Table 14: Correlation of gender and feeling when starting the search

Gender	**Feelings**											
	Anxious		Uncertain		Afraid of failing		Excited		Optimistic		Total	
	f	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Male	13	9.9	34	26	9	6.9	16	12.2	59	45	131	100
Female	16	20	16	20	5	6.3	15	18.7	28	35	80	100

These findings reflected that although both male (45%) and female (35%) students experienced optimism, both 26% and 20% respectively also experienced uncertainty at the onset of the search process. More female (20%) than male (9.9%) respondents experienced anxiety. The correlation between gender and feelings when starting a search was found not to be statistically significant (*Chi-square t=.05).* In general, no differences in feelings experienced between male and female students can therefore be reported.

4.11 Chapter summary

This chapter has presented, interpreted and discussed the findings of the study. Below is a summary of the findings:

- A significant number (65.4%) of fourth year students needed information for their day-to-day-academic studies.
- Most of the students (62.1%) preferred online digital information which they access via Google search engine from mainly the Mzuzu University library Internet room and on their handheld devices (mobile phones).
- Most fourth year students did not prefer electronic journals (66%) or subscription databases (94%) as information sources.
- Although the majority of students (77.4%) accessed information from the University library, a large percentage (67.9%) of students accessed information from the Internet as well.
- Students relied on the Internet (64.5%), lecture notes (60.5%), short loan books (58%), textbooks (49.8%), library open shelves books (45.9%) and research projects (22.7%) as sources of information.
- Most students (52.8%) did not rely on the library journals as a source of information.
- The first step when searching for information was to do an Internet search (55.6%), browse the library shelves (16%) or consult the recommended list of books (13.6%).
- As channel to locate information, students used search engines (56.2%) and the OPAC (45%).
- When doing Internet searches, students employed as search strategies key word searching (47.7%), phrase searching (44%) or writing the full search sentence (29.9%).
- The majority of students 98.3% and 88.8% did not use advanced search skills like truncation, and Boolean logic respectively.
- Students did not fully conform to the Kuhlthau's ISP model as the majority did not experience feelings of anxiety, uncertainty, confusion and doubtfulness during the different stages of the search process.

- A large number (60.1%) partly conform to the ISP model as they felt frustrated when they failed to access the required information.
- The majority of the students (67.1%) did not feel like giving up when information where not found. This contrast with Kuhlthau's ISP model.
- Most of the students (59.7%) felt confident at the end of the search.
- Most of the students agreed that lack of financial resources; essential textbooks and important books on short loan were obstacles in information seeking.
- There was no any statistically significant difference between male and female students' searching strategies.
- There was no statistically difference between male and female students' preference of information sources.
- There is no significant difference among faculties in the use of Internet as a relied upon information source.

The coming chapter will summarise, conclude and recommend in accordance with the findings of this study.

Chapter Five: Summary, conclusion and recommendations

5.0 Introduction

This chapter presents the summary of the major findings in the information behaviour of fourth year students of Mzuzu University in Malawi. It presents the conclusions drawn from the findings. It has suggested areas of further study and based on the conclusions, the chapter makes necessary recommendations. It finally ends with the final conclusions of the thesis's findings. The following research questions were used to obtain the data:

- What are the information needs of fourth year students of Mzuzu University, Malawi?
- How do fourth year students seek and obtain their information?
- What are the preferred sources of obtaining academic information in the University used by fourth year students of Mzuzu University, Malawi?
- Do fourth year students of Mzuzu University conform to the initiation and exploration stages of the Information Search Process (ISP) model?
- What are the obstacles faced during the information seeking process?

5.1 Summary of findings

5.1.1 Fourth year students' information needs

The study has found that significant number of fourth year students' main information need was academic information which they use for their day to day studies. Only a few students needed information for writing assignments, preparing for examinations and for writing a research proposal. This finding was unexpected and contradictory. It can be suggested that although there were no serious concerns with the questionnaire during the pilot study, in the actual study respondents seemed to have failed to grasp what the question wanted to find out.

The respondents were targeted because they were embarking on their proposal writing, however, the answers they gave did not portray that.

5.1.2 Information sources preferred and relied upon

The study has established that the fourth year students preferred electronic information and relied specifically on general search engines like Google.

It has also found that students did not prefer and did not use e-journals or printed journals available in the library. This might be due to lack of awareness of the important of these information sources in academic writing.

After a cross tabulation of gender and information sources, the study noted that there was no statistically significant difference between male and female students in their preference of information sources.

5.1.3 Fourth year student's information seeking practices

The study has found that the first activity fourth year students engaged in when searching for information was to search the Internet, to browse the library shelves and to consult recommended lists of books.

The study has found that the searching skills of fourth year students were not that developed resulting in most of the students simply using Google and the OPAC as channels to locate information.

The study has also found that, as a search strategy for finding information on the Internet, students only employed keyword searching, phrase searching and typed in a whole search sentence. They did not employ truncation and Boolean logic.

Conclusively the study has also noted that there was no general pattern which the fourth year students followed in their information searching activities.

5.1.4 Conforming to Kuhlthau's ISP

The study has found that the students did not fully conform to the ISP model as they did not feel anxious, uncertain, confused or doubtful in the initiation stage of searching for information.

They partly conformed to the ISP model as they were frustrated when they failed to locate the desired information.

The majority of respondents did not feel like giving up when they failed to find the needed information. This is in contrast to the ISP model.

5.1. 5 Obstacles

This study has revealed some of the major obstacles in information seeking experienced by students such as lack of financial resources. The implication thereof was that, students either could not access the Internet or had to resort to accessing the Internet from their mobile phones as they are supposed to pay to access the Internet at the library's Internet room. Students were unable to find scholarly information as access to databases could only be reached via the university's Internet,. Lack of essential textbooks and important books being placed on short loan were also another obstacle.

5.2 Recommendations

Based on the findings of this study, the following recommendations are suggested to improve the present status quo.

- There is need for academic staff and librarians collaborations on what sources of information student should use. A policy should be adopted that all senior students should cite some journal articles in their reference/bibliographies. This would motivate students to include journal articles in their academic tasks.
- Specialised training on the proper use of the Internet, databases and e-journals is needed to ensure that students access information of quality.
- The library should set up a new comprehensive mandatory information literacy program for all students in the university.
- Embed information literacy training in the academic curriculum at all levels of study should be introduced. Assessing information literacy should be part of the general assessment policy.

- Remove the cost attached to the Internet access to allow full time access to all students.
- The library should acquire more textbooks and e-books to ensure enough copies to accommodate the number of students.
- The library should acquire more computers to enable students to access the Internet and online resources so that they should not be dependent on mobile phones with limited access.

5.3 Study limitations

As this was a mini-thesis, the researcher used a questionnaire to obtain the data for the study. This limited the data collected. Furthermore the researcher only targeted the students and did not interview the library staff to gain their views and input.

5.4 Significance of study

The present study has contributed to the knowledge base of information behaviour of undergraduate students in Malawi. It would assist the library to plan and establish services which would meet the needs of the students.

5.5 Further study

A further study needs to be conducted focusing on the use of information sources to understand why students do not use printed and e-journals.

Another study can be conducted to evaluate the current Information Literacy program which is on offer as it has been established that students did not display enough characteristics of having acquired the necessary skills.

A similar study involving all levels of study should be replicated. This study should include interviews with the library staff and students to fill in the gaps of some of the unanswered questions.

5.6 Conclusion

Fourth year students are senior students who were assumed to be accomplished information seekers after studying for four years in the University. However, the study has found that their information behaviour is not as accomplished. The study has also noted that because of inadequate information literacy education, students were unaware of some information sources, were struggling to obtain information of quality and demonstrated heavy reliance on Google as an information source.

The study can also conclude that the information behaviour of fourth year students was affected by lack of resources like essential textbooks which eventually drove them to rely and depend on Google for their information needs.

The non-use of journals by senior students at an academic institution is a worrisome development. As the library is spending a significant percentage of its small budget on journal subscriptions, maximum usage of these information sources should be encouraged.

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26th March 2014

Mr. Maloto Chaura
University of the Western Cape
Faculty of Arts
Department of Library & Information Science
Private bag X17,
Bellville, 7535
South Africa

Dear Mr. Chaura

RE: REQUEST TO CONDUCT RESEARCH AT MZUZU UNIVERSITY

Your request to conduct a research study at Mzuzu University on the information behavior of fourth year students when they are writing their assignments and research proposals has been approved.

Please supply my office with a full proposal of your research and any research tools that you intend to use/administer.

I wish you all the best with your research.

Yours sincerely

DR. LOVENESS KAUNDA
DEPUTY VICE CHANCELLOR

Appendix C: Questionnaire on the information behaviour of the third year students of Mzuzu University, Malawi.

Section A: Personal Information

1. Please indicate programme of study and Faculty (e.g. BSc.ED)----------

2. Gender : Male ☐ Female ☐

3. Age: 20-24[ ] 25-30 [ ] 31-34 [ ] 35-40 [ ] 40-above [ ] (Please tick your age)

4. Residence Status: On-Campus ☐ Off-Campus ☐

Section B: Information needs

5. Why do you need and seek information and sources of information? (Please tick where appropriate)
   a. For my day to day studies [ ]
   b. For updating my knowledge [ ]
   c. For writing assignments [ ]
   d. To prepare for examinations [ ]
   e. For writing my Research project/proposal [ ]
   f. Other (Please specify) ----------

Section C: Information sources

6. Do you prefer printed information sources like (Books) or online/digital information sources like (Internet based information?) Please tick the appropriate.
   a. Printed sources [ ]
   b. Online digital sources [ ]

6.b. If you prefer printed information sources, which ones do you prefer? (Please tick the appropriate?-You can tick more than one)

   a. Textbooks [ ]
   b. Short loan books [ ]
   c. Journals [ ]

d. Reference books [ ]

e. Newspapers [ ]

(Other please specify)----------

6.C. If you prefer electronic information sources, which ones do you prefer: (Please tick all which are appropriate)

a. E-books [ ]

b. E-journals [ ]

c. Search engine (e.g. Google) [ ]

d. Google scholar [ ]

e. Subscription database [ ]

(Other please specify----------

7. Where do you obtain your information to assist you in writing your assignments and project proposal? (Please tick whichever is appropriate).

a) Mzuzu University Library [ ]

b) Departmental library [ ]

c) The Internet [ ]

d) From friends [ ]

e) From the lecturer [ ]

Other (please explain) ----------

8. If the answer to question 4 is the Internet, where do you access it? (Tick which is appropriate-you can tick more than once)

a. Mzuzu University library Internet room [ ]

b. ICT department computer laboratory [ ]

c. American corner [ ]

d. My mobile phone [ ]

e. Internet Cafes in Town [ ]

f. From friends [ ]

Other (please specify) ----------

9. Which sources of information do you rely upon most for your course work and research activity?(Please tick one for each)

	A lot	Some	Never
Library open shelf books			
Library journal			
Internet			
Lecture notes			
Textbooks			
Research projects/theses			
Short loan books			

Section D: Information seeking behaviour

10. Which information seeking activity/-ies do you use first when starting your search for information?

a. Search the Web e.g. Google [ ]
b. Search Library website [ ]
c. Browsing the library shelves [ ]
d. Consult friend [ ]
e. Consult a lecturer [ ]
f. Consult recommended list [ ]
g. Consult reference list at the end of article [ ]

Other (please specify) ----------

11. How do you generally conduct your search for information? ----------

---

(Explain briefly the steps that you undertake)

12. Please indicate by selecting the sources or channels listed below that you consult to locate information.

a. Use Online catalogue (OPAC) [ ]
b. Search engine (e.g. Google) [ ]
c. Indexing database [ ]
d. Asking the librarian [ ]
e. Index at the back of a book [ ]
f. By using periodical indexes [ ]

Other (Please specify) ----------

13. How often do you use each of the following information seeking activities?

	Never	**Seldom**	**Often**	**Very often**
Search engines, e.g. Google				
Library's website-e.g. e-journals, database				
Shelf browsing (print books, journals)				
Consult a classmate				
Consult a librarian				
Consult a lecturer's recommended list				
Other (please specify)				

14. How do you search for information on the web/Internet? Please tick any that is appropriate.

a. Typing in a phrase [ ]
b. Using keywords
[ ]
c. Combining keywords with Boolean operators (e.g. AND, OR & NOT)
[ ]
d. Using truncation method
[ ]
e. Typing the full search term in the search box [ ]

Other (Please specify) ----------

Section E: Conforming to Kulhthau's ISP model of Information seeking behaviour

15. How do you feel when you are about to start your search for information in general? (Please tick/circle whichever is appropriate)

a. Anxiety [ ]
b. Uncertain [ ]
c. Afraid of failing [ ]
d. Excited [ ]
e. Optimistic [ ]
f. Confused [ ]
g. Doubtful [ ]
h. Very Sure [ ]

(Others please specify)----------

16. When you are given an assignment, what are your feelings before you start the information searching process (You can tick more than one).

a. Anxiety [ ]
b. Uncertain [ ]
c. Optimistic [ ]
d. Afraid of failing [ ]

e. Doubtful [ ]
f. Very Sure [ ]
g. Excited [ ]
h. Confused [ ]

(Other please specify)----------

17. When you do not locate/find what you are looking for, how best can you describe your feelings? (Please tick which is appropriate)

a. Frustrated [ ]
b. Down [ ]
c. Confused [ ]
d. Angry with myself [ ]
e. Desperate [ ]

(Others please specify)----------

18. If I fail to search/get the desired topic or information I was looking for, I generally…(Tick which is appropriate)

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Do not do anything					
Try another library/search engine					
Find from a friend					
Consult the lecturer responsible					
Change search terms/keywords					
Other please specify					

19. How often, when seeking for information especially in the university library do you need help? (Please tick appropriate).

a. Very often [ ]
b. Often [ ]
c. Sometimes [ ]
d. Seldom [ ]
e. Never [ ]

20. How do you feel when you search for the relevant information but you cannot have access to it. (Tick which is appropriate)

a. Frustrated [ ]
b. Down [ ]
c. Uncertain [ ]
d. Not too sure [ ]
e. Confused [ ]
f. Disappointed [ ]
g. Like abandoning the search [ ]

(Other please specify)----------

21. When searching for information for an academic assignment, do you ever feel at some stage to give up on your search for information?

YES ☐
NO ☐

If the answer is yes, why? ----------

22. What are your general feelings after the task of searching information for your assignment and writing your project proposal?

a. Confident [ ]
b. Expectant [ ]
c. Irritated [ ]
d. Elated [ ]
e. Excited [ ]
f. Uncertain [ ]
g. Less confident [ ]

(Other please specify)----------

Section F: Obstacles/Challenges to Information seeking

23. What do you think is the major obstacle in the way of meeting your information needs? (Tick the appropriate)

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Lack of time					
Unwillingness of library staff to help					
Confusion because of too much information					
Financial problem (cannot surf internet)					
Inadequacy of library opening hours					
Not able to use Internet (lack of skill)					
Lack of essential textbooks					
Important books are on short loan					
Other (please specify)					

Thank you very much for taking your time to answer this questionnaire.