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Information behaviour of final year students of Mzuzu University in Malawi.

Maloto G. Chaura Mr.

Mzuzu University, mchaura2014@gmail.com

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Information behaviour of final year students of Mzuzu University in Malawi.

Abstract.

This paper presents findings for a research study which investigated the information behaviour of final students of Mzuzu University in Malawi. Even after being imparted with necessary skills in how to search and locate relevant information, the author observed that students still find difficulties to find information that they require.

A paper based questionnaire was designed and administered to two hundred and fifty four (254) final year students belonging to the five faculties of the University of which two hundred and forty three (243) responded to the questionnaire. A mixed method questionnaire survey was used. Stratified sampling in which students were divided into different strata according to the faculty they belong to was adopted. The Kuhlthau's Information Search Process model was used as a guiding theoretical framework for this study.

The results show that most of the students relied heavily 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.

Keywords: Information behaviour, Information seeking, Academic libraries, Final year students, Mzuzu University, Malawi

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 final year student has developed 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 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 final year students with regard to information searching when they are writing their research proposals and assignments at the Mzuzu University, Malawi.

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, 2010:4). 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 (2012:121) 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.

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 (2008:1) 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 final year students with regard to information searching at the Mzuzu University, Malawi.

Problem statement

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, 2008:1). 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. Kuhlthau (1993:36) 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 (2006:2) 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.

This study sought to answer the following questions:

1. How do final year students at Mzuzu University seek and obtain information?
2. Do final year year students of Mzuzu University conform to the initiation, exploration and ending (search closure)stages of the Information Search Process (ISP) model?

Literature review

Information behaviour

According to Wilson (1999:249), 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 (2006:1) 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.

Pettigrew, Fidel and Bruce (2001:45) 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: 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, 2012:381). Denison and Montgomery concluded that most college students found the process of information searching and retrieval difficult and frustrating.

George, Bright and Hulbert (2006:10) 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.

Karlsson, Koivula, Ruokonen, Kajaan, Antikainen and Ruismaki (2012:584) 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.

Recent studies have established that students use Google as a first choice of information source (Haglund, 2008:55). 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 (2002:194) in a study of African students studying in Malaysia, found that the OPAC was the mostly used channel of information (55%), Baro, Onyenania and

Osaheni (2010:114) 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.

Duncan and Holtslander (2012:25) established that the main obstacle students encountered while searching databases was the inability to formulate keywords as search words or phrases. On the other hand, Kakai, Ikoja-Odongo and Kigonga-Bukenya (2004:16) and Fidzani (1998:337) observed that a low level of information literacy is another notable challenge to information seeking by students.

Kuhlthau-ISP Model

Other studies have been conducted to verify Kuhlthau's ISP model in real life situations. Hyldegard (2004:294) 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 (2001:295) 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.

Research studies on information behaviour of students in Malawi or closer is almost nonexistence so far. However, a study closer to Malawi is one by Norbert and Lwoga (2012) 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.

Methodology

This study employed a survey method in order to determine the information behaviour of the respondents. 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.

Participants

The target population of this study were all final year final students belonging to the five faculties of the University. The self-completion questionnaires were distributed to 254 (39%) students out of the total of 752 representing 39% of the total population across all disciplines of study from 5 faculties of the university. 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.

Administration

Before administering the questionnaire on the respondents, a pilot study was conducted during the month of March to a class of ten Library and Information Science postgraduate diploma students at the University of the Western Cape in South Africa.

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. 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 according 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.

Analysis

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.

Research findings and discussions

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 student's information behaviour and the feelings the students go through in their information seeking activities in accordance with Kulhthau's ISP model.

Study population

This study targeted all final year undergraduate students belonging to all faculties at Mzuzu University. 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.

Information behaviour

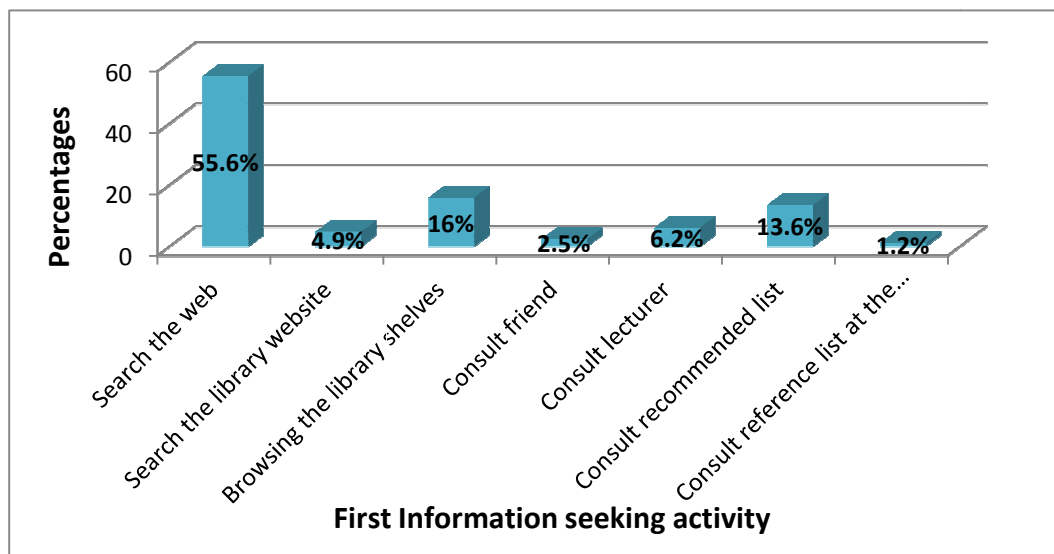
University students behave in different ways when seeking information. This section sought to gain a better understanding of the information behaviour of students. It included their information seeking practices in the library and on the Internet, the retrieval tools used for locating both print and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

Information seeking activities used when starting a search.

Respondents were asked to mention the first activity they engaged in when searching for information.

Findings are presented in figure 8 below. It is clear from this Figure 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 1: First information seeking activity



General conduct of information search (steps undertaken)

In an open ended question the study further 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 Table1 on the next page.

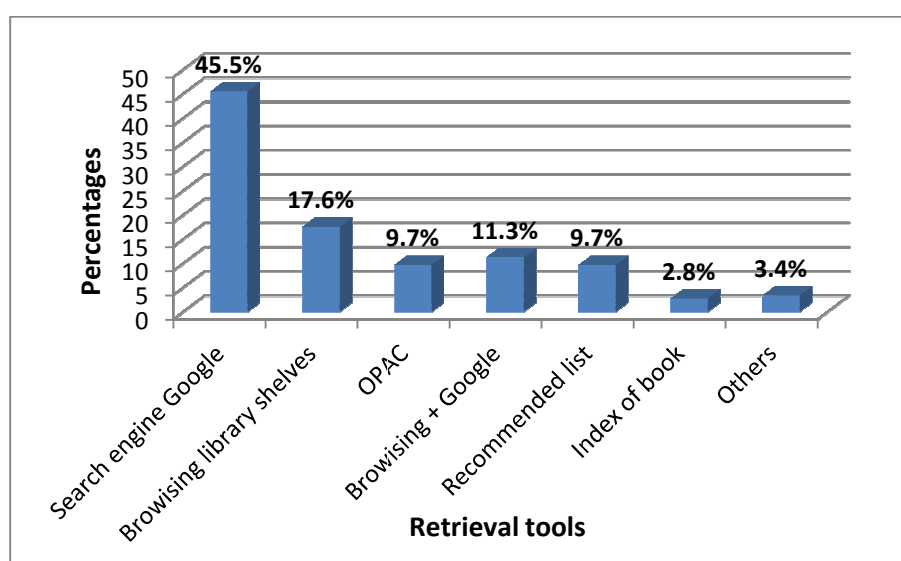
Table 1: General conduct of information search

Category	Samples of responses
Recommended list of books	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Search the topic, consult the index find• Browsing book in content and index section.• By going through table of contents and index.
Through OPAC	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Borrowing books from the library, sharing ideas and Google• Looking in books then surf on Internet• Google the topic in question and check the

	<p>table of contents in library books.</p> <ul style="list-style-type: none"> • I read different books plus internet searching
Others	<ul style="list-style-type: none"> • Encarta student Microsoft 2009 • Questionnaires • Qualitative method. • Mostly I use serendipity.

The responses are summarized in Figure 2 below.

Figure 2: 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

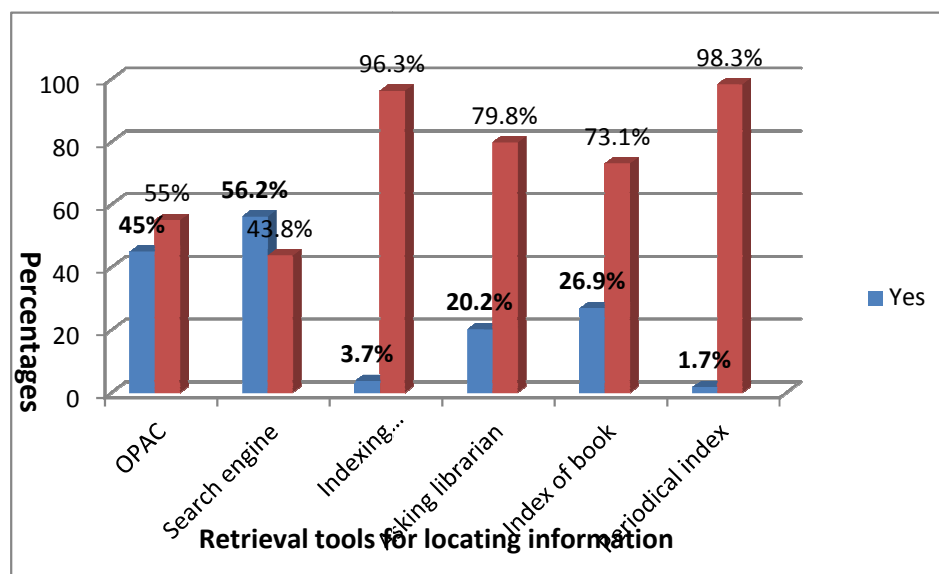
was in conformity with the findings of Denison and Montgomery (2012:381) that identified three unique groups of information seekers. One of these groups was the extrinsic motivators who blindly trust the reliability of free Internet resources and did not know how to access other information sources. 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-Ilan (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 (2009:5059) 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 database. It can be suggested, therefore, that during their first year, possibly these students did not acquire proper searching skills during user education program.

Retrieval tools for locating information

In this multiple answer question the study wanted to solicit data pertaining to the retrieval tools students used to locate other information. Responses are summarised in Figure 3 below.

Figure 3: Retrieval tool used for locating information.

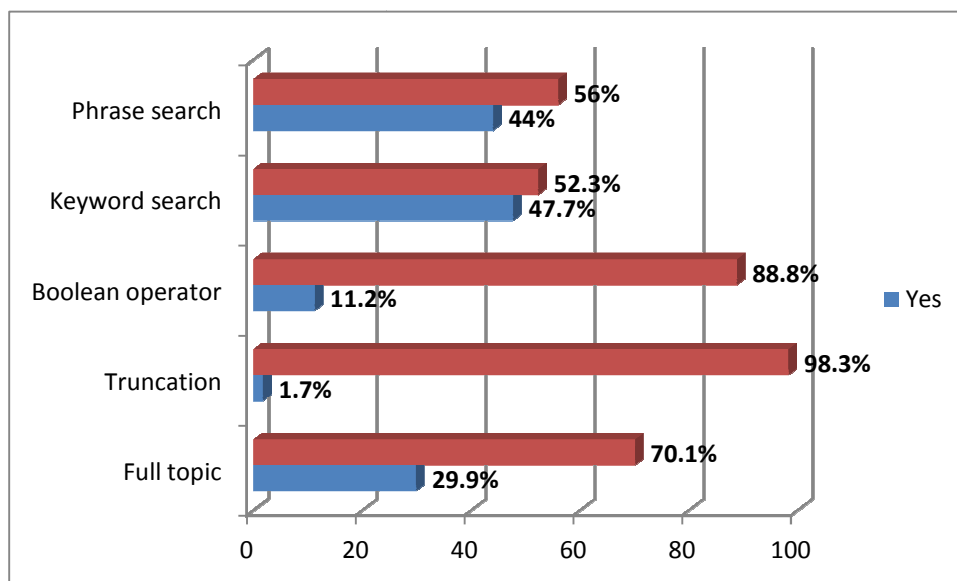


The findings presented in Figure 3 on the previous page revealed that more students 136 (56.2%) used search engines than 109 (45%) students who used the OPAC to locate information. However, the findings also showed that only 20.2% of respondents asked the librarians for information, 3.7% used indexing 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.

Searching strategies on the Internet

Respondents were further requested to indicate which search strategies they employed when searching for information on the Internet. Below in Figure 4 are the results from the responses.

Figure 4: 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 (2013:791) 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 and are not aware of proper skills when seeking for information online and this may suggest that students were not properly trained on how to search for online information during the user education sessions.

Correlation between gender and searching strategies on the Internet

Halder, Ray and Chakrabarty (2010:242) 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 2: 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 2 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 (2010:246) 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 accidentally, 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)

Conforming to some stages of 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, 1993:43).

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 3: Feelings at onset of a search

N=243				
Emotion	Yes		No	
	<i>f</i>	%	<i>f</i>	%
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 3 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.

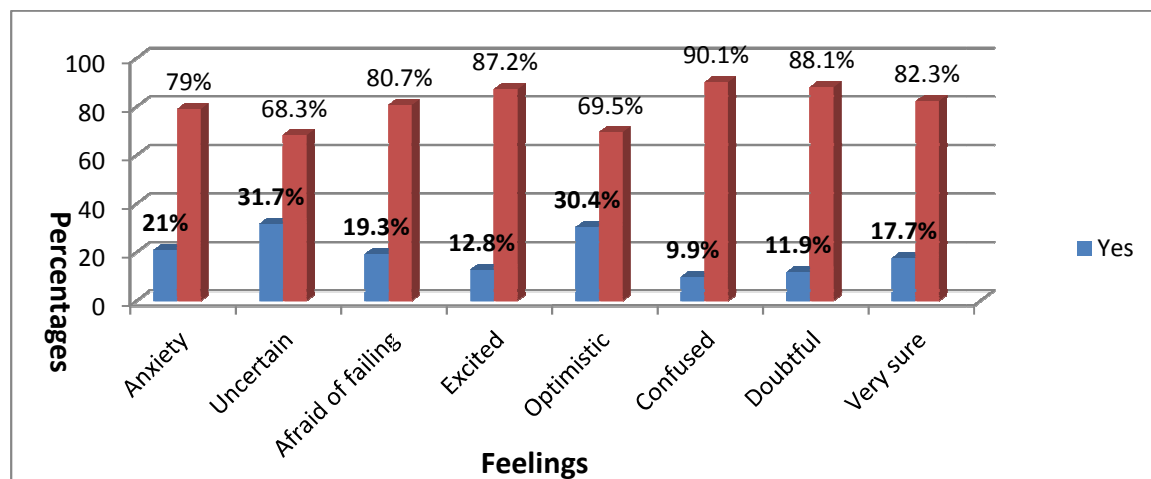
The findings, therefore, suggest that the students did not fully conform to Kuhlthau ISP. However, the findings of this study did also not support those of Vakkari (2001:295) who concluded that students when preparing a research proposal followed the stages in Kuhlthau's ISP. The indication that students 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 (2012:120) 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.

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 5 below.

Figure 5: Feelings when given an assignment.

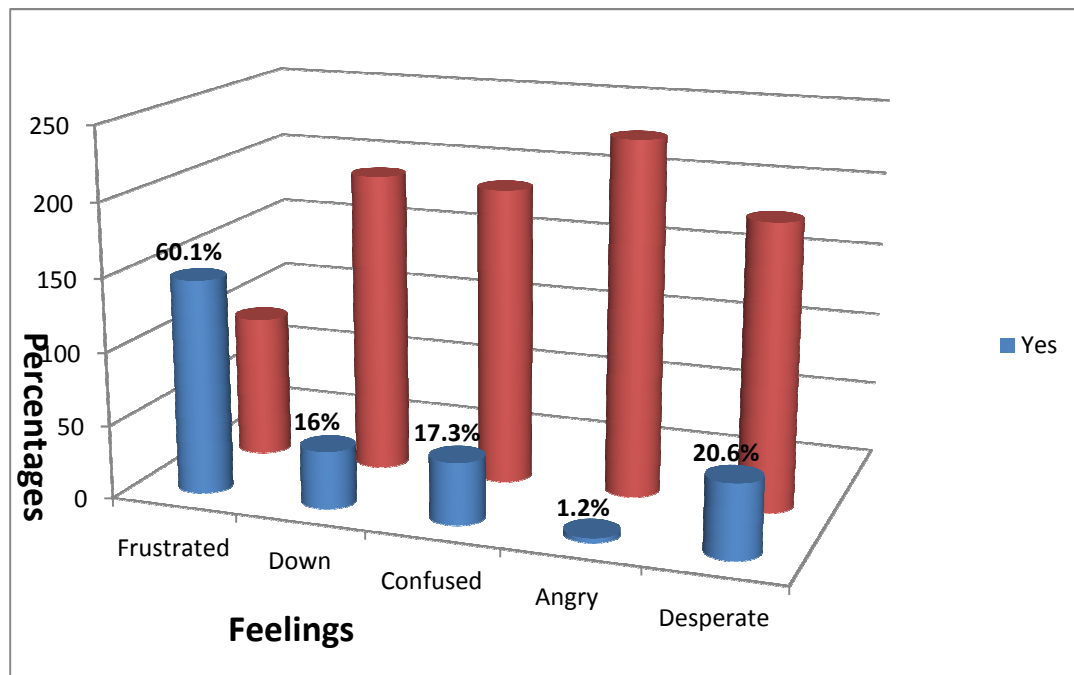


The findings revealed that after receiving an assignment, the minority of students experienced negative feelings like uncertainty (33%), anxiety (21%), afraid of failing (19.3%), doubtfulness (13%) and confusion (9.9%). Although the majority of students (82.3%) felt very sure of themselves, only 12.8%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

Feelings when information could not be located

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

Figure 6: Feeling after failing to locate information



Findings in Figure 6 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, 1993:42).

Actions to access information

The objective of this question 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 Table 4 on the next page.

Table 4: 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	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
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

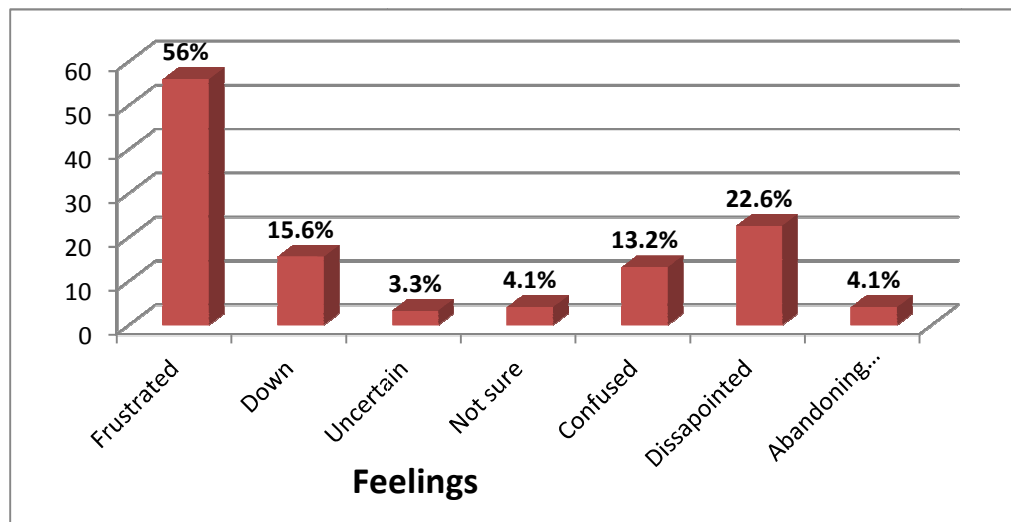
Results in Table 4 above indicated that most respondents (66.7%) strongly disagree with the statement that they would do nothing when they could not get hold of the needed information. These findings revealed that students would try other ways to access the needed information by doing a new search with 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 may be attributed to the trust that the students had in their lecturers.

Feelings when unable to access needed information

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

Findings in Figure 7 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, 1993:46).

Figure 7: Feeling when unable to access information.



Feeling to give up search process at some point

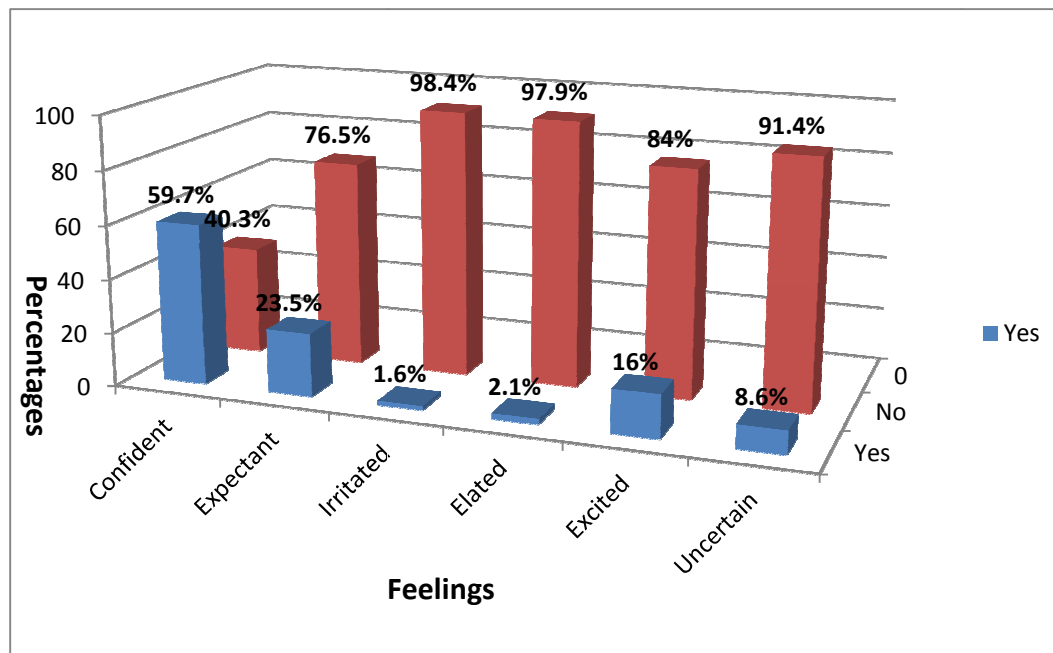
The aim of this section was to further investigate whether students went through the exploration stage, which Kuhlthau (1993:46) described as a difficult stage, where users experience the sense of inadequacy, and find the situation hopeless and frightening leading to the feeling of wanting to give up 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 Kuhlthau predictions of high tendency to abandon the search in the exploration stage (Kuhlthau, 1993:46). 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.

General feelings after the search process

The overall aim of this question 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 Kuhlthau's ISP model (Kuhlthau, 1993:49). The results are presented in Figure 8 below.

Figure 8: 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, (2012:380) who found the process of information searching and retrieval to be difficult and frustrating.

Conclusions

Fourth year student's information seeking practices

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

The study has also showed that the searching skills of fourth year students are not well developed. This has been manifested by how students depend on and use 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.

It can be concluded therefore that there was no general pattern which the fourth year students followed in their information searching activities both in the library and online. This may suggest that there was no proper training in how students should search for information.

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. The students 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.

From the above findings the study recommends that the user education or Information Literacy being offered by Mzuzu University library be reviewed so that the program incorporated most of the crucial elements needed to groom a successful information seeker.

The Library should try as much as possible to provide specialised training on the proper use of the Internet, databases and e-journals is needed to ensure that students access information of quality.

Additionally the library should set up a new comprehensive mandatory information literacy program for all students in the university. It can also negotiate with Management so that it can 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.

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