BUILDING INFORMATION LITERACY SKILLS AMONG UNDERGRADUATE STUDENTS IN UNIVERSITIES: A CASE OF MAKERERE UNIVERSITY

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Abstract

Knowledge is the Country's most precious commodity, and people who are information literate are the most valuable resource. The study aimed at establishing strategies for building information literacy skills among the undergraduate students for long life learning in Makerere University. It intended to establish information literacy needs, problems faced in accessing information and to suggest possible strategies to enable easy access and retrieval of information in Makerere University libraries. Both quantitative and qualitative techniques through questionnaires, interviews, observation and literature search were used to conduct a research from undergraduate students of Makerere University that was conveniently selected from the library users. From the study, it was clear that information literacy competencies and abilities of undergraduate students affect access and retrieval of information by undergraduate. It was recommended that building information literacy skills is a way forward towards knowledge driven society for life long learning in a country.

Introduction

["…no knowledge of God in the land…My people are destroyed because of lack of knowledge, because you have rejected knowledge " *(Bible. Old Testament. Hosea 4:1-6).]*

Knowledge is the country's most precious commodity, and people who are information literate are the most valuable resource (Breivik 1992:6). Information literacy has been of growing concern in the education sector in the past few decades. It has a major role to play to enable the ability to locate, evaluate and make use of available information resources. This requires competencies (Australian Education Council 1992:12) to improve students' perception and abilities. Such competencies, however, tend to focus on vocational education and address the full range of concepts associated with information literacy. There is a need to move beyond such competencies and develop higher-order skills in processing and utilising information—a literacy that combines information collection, analysis, management skills, with the ability to use information technologies.

In the undergraduate education, information literacy should demonstrate an increasing commitment to lifelong learning (Candy, P. Crebert, G. & O'Leary, J., 1994:12). This requires students to acquire enabling skills to cope with flexibility in learning and increasing academic staff competencies in maximising technologies and methodologies to promote particular learning in students (George and Luke, 1996:6). The competencies in

information technology require ability to retrieve, decode, critically evaluate, analyse, write, present and communicate information to create knowledge using appropriate media. In fact, Alonso (1995:4) contends that an information literate person should be associated with infotec revolution. However, literacy by itself can not provide desirable attitudes towards use and utilisation of information. It requires its integration into the development strategies to enable the users build information literacy skills.

Information Literacy in Higher Education

Inherent in the mission of higher education institutions is the development of lifelong learning. This requires collaboration between all members of the higher education community, particularly students, faculty, librarians and administrators (Association of College and Research Libraries, 2000:6). Most of the students that attend universities have little or no literacy on how to locate and access information. Those that have some basic skills find the operations and culture at the university quite different from their lower levels of education. The increase in student population and greater responsibility for finding materials may have limited the student's ability in the use of information resources. This requires abilities to enable them develop their careers, keep up-to-date in their fields to ease access and use of information materials.

There are a number of strategies developed in higher education world wide to promote the information literacy skills (Wiggins, 1992:73-81). For example, Brandeis University in Waltham, Massachusetts, United States has two formal programmes for information literacy skills programmes. These programmes are: Freshman Library Instruction Programme (FLIP) for freshman and transfer students, and a Library Intensive Programme (LIP) for undergraduate students.

FLIP is an interdisciplinary approach that pairs students with faculty from different disciplines. FLIPs are hands-on learning sessions that emphasise critical evaluation of references and introduce new students to the research process, which will be the key to their success as undergraduates. LIP on the other hand is course-integrated and is a programme tailored to student information needs for a particular course. Faculty and librarians work closely together to design instruction and assignments. Although each programme may vary with the tools taught, the emphasis of instruction and nature of the assignments, students learn some common skills as they learn to do research across disciplines. The success of this programme is demonstrated by the comments of students and faculty, indicating how much they learned from the programme. Faculty choice as participants in the programme, and their commitment to the program, which in turn motivates students to acquire information literacy skills, is credited with the success of the programme.

Both FLIP, and LIP have an element of introducing research, reading and writing skills to students, but little attempt is made to build among the undergraduate students the information literacy skills for life-long learning. There is more of participation by the librarian and faculty although the programmes endeavor to integrate the skills into the curriculum, no strategies are made to utilise the use of libraries in the development of information literacy skills among the undergraduate students.

The Place of a University Library in Information Literacy

Libraries have an opportunity to improve the quality of undergraduate education by participating in and strengthening information literacy programmes in a University (Schaffner, Stebbins, and Wyman, 1999:118). A University library becomes a teaching library, which is actively involved in all aspects of higher education—teaching, research and community service. This requires a comprehensive and holistic information literacy programme that involves cross-institutional cooperation and collaboration (Boisse, Guskin & Stoffle, 1984:8). Although Hope and Peterson (2002:2) recommends for strategic alliances, networking and coordination as the way forward for information literacy skills development, it requires a structure for it to be successful.

Librarians need to be involved to foster change with regards to the teaching of information literacy and take an interest in curriculum reform (Schaffner, Stebbins, & Wyman, 1999:112). Librarians possess knowledge of resources and strategies to access information. The faculties have an in-depth knowledge of their content areas and are in a position to help their students the most with regard to evaluating and applying information (Wiggins, 1992:77). That is why it is important to establish the strategies of incorporating information literacy skills for undergraduate students of universities.

Problem Statement

Undergraduate students in higher education are expected to maximally utilise the use of the library and information sources and resources. However, most of the library resources in public university libraries are not fully utilised by undergraduate students. Although there are efforts to guide students in searching and accessing library resources through existing facilities like Book Banks, reference services, catalogues, and electronic means, there seemed to be still reluctance on the effective use of information materials. It appears, lack of information literacy skills in accessing and using the library has contributed to poor information seeking behaviour among the undergraduate students. Makerere University organises the user education and orientation programme for the first year students every academic year, nevertheless poor information seeking pattern still persist. This is more likely to affect information literacy levels in the country. It is therefore important for higher education institutions, including Makerere University to adopt a framework on information literacy skills, which makes it possible for its nationals to acquire library and information literacy skills. The purpose of this article is to establish the information literacy skills among undergraduate students for a life long learning. The article establishes how the undergraduate student's locate information resources. It also establishes the problems that undergraduate students encounter in information access and retrieval. The paper will also suggest strategies to enable easy access and retrieval of information in Makerere University Library.

Methodology

In both quantitative and qualitative study collected data was collected through questionnaire, interviews, observation and library search/document from undergraduate students in Makerere University. The undergraduate students were chosen as they are expected to find or search most of the information on their own for their coursework and research. A self-administered questionnaire with both open-ended and closed questions was administered to the undergraduate students. Out of 100 questionnaires the researchers distributed to undergraduate students, only 75 questionnaires were returned. The respondents who answered the questionnaire were selected based on convenient sampling of students found entering or using the Makerere University Main Library. Out of the total respondents, 40 (53.3%) were female and 35 (46.7%) were males. The interviewer also engaged in an open discussion with conveniently sampled 20 students to provide the in depth of the feelings on the subject. The convenience of the interviewees was based on students that were found reading or doing their course work in places outside the library like under trees, lecture rooms and dinning halls. Observations and documentary review enabled the researchers to obtain relevant information background to the area of study. The researchers visited Makerere University Main Library and observed the way in which undergraduate students access and retrieve information resources. This helped the researchers to be conversant with the current ways of accessing and retrieving information resources in Makerere University. The responses from the field were edited, coded, tallied and grouped accordingly. Finally, the data was interpreted and presented using descriptive techniques.

Findings

This study aimed at providing strategies for building information literacy skills among the undergraduate students in Makerere University. The study established the undergraduate students' information literacy needs

and the problems that undergraduate students encounter in accessing and retrieving information resources. The study also established strategies for building information literacy skills among students in universities.

Information Literacy needs

Information literacy needs of undergraduate students variy depending on circumstances.
Through a questionnaire administered to students the various information literacy needs of the undergraduate students were identified. Fifty-two respondents (69.3%) seek information for educational purposes, 9 (12%) seek information for daily news or events, 8 (10.6%) for job/career market, and 6(8.1%) for leisure. Makerere University undergraduate students struggle to obtain the kind of information to help them pursue their various assignments in their different fields of study. All the students that were interviewed had different information needs as the knowledge required is based on different subjects and discipline. As expressed by one of the student that " ...my information needs vary according to my daily achievements... for that, I have various information needs apart from academic ones".

How Undergraduates fulfill their Information Needs

According to the findings the majority of the students' view the academic area to be their only place to fulfill their information needs. Forty-two (56%) of respondents fulfill their information through lecturer's notes and handouts. Some significant numbers of 13 (17.3%) of students use Internet, 6(8%), use Journals and periodicals, 4 (5.3%) from sound documents, 7 (9.3%) from textbooks, and 1 (1.4%) from others means.

It is clear that at Makerere University undergraduate students depend heavily on the lecturers notes, and hand outs to meet their information needs. Lack of awareness on how to carry out self-learning to determine the availability of needed information explains why students preferred the use of lecture notes and hand outs. Thus awareness on how the undergraduate students can define and articulate the need for information and appropriations of a variety of information sources is required.

How Undergraduate Students Obtain Information

Findings indicate that information seekers obtained information in many ways. Majority of the students get information materials directly from the shelf after being directed by colleagues to where the materials are. About 40% of the respondents could not indicate any method by which they obtain any information materials from the library and other information centers. Majority of those students visit libraries for reading personal notes only. From the study, findings show high reliance on bibliographies and references in books and journals coupled with frequent recourse to indexing and abstracting services as expressed in table below.

Table 1: Methods of obtaining information in bank order

Methods by which information Is obtained	Frequency	Percentage
Bibliographies/references in books/journals	25	33.3
Book reviews	3	4.0
Conferences/meetings	4	5.3
Conversation/correspondence with colleagues	6	8.0
Specialised bibliography	2	2.7
Library catalogue	20	26.7
Abstracts and indexes	2	2.7
Searching library shelves	7	9.3
Publishers/book sellers catalogues	1	1.3
Consulting librarian	5	6.7
Total	75	100%

There are many ways through which students obtain information materials depending on the area of specialisation, nature of the materials to be retrieved, and level of information skills. Findings also indicate that the success of the information seekers also depend on the librarian,s competencies in different faculty libraries and book banks with respect to their politeness and courtesy. It was clear from the study that students have limited knowledge and skills in accessing computerised resource and digitisation formats in full text and the browsing of resources on the Internet.

Use and Utilising Library Faculties and services

The study intended to find out the maximum utilisation of information materials and services offered to undergraduate students at Makerere University library. From the study it was found that few respondents (30%) of the total number use the libraries and information services for both reading and further research, but the remaining 70% use them for reading only. This explains why during the end of term or semester examination periods, libraries in the University are fully occupied compared to other times. Finding out how often the students use the library facilities, it was established that the majority of students use the library frequently for the research, personal study, course works, and assignments.

Interviewees were also requested to answer whether they access and use information materials in the library. Of the 20 interviewees, 16 (80%) said they have access and use the library while 4 (20%) said that they do not have access to the and use of any library at the University. For example, one of the students said "I don't use the library because I do not know how to obtain materials from it, and so far I haven't entered it". Another student noted "I do not know how to obtain materials by aid of catalogue and browse". It was also established that it is not easy to locate the materials because the lay out of the library [main library] is confusing.

Alternative sources for information

Interviewees were asked where they obtain their information apart from Makerere University. Out of 20 interviewees, 18 (90%) use faculty libraries as alternative to the main library to meet their information needs, while 2(10%) obtain information from other libraries outside the University including National library of

Uganda, British Council library, documentation centers and computer cafes. Supporting the main library as a source to meet their information needs, one respondent during an interview said: "it's the only information centre, which is near to us and we can access it at our own free time". The Main library was preferred because of its friendly hours of operation.

Previous knowledge about the University Library

Although majority of the interviewees 18(90%) seemed to have known how to use a library while in A and O levels classes they could not appreciate its function in terms of services provided. One of those who learnt the use of the library while at campus observed: "it's only after joining campus that I learnt about a library as a commodity ideal for information and knowledge acquiring..."

The Problem Encountered by Undergraduate Students in Accessing Information Materials

Undergraduate students were asked if there was any problem hindering their accessibility and location of the material from whichever source to meet their information needs. The responses are tabulated below:

Table 2: Problems encountered in accessing and locating of information

Problems cited	Frequency	percentage
Selecting appropriate material	25	33.3%
Scarcity of facilities	20	26.7%
Lack of information skills	20	26.7%
Inadequate information materials	18	24%
Outdated finding aids	15	20%
Ignorance of staff	10	13.3%
Time consuming	15	20%
Ignorance of faculty	20	26.7%

Availability of materials in different formats has limited undergraduate students in selecting information resources to satisfy their information needs. Lack of adequate facilities due to overwhelming population of undergraduate students at Makerere University has also limited access to information materials in the library. Inadequacy of participation in library orientations or demonstrations has also limited the use of library materials. Lack of knowledge in using abstracts for journals and reference books and limited computers have all contributed to lack of access to information materials.

Lack of knowledge on how to search for materials in various types of information centers, including shelf browsing, Internet browsing, catalogue consulting and familiarisation of library floor arrangement is common among students and it has limited the abilities to retrieve information materials for their informational needs.

From the study, findings show that most materials are not of current value, some subject areas are not included in collection thus causing a gap and as a result students are unable to fulfill their informational needs.

Finding equipment and tools such as catalogue, bibliographies and other findings aids are not up to date with the information contained in the library thus resulting into poor information of resources.

Ignorance of the staff in the reference section, and unwillingness to train students in the use of present information services has limited most of the students from using the opportunity of exposure to the use of libraries and information centres in the University.

Interviews also showed inefficiency in accessing and retrieving information materials in the library. The following are some of the responses obtained from the interviews:
- Time wasting due to the unfamiliar access terms i.e. use of control term.
- Overcrowding due to insufficient facilities and equipment, for the students population.
- Lack of knowledge and awareness of the library arrangements and services provided.
- Wrong assumptions - students assume that they know what they are looking for and, thus do not seek assistance from information workers.
- Lack of support by the faculty on obtaining information skills.

Lack of adequate programmes in information literacy skills has limited students in obtaining information awareness, widening the knowledge and cultivating more independent study abilities.

Strategies for information literacy skills among undergraduate students

All respondents were asked to indicate the strategies to improve the information literacy skills in the University.

❖ User Education Syllabus
According to the findings, it was desirable that an agreed user education syllabus is prepared for user education. This was suggested by 35(46.7%) of the respondents. However, the syllabus should be one that is adaptable to the needs of the various courses in the University. For example the architects must be exposed to a whole range of materials such as books of working details, monographs and periodicals on types of modern buildings, standard specifications and codes of practice, legal and planning requirements and trade catalogues. The syllabus should be adopted to meet the following criteria:

Induction Courses
A tour of the library to familiarise students to library facilities and its organisation is proper. This should include instruction on the use of the catalogue, general bibliographies, indexing and abstracting publications. This could be followed by library assignments designed to test how much the students know.

Systematic Study of Information Sources and Services
This may lead to exercises in finding specific information. The teaching staff may suggest topics so as to link them to the students' course.

Courses in Finding and Using Information
This involves lectures on literature search, reading, selection and evaluation of information for specific purpose. The aim is to build attitudes in lecturers and students in ensuring that user education is integrated with library and information studies. This involves the intensive use of library resources as a result of project assignments and technical report writing given to them by their lecturers.

❖ Provision of Adequate Facilities

Respondents indicated a need for duplicating special/reference materials to have enough for the students of a class to use at the same time. This, however, requires that librarians at University cooperate with the faculties to solve problems concerning the lack of enough staff instructors and facilities including teaching facilities and materials for practice. Provision of user education awareness programmes, computerised access, digitisation formats will improve on access and retrieval capabilities of the undergraduate students.

❖ *Information Literacy Competencies*

It was found out that, currently, the information literacy programmes for undergraduate students are strictly limited to orientation for fresh men. As a result most of library and information resources are not sufficiently utilised, due to inability of students to use information in the university for a lifetime. There is thus, a need for introducing information literacy competencies, as a kind of essential knowledge in curriculum. This should be to promote an effective use of the library resources by both students and faculties. However, user education and awareness must be matched by adequate resources both quantitatively and qualitatively, supported by an efficient and effective interlibrary loan. There should also be a strong case for user study, aimed at relating the education to the use or otherwise of library resources like the Online Public Access Catalogue (OPAC).

Discussions

Through the purposive sampling method, the study established different information needs of the undergraduate students including information on academic matters, daily news, job market, leisure/entertainment, economic issues which vary from one individual to another. However, such needs seem to focus on vocational education (Australian Education Council 1992:12).

The study also established that most students depend on lecturers notes, handouts, newspapers and textual information to meet their information needs and other sources such as Internet, journals, seminars, workshops, are given little attention. The knowledge in information access and retrieval like use of search engines, search terms and navigating skills are fundamental in building information literacy skills by undergraduate students in a University. Inadequate knowledge in the use of finding aids like catalogues has limited access and retrieval. Students should acquire enabling skills to cope with the ever-changing world for life long learning (George and Like 1996:6).

The study established that students are motivated to use the library when they are given their course work that requires its use. This requires collaboration between all members of the community including students, faculties, and administration (ACRL 2000:6). In most cases, the library is a convenient place for students reading their personal work and assignments. To foster a climate that encourages life long learning, libraries need to adopt a broader conception of the role of academic library (Boishe, Gaskin, and Stuffle 1984:4).

Lack of resources like reading facilities, relevant information materials, space for reading, appropriate skills and knowledge on how to use finding tools, inappropriate search terms has limited the development of information literacy skills in the University. Actually a SWOT analysis of Makerere University Library (2000:2) revealed some of the weaknesses to include lack of library policies, and inadequate space. In its yearly review, Makerere University Library (2002:3) progress report identified staff shortage, limited sitting capacity for library users as a major challenge in both the Main library and branch libraries. In fact, Makerere University (2004:21) Strategic Plan pledges to improve academic standards in order to remain competitive by ensuring accessibility of library services to all university staff and students. To increase accessibility to library facilities necessitates appropriate information literacy skills to be integrated in the services of the University community including the services of classroom teacher (lecturer) and a librarian (Todd (1995:18).

The students should gain skills through the programme of training and practice including acquiring knowledge to define, access, locate, select, organise, present and utilise information. To produce a high rounded, articulate and skilled graduate, the university needs to agree on strategies on how to achieve the objectives (Fullertton and Leckie 1999:192). Actually Grgic (1995:57) summarises strategies of information literacy blue print as staff development, curriculum development, and extra curricular strategies. This, however, requires information programmes and strategies to be integrated in the university programmes and plans. According to Makerere University Library Strategic Plan(2000:3), one of the strategies is to promote effective and efficient information retrieval and strengthen the capacity of the library in the provision of services. However, there are no strategies for developing information literacy skills in place.

Conclusions

From the study the researchers drew the following conclusions based on the objectives of the study.

In an effort to fulfill various user needs, students require competencies that will increase abilities in accessing and locating information within the library. Integrating user education programmes in the curriculum improves the information literacy skills among the undergraduate students in a university. The information literacy levels of the undergraduate students affect access and retrieval of information. This calls for building an information literacy skill programme at the university that will build a knowledge driven society for a life long learning.

Recommendations

In order to establish an efficient information literacy skills structure for undergraduate students, the following are the recommendations;

Establishing an information literacy skill Structure/network within the university. The University should establish an information literacy committee constituting faculties, students and librarians. The structure should be based at the university level, faculty or departmental information literacy services branches. The committee would be responsible for monitoring, developing proposals, evaluating and facilitating the development of information literacy skills in the University.

Establishing information literacy Policy for effective use and utilisation of information resources. There should be emphasis of the librarians and faculty in library programmes including library tours and lectures, lending system, library orientation, bibliographic introduction, and teaching of library and information skills in public universities. The following are some of the strategies:

- Introducing of learning routes outside curricular including computer-based options.
- The development of short courses including computer based options which can be used and adopted for existing subjects and which provide good skills for search. Efforts to ensure that students are tested practically how they can use the library/searching skills is made.
- Introducing projects such as user education, online service training, bibliographic training to investigate the illiteracy of entering students (first years) including their prior learning, attitudes and learning styles.
- Initiating projects to evaluate information illiteracy programmes by introducing literacy skills into the curriculum.
- The NCHE should ensure setting up of standards for libraries in universities in services to be provided in user education as provided by American College Research Libraries (ACRL).
- The Government with advise from the stakeholders should put in place comprehensive information literacy policy that covers categories of libraries especially public, academic, and school libraries to build capacity for students that enter higher education.
- The Government through the Ministry of Education and Sports should ensure the enacting of the school library policy to enable students come to the University with some knowledge.

Building an institutional capacity among the university community: The university needs to clarify areas of responsibility for every stakeholder in information literacy development. This is by recommending to faculties and appropriate departments on how to devise strategies for development of the literacy programmes, and what should be their roles in designing curricula to integrate the information literacy strategies. The role of the university administration, coordinator, staff, lecturers, counsellors and students need to be established.

Enhancing Information Technologies in the provision of Library and Information Services: The University needs to review its provision of information technology for supporting the development of the information literacy skills. This can be done by providing sufficient and up-to-date hardware and software for students and

staff, maintenance of hardware and software, adequate technology infrastructure including network facilities, adequate training programmes for students and staff in information technologies, and adequately equipped teaching areas.

Building human resource capacities through education and training:
- Makerere needs to support staff to integrate the information literacy skills by providing professional support for targeted staff.
- Makerere needs develop skills that will enable staff to utilise resources and become a model for other academics
- Libraries and the Universities should ensure continuous capacity building among the library staff to ensure performance delivery in library and information services in the University.
- Sensitisation and awareness workshops on library skill development should be organised targeting all the university communities including students, faculties, and administration.
- Students should take part in the running of libraries in their faculties to acquire information-searching skills.

Ensuring continuous awareness and publicity among the University community. Various programmes should be developed to build awareness among the university community.
- Makerere University Library services should introduce a bulletin or newsletter that gives educative articles, features and programmes about information literacy.
- The library and/or its branches should introduce a discussion group focusing on reading and use of library.
- Promotional awards that target to recognise good users of the library should be introduced at departmental level or the University level.
- The University should start an Information Literacy day. On this day, there will be demonstrations and exhibitions showing various skills in accessing and utilising information materials. The Main Library, branch libraries and faculties should make programmes and plans for such a day.
- Students should organise peer groups/associations/societies in reading, writing and use of libraries to promote the reading and information searching schools in the University.

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