



Information Literacy Evaluation: A Case Study of the Africa University, Mutare, Zimbabwe

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Authors' contributions

This work was carried out in collaboration between all authors. Author NS designed the study, drafted parts of the manuscript, did the literature search, developed the structure of the publication, collected the data from the students and coordinated the author group. Author NS managed the analyses of the study and wrote the first draft of the manuscript. Author CTC drafted parts of the methods and results sections. Author NJ edited the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aims: The study evaluated the effectiveness of the information literacy skills course on the utilisation of various information sources at the Africa University. The objective of the study was to identify whether the teaching of information literacy skills at Africa University is having a positive impact on the students' use of diverse information resources provided by the University Library in support of the University's teaching, learning and research activities.

Methodology: Survey research design was utilised by researchers. Research site is Africa University and target population consists of users who include students and lecturers. Multi-method approach was made use of by the researchers. A questionnaire was distributed to 150 students in 6 Faculties. 76 questionnaires were returned within the study period.

Results: Respondents stated that information literacy skills and knowledge acquired from this course are essential to pursue their studies in the University and beyond. Findings also indicate

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that some students do not recognise that the information literacy skills they are learning are transferable and applicable to most areas of their studies.

Conclusion: The study concludes that despite information literacy skills' training at Africa University utilisation of electronic information sources is still low among undergraduate students.

Keywords: Information literacy; higher education; digital literacy; research literacy; Zimbabwe.

1. INTRODUCTION

Developing countries suffer from general low utilisation of the most important resources of the current information and knowledge dispensation due to lack of information literacy skills. Pejova, (2002:1) [1] Lack of such critical knowledge and skills and efficient use of information and knowledge causes wastage of other resources and affects productivity in all spheres of life and which results into poor societies. Mukungu, (2011:3) [2] University libraries as centres of excellence in institutions of higher learning are expected to play major roles in equipping and training their clients with appropriate information retrieval skills. Nyerembe, [3] argues that "there is a growing concern that users cannot retrieve and evaluate information that will be required for problem-solving and decision-making; that is, they are not information literate". Nyerembe further argues that "to be information literate, one has to be able to recognise when and what information is needed and have the ability to locate, access, evaluate, organise and use effectively the information from a variety of sources". Gaining skills in information literacy multiplies the opportunities for students' self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for still further self-directed learning [4].

Gaining skills in information is a fundamental aspect of the university experience for undergraduate students, and as well as provide essential tools for lifelong learning (eprints.lse.ac.uk). Having recognised the need to develop these skills amongst students, Africa University launched the information literacy skills course in August 2012 beginning with first year students during the first semester of that academic year. This course has featured prominently in the Library Strategic Plan and is guided by an Information Literacy Policy. The library plays a critical role in achieving a campus wide information literacy skills (ILS) course, by working with the Faculty of Humanities and Social Sciences' English and Literature Unit. This

collaboration made it possible to integrate information literacy in the Communication Skills course.

The University library has made a definite and deliberate transition from primarily print-based delivery modes to a multimode comprising of print and e-resources. The University invests considerable sums of money in the subscription and acquisition of electronic journals, e-books, multimedia information sources and print information resources. It is vital to recoup the cost of that investment by ensuring that these resources are used effectively. Underutilisation of information resources in diverse formats at the Africa University motivated the researcher to undertake this study to evaluate the information literacy skills course in order to measure its effectiveness in equipping students with information retrieval skills. This study also aimed to establish the value and immediate impact of the information literacy skills training programme on undergraduate students to inform the programming of future training and establish other important training needs around improving research at the University.

1.1 Objectives

- a) To evaluate the effectiveness of the information literacy skills training programme;
- b) To gather information about students' use of library resources;
- c) To find out whether students have the necessary information literacy skills; and
- d) To develop strategies for enhancing information literacy among undergraduate students at the Africa University;

1.2 Literature Review

1.2.1 Information literacy skills and use of information sources

Library clients have to be equipped with the knowledge and technical competence of using electronic information sources especially e-resources. For one to effectively and efficiently

use any form of information, media and information literacy skills are a requisite. These skills include knowledge of the e-resources. Academic researchers and students require quick access to current, accurate and authoritative information. Electronic journals are part of this framework. (Bonorino and Molteni, 2006:65) [5] A study of electronic journals collection in Argentinean private academic libraries by Bonorino and Molteni [5] indicated an increase in the use of electronic journals. This increase was attributed to user training tailor made to meet information needs of users. Ali and Nisha, [6] Ashcroft [7] argues that access for e-journals can be assured only through effective promotion. In support of this, Seema [8] argues that "If the users are to reap full benefits of the e-journals, formulation of marketing strategies which go beyond mere notifications, is the need for the hour".

1.2.2 Embedding E-books into teaching programmes

Appleton (2005:62) [9] argues that strategic embedding and promotion of the e-resources can result in their effective use, therefore adding value to teaching, learning and research. Nicholas et al. (2008:312) [10] argues that "Within the broad family of e-books, the role and use of e-core textbooks is of special interest". Nicholas et al. (2008:312) further argues that "the demand for the textbooks to support taught course students in higher education is not currently being met and the scarcity of textbooks generally is a big point of concern for students and their parents". Wu and Chen (2010:780) [11] observed that student express keen interest in e-journals followed by e-books. Negahban and Talawar, [12] found that "students in Pakistan are more satisfied with e-journals than books". Appleton, (2005:56) argues that "With printed textbooks being well integrated into traditional teaching and learning in higher education, the next obvious resource to embed into virtual learning would be the e-book".

Blummer and Kenton, (2012:92) [13] claim that "...librarians adopt best practices in acquiring, cataloguing, maintaining, and promoting e-books to foster their integration and use in library collections". Further, Blummer and Kenton, (2012:92) goes on to say "despite readers' preferences for print books, e-books continue to increase in importance in academic institutions". However, Lynch, (2012:78) [14] claim that "E-books are still a new medium....libraries are also

trying to figure out how they will best utilise the medium". Africa University provides access to e-books and e-journals through a single point of access, that is, through the library Online Public Access Catalogue. The library also provides remote access to off campus users.

1.3 Librarian-Faculty Collaboration

Forging relationships with faculty is vital in building successful information literacy programmes in universities particularly in Africa. Academic librarians need to forge effective collaborative strategies with faculty in order to develop academic curricula that meet students' needs with full faculty, student and management support. Callison (2006:322) [15] define collaboration as "working with others". Further, Callison (2006) argues that collaboration should involve a broad range of partnerships, from various planning levels and across the many groups who comprise the learning community. At Africa University, librarians collaborate with teaching faculty in systematically integrating information literacy skills training into various courses. Hooks and Corbett (2004:248) [16] argue that three groups of individuals are essential for information literacy to be successful: librarians, faculty and students. Further, Hooks and Corbett (2004) claim that collaboration is the catalyst that will empower these three groups to achieve desired results.

2. RESEARCH METHODOLOGY

Blaxter, Hughes and Tight [17] describe research methods as techniques linked to various purposes, which could be methods to evaluate the accuracy of results, or to collect data, or to establish statistical relationships between data. The research design will be a survey research. Vicki, Clark and Creswell [18] argues that surveys lend themselves to sampling techniques as outlined below. Surveys are flexible and efficient means to collect data relating to a large population. The research site will be Africa University and the target population was derived from users comprising students and lecturers.

2.1 Population and Sampling

The population of the study consisted of 150 second year students who had completed the information literacy skills course in their first year. This population was drawn from six faculties. The total population of users who did the information

literacy skills course was 500. 150 students of the population were considered appropriate to constitute the sample. From the 150 students selected, 76 students returned the questionnaires meaning 74 students did not respond. The researchers divided population into homogeneous subgroups and then a simple random sample was derived.

2.2 Data Collection Methods and Techniques

Gwimbi, (2003:56) [19] argues that the method of data collection depends upon the nature, purpose and scope of inquiry on one hand, and the availability of resources and time. In this study, questionnaires and indirect observation were used in data collection. Questionnaires were hand delivered to the students through different ways, for example, through secretaries, or directly giving the students the questionnaires. Further, undergraduate students were observed from August 2012- August 2014, this was done in order to accommodate all students who had done information literacy skills course in the previous two years.

2.3 Questionnaires

Questionnaires were designed to collect information from the students on the effectiveness of the information literacy skills course. The questionnaires constituted of open – ended and close – ended questions. The questionnaire sought information on; users' background information; significance of the information literacy skills programme to students and consultation of information retrieval tools and various information sources available through the library.

3. FINDINGS

3.1 Survey Results

Results from the survey have been tabulated and qualitative interpretation of the data discussed subsequently based on their sub-topics.

From Table 1, out of 76 respondents who returned questionnaires, 71 respondents indicated that the information literacy skills course was important to their studies. 5 respondents pointed out that the course was of no value to their studies. Further, this finding was

confirmed by observation where it was observed that most students appreciated the skills gained through the course. This was also confirmed by attendance to hands-on sessions.

From the analysis in Table 2, 71 respondents indicated that Information Literacy Skills was important in their future endeavors and 5 responded that information literacy skills were of no value to their future endeavor. 71 respondents indicated that the ILS course will help them in research and in evaluating information resources. They also indicated that the course help them cite information accurately after learning the skills in the course. Further, 5 respondents indicated that the course was difficult to understand, and that there were repetition of what they learn in communication skills. Additionally, they said that they already had acquired these skills from high school; hence to them the course was irrelevant. Five respondents pointed out that the course was not important to lifelong learning. However, it was observed that students valued the information literacy skills course and appreciated the skills learned in the course specifically hands-on sessions.

Retrieval of information is dependent upon its having been organised. Taylor and Joudrey, (2009:2) [20] The OPAC provides access to organised information for easy retrieval. As shown in Table 3, out of 76 respondents who returned questionnaires 10 of them said they have never used the OPAC. 12 said they had used the OPAC once while 22 respondents indicated that they sometimes used the OPAC. Furthermore, 20 respondents said they used the OPAC regularly when conducting research while 13 respondents said they almost always use the OPAC while conducting research. Furthermore, those who indicated that they used the catalogue gave the advantage of remote access to information resources. Portals accessible from online catalogues provide users with a way to locate all the information content that they have the authority to access. Taylor and Joudrey, (2009:10). A library portal may have access links for local resources, remote resources, reference help, and personal information, for example. Taylor and Joudrey, (2009:10). Africa University online catalogue provide these services hence it should be highly used for research purposes. Nevertheless, findings from observation show that students use the Online Public Access Catalogue for research purposes.

Table 1. Importance to information literacy skills to their studies

Faculty	ILS Course important	ILS course not important
Humanities and social sciences	20	2
Management and administration	20	3
Agriculture and natural resources	9	0
Theology	9	0
Education	9	0
Health sciences	4	0
Totals	71	5

Table 2. Lifelong importance of information literacy skills

Faculty	ILS important to lifelong learning	ILS course not important to lifelong learning
Humanities and social sciences	19	3
Management and administration	21	2
Agriculture and natural resources	9	0
Theology	9	0
Health science	4	0
Education	9	0
Totals	71	5

Table 3. Usage of library catalogue (OPAC) for research

Type of resource	Faculty	Never	Once	Sometimes	Regularly	Always
Library catalogue	Humanities and social sciences	3	3	6	0	10
	Management and administration	6	6	5	7	0
	Theology	0	1	0	6	2
	Agriculture and natural resources	1	2	4	2	0
	Education	0	0	3	5	1
	Health sciences	0	0	4	0	0
	Totals	10	12	22	20	13

Access and use of electronic journals is a vital component of the information literacy skills training course at the Africa University. Responding to the use of e-journals for research 24 respondents indicated that they never use e-journals while 9 said they have used e-journals once as shown in Table 4. Further, 31 respondents indicated that they sometimes use them while 9 respondents indicated that they used them regularly. Finally, only three respondents said they always use them for research purposes. Low usage of e-journals by undergraduate students has been reported by Hartman, [21] who claim that undergraduate students experience difficulty in locating items from the library collection and did not understand the processes for retrieving journal articles. Further, these findings were confirmed by observation where the researcher observed that most undergraduate students were not using electronic journals for research since most of them preferred print sources.

An attempt was made to determine the use of e-books in research. From the analysis in Table 5, 26 respondents who responded to the survey indicated that they had never used electronic books while 10 had used them once. Further, 26 respondents also revealed that they sometimes use e-books for learning and research while 11 respondents used them regularly. Finally, 3 respondents revealed that they almost always used e-books in their studies. This shows that the use of e-books is growing steadily at the University and this could be attributed to information literacy skills training. It was also observed that the use of e-books had increased though limited by lack of relevant content. Further, it was also observed that reading lists prepared by lecturers; indicated print sources only rather than also referring students to e-resources for assignments, projects and dissertations and for teaching purposes. In this regard, D'Agostino [22] laments that "University libraries have collectively built very large, best and highest demand academic titles and very

expensive collections of the books that nobody reads”.

Print journals were not popular with undergraduates since 28 respondents indicated that they had never used print journals in learning and research, while 11 respondents had used them once as shown in Table 6. Further, 20 respondents indicated that they sometimes use print journals in learning and research. 9 respondents revealed that they regularly use print journals while 8 indicated that they almost always use them for learning and research. Results show that undergraduate students at Africa University are slowly adopting use of print journals in learning and research as evidenced by eight students who indicated that they always use journals for research. The researcher also observed that low usage of print journals might have been due to limited number of print journals subscribed to by the library.

From the analysis in Table 7, out of 76 respondents 14 indicated that they had never used print books while 5 had used them once. 19 respondents indicated that they sometimes use print books in their studies and 18 respondents used them regularly. 20 respondents revealed that they almost always used print books in their learning and research at the University. This support the view that lecturers almost always refer to print books in their reading lists as confirmed by evidence from indirect observation of reading lists given to students. Further, this also shows that the availability of electronic information sources is not likely to reduce the need for print books and journals as sources of information.

DVDs and CDs were poorly used as a source of information for learning and research as shown

in Table 8. 49 respondents out of 76 who responded to the survey indicated that they had never used DVDs and CDs in the Multimedia Centre. This group of respondents mentioned that they had no access to the services. They also mentioned time restriction and familiarity with these resources as major challenges to the use of audio visual resources. Nine respondents revealed that they had used them once while 6 respondents indicated that they sometimes used them, while 3 respondents regularly use DVDs and CDs in learning and research. Finally, 9 respondents indicated that the use of DVDS and CDs was almost always. Despite information literacy skills training and library orientation that focus on access and use of all information formats available in the library for learning and research 49 respondents representing 37 % indicated that they had not used DVDs and CDs in their studies. Further, this finding raises major issues of utilisation and under utilisation of multimedia information resources. Results also show that usage of these resources is growing steadily as 9 respondents indicated that they always used them in their studies.

From Table 9, 10 respondents revealed that they had never used the Digital Library while 6 respondents indicated that they had used the digital library once. Twenty three respondents indicated that they sometimes use the Digital Library which also serves as the institutional repository for past examination papers, projects and dissertations, articles, conference and seminar papers. Furthermore, 12 respondents revealed that they regularly used the digital library while 25 respondents representing 19 % almost always used the Digital Library. It was also observed that the Digital Library was popular with undergraduate students because it houses past examination papers and projects.

Table 4. Usage of electronic journals in research

Type of resource	Faculty	Never	Once	Sometimes	Regularly	Almost always
Electronic Journals	Humanities and social sciences	9	2	8	1	2
	Management and administration	10	6	6	1	0
	Education	2	0	6	1	0
	Agriculture and natural resources	3	1	4	1	0
	Theology	0	0	5	3	1
	Health sciences	0	0	2	2	0
	Totals	24	9	31	9	3

Table 5. Usage of electronic books in research

Type of resource	Faculty	Never	Once	Sometimes	Regularly	Almost always
Library e-books	Humanities and social sciences	9	5	8	0	1
	Management and administration	13	2	6	2	0
	Education	1	1	3	4	0
	Agriculture and natural resources	3	0	6	0	0
	Theology	0	1	2	4	2
	Health sciences	0	1	1	1	0
	Totals	26	10	26	11	3

Table 6. Print journal usages in learning and research

Type of resource	Faculty	Never	Once	Sometimes	Regularly	Almost always
Print journals	Humanities and social sciences	8	3	4	1	6
	Management and ADMINISTRATION	14	3	5	0	0
	Education	0	2	4	3	0
	Agriculture and natural resources	5	2	2	1	0
	Theology	0	1	4	3	1
	Health sciences	1	0	1	1	1
	Totals	28	11	20	9	8

Table 7. Print books usage in learning and research

Type of resource	Faculty	Never	Once	Sometimes	Regularly	Almost always
Print books	Humanities and social sciences	5	2	5	5	5
	Management and administration	5	1	5	5	5
	Education	0	0	3	3	3
	Agriculture and natural resources	3	2	3	0	1
	Theology	0	0	3	3	3
	Health sciences	1	0	0	2	2
	Totals	14	5	19	18	20

Respondents were asked about their information seeking and reference services and it was observed that undergraduate students at Africa University utilised information sources such as consulting reference librarians, the library, and Faculty Librarians (subject experts) for information. Twenty-two respondents indicated that they never sought assistance or reference services. Further, they indicated that they never sought assistance because of various reasons, for example, they did not know who to consult and some of them were not computer literate.

Some of them indicated that they did not seek for assistance because they were trained to use the resources through information literacy skills course and library orientation.

Apart from reasons given above, they also said the Internet and Africa University Digital Library (AUDIL) are always down. Further, it was observed that students heavily rely on the library collections in the open stacks to obtain needed information.

Further, 12 respondents indicated that they had sought assistance once because they rely on the Internet to seek information. This suggests that students rely on informal sources such as search engines and different websites to source for information rather than resources subscribed to by the University. They also indicated that they forget how to access e-resources from specialised subject databases. This group also indicated that the information literacy skills course had helped them to be self-sufficient; hence they could find their way round the Library. 28 respondents indicated that they sometimes seek assistance from librarians in information retrieval. Librarians also need training in

customer care and public relations as some of them were said to be unfriendly. Additionally, more hands-on training is required on effective information retrieval strategies in order to improve usage of all information resources available to students. 11 respondents indicated that they sought assistance regularly when there is need to do so and seeking assistance depended on the nature of assignment they would be researching on. Finally, 3 respondents indicated that they almost always sought assistance when the Internet is down and when they needed expert assistance from librarians. Table 10 shows the use of reference services by respondents in the survey.

Table 8 DVDs and CDs usage in the multimedia centre

Type of resource	Faculty	Never	Once	Sometimes	Regularly	Almost always
DVDs and CDS	Humanities and social sciences	11	3	2	1	5
	Management and administration	19	0	0	0	1
	Education	5	2	1	1	0
	Agriculture and natural resources	7	2	0	0	0
	Theology	5	1	2	1	0
	Health sciences	2	1	1	0	3
	Totals	49	9	6	3	9

Table 9. Usage of the digital library

Type of resource	Faculty	Never	Once	Sometimes	Regularly	Almost always
Digital library	Humanities and social sciences	3	1	5	4	9
	Management and administration	5	0	9	3	6
	Education	0	2	3	4	0
	Agriculture and natural resources	0	1	2	0	6
	Theology	2	1	3	1	2
	Health sciences	0	1	1	0	2
	Totals	10	6	23	12	25

Table 10. Information seeking assistance and reference services

Faculty	Never	Once	Sometimes	Regularly	Almost always
Humanities and social sciences	10	1	8	2	1
Management and administration	10	7	6	0	0
Agriculture and natural resources	1	1	5	1	1
Education	0	1	4	4	0
Theology	1	1	3	3	1
Health sciences	0	1	2	1	0
Totals	22	12	28	11	3

4. DISCUSSION

The study aimed at evaluating the effectiveness of the Information Literacy Skills course on the use of various information formats at the Africa University. Following the analysis of data collected, the following findings can be made: It was established that the information literacy programme equips students with vital information literacy skills. Baro and Zuokemefa [23] support this when they claim that "Information literacy programmes equip students with the skills to find, evaluate and manage the information they need for their academic work". The information literacy skills course equip students with the necessary skills and knowledge to enable them to use the library's information resources effectively, legally and ethically and also engage in lifelong learning. This is supported by Mayer and Bowles-Terry (2012:64) [24] who argues that skills taught (in ILS programmes) enable students to locate and manage information resources preparing them for university level research and life after graduation. Findings also indicate that some students do not recognise that the information literacy skills they are learning are transferable and applicable to most areas of their studies.

Among the general trends that emerged from the data analysis was students' preference for print resources. Print sources are the most preferred, regularly used sources of academic support for undergraduate students at Africa University. They are consulted by the majority of users as compared to e-journals and e-books. Results also show that most respondents in the survey had no previous knowledge of electronic information sources. E-journal usage is a practice that is still at its infancy at the University. This implies and reflects that, experience and knowledge in using electronic information resources among undergraduate students seems to be limited despite information literacy skills training and hands-on training sessions. Some students lacked knowledge on how to effectively use e-journals and e-books. As such, students need more hands-on training and exposure to e-journals and e-books. In support of this, Seema [8] argues that "the education of users to access e-journals effectively is vital. Rigorous user education programs should be an integral part of access management strategies for e-journals".

Responding to the usage of e-journals and e-books some respondents said they did not use them because the databases contain irrelevant materials. They also said some databases

demand for passwords and they were inaccessible and some databases were complicated. On the positive side, those who used these electronic databases said, they contain better and relevant information than Google and they would use them when they have an assignment or when the need arises. Nevertheless, findings indicate that inaccessibility is the major challenge inhibiting usage. They also noted that some books are not available in hard copy and as such they find databases very useful since these databases can be accessed anywhere on campus and off-campus.

A possible solution to low usage of journals and e-books would be to encourage lecturers to publicise these resources in regular classes, and also expand the use of one-time demonstrations in regular classes. Database training should focus on formulation of effective search strategies and techniques in order to equip students with information search skills. Further, to enhance the use of e-journals and e-books, the library should provide reliable connectivity, increase the number of terminals and maintain the system regularly. In this view, Shanhong, (2004:2) [25] argues that "Developments in the information infrastructure increases the use of information, hence the rise in information literacy of citizens".

Findings also indicate that continuous database training programmes are vital if students are to effectively use electronic information sources. Students also need to practice what they are taught in hands-on training sessions. Grassian and Kaplowtz, [26] support this, when they argue that "the long-term success of training depends to a large extent to the student's ability to practice what they have learnt in the information literacy training course, and if this is not possible, the skills they have gained will be lost after a short period of time.

5. CONCLUSION

This study concludes that for information literacy training programs to be effective more hands-on training is required on effective information retrieval strategies in order to improve usage of all information resources available to students. Further, the study also concludes that despite information literacy skills training at Africa University, utilisation of electronic information sources is still low among undergraduate students. Database training sessions should

focus on formulation of effective search strategies and techniques in order to equip students with information search skills. The study also concludes that continuous database training programs are important if students are to effectively use electronic information sources. Finally, the study concludes that the information literacy skills program equips students with vital information literacy skills.

5. RECOMMENDATIONS

In view of the findings of this study, the following recommendations are made:

1. Instruction in information literacy skills must be integrated into the curriculum. These initiatives need to have stronger buy-in from key stakeholders. They should be well-crafted to resonate with the overall university's mission, visions and goals, and they also need to be aligned to the strategic plan of the University. They should also be guided by an Information Literacy Policy and an Information Literacy Communication Plan.
2. Faculty Librarians' liaison programmes and collaborative partnerships with their Faculty and other academic staff need to be strengthened through extensive collaborative activities between the library and faculty.
3. Faculty Librarians and the Information Literacy Coordinator should proactively promote information literacy skills across the University and other librarians must also take the initiative in such programmes. This can be achieved through increased publicity and marketing of e-books and e-journals to the University community and educating students on the ethical use of electronic information.
4. Awareness of e-information resources can be enhanced through publicizing the electronic journals and e-books on the University's website, providing access through the catalogue and delivering some lectures and presentations on electronic information resources access and use for academic purposes.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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