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A study of information literacy competency among undergraduate students at Mzumbe University in Morogoro Municipality, Tanzania

By

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ABSTRACT

A study was undertaken to examine undergraduate students' skills in Information literacy among at Mzumbe University in Morogoro Municipality, Tanzania. The objective of this study was to investigate the information literacy levels among undergraduate students. Specifically, the study sought to find out how undergraduate students identify their information needs, to examine how undergraduate students evaluate the retrieved information and to find out how undergraduate students cite and reference information sources. The study used a mixed method approach design using cross-sectional and case study. The study distributed 210 questionnaires to undergraduate students using stratified sampling followed by systematic random sampling to select individual students in year 1, 2 and 3. Data were analyzed using SPSS software V.16. The study found that most students (84.7%) knew how to identify information they retrieved through different tools. Moreover, a greater number of respondents (88.0%) had the ability to evaluate their retrieved information. Also, quite a good number of them (87.0%) were skilled in terms of citations and referencing. From the study findings, it was plausibly concluded that the majority of the undergraduate students are information literate when it comes to information identification, evaluation but few had little knowledge on citations and referencing. The study recommends that information literacy should be integrated into the research method course that is offered by every department and school. Also there should be training on proper citations and referencing as most students reported this to be an area they are not well equipped.

Keywords: Information, Information Literacy, Undergraduate Students, Lifelong Learning, citations, referencing styles.

1.0 Introduction

In recent years, information is growing at a terrific, fast speed in the society in such a way that every person whether men or women, rich or poor, adult or child have been overwhelmed with this phenomenon at their work. Information literacy is the set of skills needed to find, retrieve, analyze and use the needed information effectively. Information literacy helps an individual to recognize when information is needed and to locate, evaluate, and use effectively the information he/she needs as the information needs varies from one person to another (Lwehabura, 2018). The effective use of information by students has become a necessity since the information used by students is the major factor in their academic performance (Flywel and Jorosi, 2018).

Seneviratne and Wickramasinghe, (2010) explains that “University libraries offer education and training on information literacy to undergraduates without assessing their information literacy skill levels at the commencement of degree programs”. This means that the students are just trained but their level of information literacy remains uncertain. Doyle (1992) defined an information literate person as one who: “recognizes the need for information, recognizes that accurate and complete information is the basis for intelligent decision making, identifies potential sources of information, develops successful search strategies, access sources of information including computer-based and other technologies, evaluates information, organizes information for practical application, integrates new information into an existing body of knowledge and uses information in critical thinking and problem solving”. With this uncertainty in mind, the present study sought to examine the information literacy levels among undergraduate students using Mzumbe University to represent other higher learning institutions in Tanzania.

2.0 Statement of the problem

It has been affirmed that in today’s academic environment students are faced with the daunting task of identifying, locating, searching and synthesizing various sources of information in order to meet their information needs. For instance, Agbo and Igwebuike (2014), claim that information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It has remained skeptical in Tanzanian universities on whether information literacy programs are being conducted to equip students with skills for searching for using information prudently, let alone the one-week orientation given to students

when they arrive as fresh men and sometimes lecturers arranging for a session with librarians to teach students how to search for information. That is to say, there is no provision for information literacy education as a major course to be studied in the university (Public Affairs, 2010). Thus, the present study sought to examine the information literacy levels among undergraduate students using Mzumbe University as a case to represent other universities in Tanzania.

3.0 Objectives of the study and its significance

The general objective of this study was to investigate whether information literacy sessions are conducted among undergraduate students and examine their literacy level using Mzumbe University in Tanzania. Specifically, the study sought to: to find out how undergraduate students identify their information needs; to examine how undergraduate students evaluate the retrieved information; and to find out how undergraduate students cite and reference information sources they retrieve from various sources (both electronic and print sources). The study was thought to be useful to policy makers of the university in inculcating information literacy education into the curricular of the universities. It has been a norm to see that when undergraduate students join the universities, they are not allocated time to undergo information literacy sessions let alone the little time apportioned during orientation week. Thus, the study opens an eyebrow to the university management to set sometime for information literacy sessions and henceforth incorporate such sessions in the university curricular.

4.0 Literature review

It has been reported that information literacy supports, promotes and enhance teaching and research as well as creating a learning culture that encourages institutions to produce graduates with the capacity and desire for lifelong learning (Bundy, 1998).

4.1 Identifying Information needs of undergraduate students

Identification of information needs has been viewed as the ability to bring out all the related words or phrases that will help in searching so that the information needed will be retrieved. For instance, Doyle (1992) was of the view that the need for information would lead a person to identify needed concepts as an information literate person. This awareness of need is not a static capacity but one

that needs to be applied to each and every situation as it arises (Campbell 2004). Shanahan (2006) affirmed that the information literate person knows how to find information to meet their information need. This is evidenced by the ability to construct an effective search statement. Thus, in the context of undergraduate students in universities in Tanzania, it remains not very clear as to whether these paths are followed.

4.2 Evaluating the retrieved information by undergraduate students

This is another important criterion that needs to be used to test the information literacy level of a person. An information literate person evaluates information and its sources critically by articulating and applying initial criteria for evaluating both the information and its sources, examining and comparing information from various sources in order to evaluate their reliability, validity, accuracy, authority, timeliness, and point of view or bias. It involves evaluating a web site, an internet site and the authenticity of a source (ALA 2000). Anafo (2009) found out that most students use the internet without evaluating information they find from it. Somi and de Jager (2005) argued that students in the universities still have difficulty in finding, critically evaluating and using information. This situation does not exclude undergraduate students in Tanzanian universities, which again requires a study to address this situation.

4.3 Citation and referencing information sources by undergraduate students

Undergraduate students need to have an understanding of the need for ethical use and fair use of various information sources in their academic environment through proper citations and bibliographical referencing. Konsar and Mahmood (2013) noted that a significant number of students (65%) at the Air University in Pakistan were not familiar with how to cite information resources correctly. Kimani (2014) also reported that at the Catholic University of Eastern Africa in Kenya, only 7.3% of the students were familiar with American Psychological Association (APA) referencing style, 18.2% said they knew Harvard referencing style, 49.6% indicated that they did not know any referencing style. Therefore, the author concluded that the students committed some form of plagiarism either knowingly or unknowingly. In Tanzania, it is still not clear whether undergraduates are really making correct citations and referencing let alone having knowledge on the existence of such citation and referencing styles, which called for this study.

5. 0 Research methodology

This study was conducted at Mzumbe University located in Morogoro Municipality. This study used the pragmatic paradigm which identifies “the research problem” as central and applies all approaches to understanding the problem (Creswell 2003). It provides underlying philosophical framework that are fit for mixed-methods researches (Tashakkori and Teddlie 2003). It also allows solving research problems in a way that suits the condition that presently exists and not in a way which obeys fixed theories, ideas and rules. The present study adopted pragmatic paradigm in order to guide the researchers to obtain information. The researcher opted to use pragmatic paradigm because it gives freedom for a researcher to use any of the research methods, techniques as well as research procedures which are associated with qualitative or quantitative researches. Thus, the research approaches that were used in this study were mixed method approach design which included quantitative and qualitative study in order to conceal the bias of a single method. The study used a cross-sectional research design which allowed collection of information simultaneously from a sample of undergraduate students at a single time of the study.

The target population of this study were undergraduate students in their first, second and third year from Mzumbe University. The study excluded postgraduate students because this group was hypothesized to be more information literate than their counterpart undergraduates. Stratified random sampling was used to get three strata: first, second and third year undergraduates. From each stratum, 70 students were selected systematically by picking their names from the student registers of classes available from admissions office. Systematic random sampling was used because there was complete list of respondents in the class registers in the university and it was preferred in order to get evenly distributed (spread) sample from the sampling frame which was developed for each class from the university. These were given a self-administered questionnaire containing both closed ended and open ended questions. Thus, a total of 210 students were given

a questionnaire to fill in. According to Bailey (1994), a minimum sample size of 30 is normally sufficient for studies in which statistical data analysis is to be done in social sciences (regardless of the population size). Similarly, according to Boyd *et al.*, (1981), it is recommended that a sample size of 5 percent of the total population should be used to form a sample for the study. Further, a 5 percent of total population should not be less than 30 ($X \geq 30$). Studies from other researchers have also suggested the same sample size to be used such as that by Saunders *et al.*, (2007) who states that a sample size of 30 or more will usually result in a sampling distribution that is very close to the normal distribution, and the larger the absolute size of a sample, the closer its distribution will be to the normal distribution. From these recommendations the sample size selected in the study area was 70 respondents in each year of the study. This sample size was also predetermined depending on the homogeneity of the population and the available time and financial resources.

150 questionnaires were returned and were found useful, making a return rate of 71%. Quantitative data were analyzed using SPSS program V.16 where descriptive statistics (frequencies and percentages) were generated. Content analysis was done for responses from open ended questions in the questionnaire. The results were presented in form of Tables and Figures. According to Kumar (2005) tables and graphs are the most common methods of presenting analyzed data.

6. Results and discussion

6.1 Demographic information of respondents

The demographic data has to do with basic information about the respondents; this included their age, year of entry and gender. The results show that out of 150 students 64 (42.7%) respondents were 1st year students, 46 (30.7%) respondents were 2nd year students and 40 (26.7%) of the respondents were 3rd year students. In terms of gender, 81(54.0%) were males and 69(46.0%) were females. Among the respondents, 62(41.3%) were between the ages of 18-22; 71 (47.3%) were

between the ages of 23-27; 13 (8.7%) were in the age range of 28-32 and 4 (2.7%) were within the age range of 33 and above. These results are presented in Table 1.

Table 1: Demographic Information of Respondents

Demographic characteristics	Number (N=150)	Percentage (%)
Age		
18-22	62	41.3
23-27	71	47.3
28-32	13	8.7
33 and above	4	2.7
Total	150	100
Gender		
Male	81	54.0
Female	69	46.0
Total	150	100
Year		
1 st year student	64	42.7
2 nd year student	46	30.7
3 rd year student	40	26.7
Total	150	100

6.2 Identification of Information Needs

In this objective respondents were asked two questions: do you know how to identify information? Which tool do you use to identify information? The results are summarized in Table 2 and Table 3. In terms of knowledge on how to identify information needs, on the average 127 (84.7%) of the respondents knew how to identify their information needs whereas 23 (15.3%) did not know how to identify information needs. This shows that on the average a greater number of respondents had the ability to identify their information needs.

Table 2: Knowledge on identification of information needs

Statement	Frequency	Percent
I know how to identify my information needs	127	84.7
I do not know how to identify my information needs	23	15.3
Total	150	100

Table 3: Identification of Information Needs

Identification Tools	Questions and responses		Total
	Students who knew how to identify information through different tools	Students who did not know how to identify information through different tools	
Library Catalogs	75 (50.0%)	75 (50.0%)	150 (100%)
Article Databases	55 (36.7%)	95 (63.3%)	150 (100%)
Reference Resources	76 (50.7%)	74 (49.3%)	150 (100%)
Search Engines	64 (42.7%)	86 (57.3%)	150 (100%)

The outcome of the findings in Table 3 above show that 76 (50.7%) respondents were able to use a reference resource to identify information needs, 75 (50.0%) of the respondents indicated library catalogs as tools to identify information, 64 (42.7%) of them were able to use search engines, whereas 55 (36.7%) of the respondents were able to use article databases to identify information needs. The finding shows that the majority of respondents were able to use different identification tools to identify information.

6.3 Evaluating the Retrieved Information

This is another important criterion that needs to be used to test the information literacy level of a person. It has become necessary because of the increase in the use of technology to produce information, also called information explosion. The information literate person is required to know how to distinguish between right and wrong information. This is referred to as evaluation of information. The following questions were asked to capture this objective: Do you know how to evaluate information resources from various sources? Which criteria do you use to evaluate information that you retrieve from various sources? The results are summarized in Table 3.

Table 3: Evaluating of Information

Evaluating Information	Questions and responses		Total
	Students who knew how to evaluate information	Students who did not know how to evaluate information	
Website	58 (38.7%)	92 (63.1%)	150 (100%)
Internet domain	94 (62.7%)	56 (37.3%)	150 (100%)
Author	35 (23.3%)	115 (76.7%)	150 (100%)
Date	19 (12.7%)	131 (87.3%)	150 (100%)
Publisher	26 (17.3%)	124 (82.7%)	150 (100%)

The outcome of the findings in Table 3 above showed that 94 (62.7%) of respondents believed that the useful way of evaluating the information resources was looking for the internet domain, 58 (38.7%) of the respondents were able to use website to evaluate information, 35 (23.3%) respondents were able to use the author, 26 (17.3%) of the respondents believed that the useful way of evaluating the information resources was looking for the publisher, and 19 (12.7%) respondents believed that the useful way of evaluating the information resources was looking for the date of publication. Overall, 132 (88.0%) of the respondents knew how to evaluate information whereas 18 (12.0%) did not know how to do it. This shows that on the average a greater number of respondents had the ability to evaluate their retrieved information from various sources using different criteria.

6.4 Citation and Referencing Information Sources

Undergraduate students need to have an understanding of the need for ethical use of various information sources in their academic environment. One of the ways is to adhere to ethics related to fair use of information through proper bibliographical referencing and citation. Therefore, the third objective of this study was to ascertain whether the students are able to use information

ethically. In order to answer this objective two questions were posed: Which style are you familiar with in referencing and citing information sources? What do you think to be a major reason for providing citation and reference to a report that you prepare such as a special project or dissertation? Table 4 gives the results for this objective.

Table 4: Respondents’ Familiarity with Types of Citation and Referencing Styles

Types of bibliographic and referencing style(s)	Questions and responses		Total
	Students who were familiar with citing and referencing information sources and reasons for citing/referencing	Students who were not familiar with citing and referencing information sources	
Modern Language Association (MLA)	48 (32.0%)	102 (68.0%)	150 (100%)
American Psychological Association (APA)	112 (74.7%)	38 (25.3%)	150 (100%)
Harvard	19 (12.7%)	131 (87.3%)	150 (100%)
Chicago	10 (6.7%)	140 (93.3%)	150 (100%)

The results in Table 4 show that 112 (74.7%) of the respondents reported that they were familiar with APA referencing style, 48 (32.0%) reported that they were familiar with MLA referencing style, 19 (12.7%) of them were familiar with Harvard referencing style, whereas 10 (6.7%) of the respondents were familiar with Chicago referencing styles. The findings show that the majority of undergraduate students in Mzumbe University were familiar with APA style.

6.5 Importance of Citing and Referencing an Information Source

The respondents were also asked to indicate what they perceived to be major reason for providing citation and reference to an information source. Four options were provided in which respondents had to choose all that apply. The results are summarized in Table 5.

Table 5: Participants' Responses on Citation and Referencing an Information

Source

Reasons for providing citation and reference to an information source	Questions and responses		Total
	Students who think the major reason for providing citation and reference to an information source	Students who did not think the major reason for providing citation and reference to an information source	
To keep track of the information sources used	44 (29.3%)	106 (70.7%)	150 (100%)
To be honest about one's own original contribution	53 (35.3%)	97 (64.7%)	150 (100%)
To protect one from charges of plagiarism	77 (51.3%)	73 (48.7%)	150 (100%)
To give credit to those who initiated the ideas used in the work	46 (30.7%)	104 (69.3%)	150 (100%)

Results from Table 5 above indicate that the majority of the respondents 77 (51.3%) cite and write references to special projects/dissertations in order to protect one from charges of plagiarism, 53 (35.3%) of the respondents indicated to be honest about one's own original contribution, 46 (30.7%) of the respondents indicated to give credit to those who initiated the ideas used in the work, while 44 (29.3%) of the respondents indicated to keep track of the information sources used.

7.0 Discussion of findings

The result displayed in the analysis shows that most of the undergraduate students knew how to identify their information needs, which means that they have ability to identify information that is authentic, valid and reliable. The study revealed that the majority of the respondents use different identification tools to identify information needs. However, some of the undergraduate students do not understand how to identify information needs using different tools. This might be due to the fact that the university does not conduct regular information literacy sessions to students except for the one-week orientation programs which in most cases is accorded only an hour or so during that week.

The study found that the student's ability to evaluate information was very high, which shows that on the average a greater number of respondents had the ability to evaluate their retrieved information. It is possible that more of the respondents were exposed to accessing information that is valid, reliable and authentic and using them for their academic work with evaluation. It might be that individual lecturers do insist students to use authentic information sources when writing assignment reports that have translated into this high knowledge.

The American Library Association (2000) refers to the legal and ethical use of information in understanding the economic, legal and social issues surrounding information use, and access and use of information ethically and legally. This study found that the majority of undergraduate students at Mzumbe University were familiar in different styles in referencing and citing information sources through use of information ethically and legally. But some of the students also have difficulty in citing documents and lack the ability to identify issues in copying and plagiarism. This study also unearthed the fact that at least a substantial number of the students were aware of the importance of providing citations and references in academic work.

8.0 Conclusion and recommendations

Information literacy has become so important due to the fact that there is information explosion and the information is in various forms and can be accessed by varied means. People need to choose the right information for decision making hence, the need to acquire skills in choosing the right kind of information is paramount. Information literacy equips students in higher institutions to be able to identify information needs, evaluate the information they have found, and know the

ethical and legal issues concerning the use of the information through citing and referencing information source.

Introducing information literacy as part of the curriculum at the undergraduate level of education is important because of the need for the right information to be gathered for assignments, term papers, presentations and research writing. It can therefore be plausibly concluded that information literacy sessions are instituted within the university at the undergraduate level of education so that students will be able to choose the right information for the different purposes information is needed for. Based on the findings and discussions, the study recommends the following: Library orientation in the University of Mzumbe should be made compulsory for every freshman (new students) and it should not be done only once. It should be repeated for about two times in the first semester so that students will be acquainted with the library and its resources. Information literacy course should also be integrated into the research method course that is offered by every department and school at the University of Mzumbe.

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