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## **Awareness of E-Books among Undergraduate Students: A Case of Public Universities in Kenya**

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### **Abstract**

This paper is extracted from a major study carried out to investigate the non-use of e-books among undergraduate students in universities in Kenya. It is based on the study's two objectives namely, to establish: (a) the level of e-book awareness by undergraduate students in public universities in Kenya; and (b) e-book awareness programs in place for undergraduate students. Data was collected using mixed research methods. The study found that majority of undergraduate students was unaware of e-books subscribed by their libraries hence low use. Recommendations made include: restructuring awareness creation programs to be inclined towards use of e-books; and enhanced skills in e-books access and retrieval are proposed for all librarians. It was felt that ICT training should comprise a major component in the education and training of librarians.

**Key words:** E- resources; e-books; undergraduate students; e-book awareness programs; university education e-books; university library e-books

### **Introduction**

Kenya had its first internet coverage in 1996. Information resources were first however collectively accessible from 2003 following the creation of the Kenya Library and Information Services Consortium (KLISC). This was established for the purposes of negotiating for bulk purchases of e-resources at affordable prices. To-date electronic information resources have been mainly acquired by university libraries through this consortium in partnership with the International Network for the Availability of Scientific Publications (INASP). These were a timely solution to the ever rising challenges faced by university libraries arising from increased student enrollment and expensive information resources coupled with decreasing financial resources. Solutions are provided through acquisitions of alternative information resources to evade delays experienced in the procurement of print books; freeing of space and through provision of virtual and unlimited access as well as exposing users to more information resources. Ultimately this is meant to make teaching more fruitful through enhanced learning capabilities. Many university libraries are adopting policies that prioritize e-books over print (Conyers, et.al. 2017).

Electronic resources include: e-journals; e-books; in-house indexes; institutional repositories; online access public catalogues (OPACs); subscribed online databases and open access sites (Omeluzor, et.al, 2016). There are many benefits that are associated to and directly attributed to the availability of electronic information resources. University library electronic resources have been viewed as a panacea owing to the fact that this can be used on

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a virtual environment and hence are accessible to multiple users at the same time any time of the day, require minimum storage space, and are popular for the independent users. This has led to high improvement in research quality output due to improved information access and retrieval.

However, despite the numerous benefits from the use of electronic resources, there have been several challenges that have slowed down full assimilation of e-books by public university libraries in Kenya. These include: lack of awareness of existing e-resources; lack of awareness of existing training programs on e-resources, and lack of searching skills (INASP/KLISC, 2011). Print text books are no longer an option for public university libraries in Kenya due to the challenges of huge student population, numerous diverse programs, limited space and dwindling funds unlike in the private universities which in comparison have fewer student populations and fewer programs. The quality of education in public universities is thereby negatively affected to a large extent due to the numbers of admitted students against limited available resources. Shortages of physical facilities for teaching and learning have been identified as problems specific to public universities (Gudo et al., 2011).

Research has also shown that despite the advantages of electronic information resources, these are grossly underutilized especially by the undergraduate students (Gakibayo, et al., 2013; Kwadzo, 2015; Omeluzor, et.al, 2016). The fact that usage statistics show low use of e-resources is the reason for concern by this study which attempts to find out the realities behind this scenario.

According to this researcher, text-books are essentially a main resource in providing teaching and learning information to students hence the processes of procurement and organization of information resources is important. When there are sufficient relevant information resources to support a program, students are inclined to love their subjects more and are motivated to inquire for more knowledge in their areas of study. This results in enhanced research and thereby enhances the value of the university library.

The mandate of universities all over the world is to conduct teaching, learning and research. This can only be successfully provided when adequate information infrastructure is in place. The library is a central pillar in this regard and is recognized as such (Kadli & Kumbar, 2013; Olajide & Adio, 2017).

The most secure and trusted provider of information resources has been the university libraries. They are expected to provide information resources for research projects and institutional academics to satisfy the needs of the faculty, students, researchers and administrators as well as enhance a culture of lifelong learning (Olajide & Adio, 2017).

### **Problem Statement**

University libraries have been incorporating e-books into their collections at an increasing pace as compared to print books. Universities are opting for e-books arising from their inherent advantages. Their ultimate expectation is that these resources will be used by all their members. However, available statistics indicate that use of e-resources in general is still very low in public university libraries in Kenya. There has been persistent low usage of e-books even in universities with sufficient internet and ICT infrastructure. This is indicative of a deeper underlying problem hence this study which was intent on giving proposals for enhanced use of e-books subscribed by the libraries.

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### **Study Objectives**

Establish the level of e-book awareness by undergraduate students in public universities in Kenya.

Establish e-book awareness programs in place for undergraduate students.

### **Literature Review**

#### **Awareness of Library E-Books by Undergraduate Students**

Literature reviewed on awareness of e-resources showed mixed findings from various researchers. According to Mizrachi (2013), college students who are mainly in generation Z (born after 1995) are stereo typed as digital natives. This has been derived from the assumption that since they have grown up in a digital environment, their automatic preference is to work, play and study using electronic gadgets. Contrary to this view, Tripathi and Jeevan, (2013) observed that this generation is not as internet savvy as thought of.

Wang and Bai (2016) observed that there was high awareness about e-books by undergraduate students in China but that these were not highly used. Leonard (2017) observed that there has been a general low use of e-books in Africa. In a study done in South Africa, he revealed that there was high awareness and use of e-books. However, the use of e-books was from diverse sources including the library and non-library search engines. In a university in Nigeria, Adeniram (2013) observed that students were aware about e-books and preferred them over print because of their portability and durability.

Tella (2009) found that undergraduate students' information seeking behaviour in Africa showed that most of them did not use the library effectively. It was observed by several other researchers that e-resources in particular were highly underutilized specially by undergraduate students mainly due to inadequate awareness (Bakrin & Bello, 2017; Gakibayo, et al., 2013; Kwadzo, 2015; Omeluzor, et.al, 2016). However, in a study done by Adeniram (2013) in a university in Nigeria, it was found that undergraduate students were aware of e-resources but that usage levels recorded were very low.

Slater's (2010) view was that awareness of e-books relied largely on how collections were presented to users because students may not distinguish between different kinds of online resources. Association of Commonwealth Universities (ACU, 2009) highlighted that very often students and the faculty were either unaware of what was available to them or were simply unable to find their way to the resources provided. The problem did not seem to be one of provision but rather of capacity by users to make full use and to access what they are entitled to.

To enhance user capacities several strategies have been deployed by different universities with different levels of success. Strategies used in creating awareness

#### **User Education Programs Offered by Public University Libraries**

User education programs are designed to ensure greater effectiveness in information access and utilization by users. Programs adopted need to be appealing, understandable and accessible to users (Birch, 2012; Chen & Lin, 2011; Gregory & Broussard, 2011). The diverse programs offered included: library orientation; Information Literacy Programs, and competition and games.

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### **Library Orientation**

Orientation programs, in general, are designed to help students adjust to the university environment. Library orientations are necessary due to information explosion and the proliferation of various media in the organization and dissemination of information. The tours are popular orientation instruments meant to familiarize the students with the university library as well as prepare them for research (Gregory & Broussard, 2011; Nicholas et al, 2015; Rhoades, 2008). Library orientations draw mixed feelings from different researchers, for example, Gregory and Broussard (2011) are of the view that these are the least effective ways to teach though they are the most predominant method of introducing students to the library. Dudley (2011) and Currie, et.al (2010) observe that this form of training has no positive effect on perceptions on ease of use. They further observe that there is no evidence of any significant increase in use of library e-resources based on whether or not students have received general user instruction. Contrary to this view, Martin (2008) observed that though library instruction did not affect usage much it was in reality better than no instruction at all as this has been known to reduce student anxiety.

### **Information Literacy Programs**

Skills in the use of these resources are required for adequate use of library resources. Academic librarians offer information literacy to help users navigate the diverse information landscape. Information literacy is meant to instill life-long learning skills and give abilities for making informed judgments about evaluating information that is found from diverse information resources (Mansour, 2016). Problem Based Learning (PBL) has been embraced in enhancing information literacy. Through this the students learn to select relevant resources from among various formats using criteria such as effectiveness, efficiency, and aesthetic value. Information literacy programs are integrated into the curriculum while other orientation services such as user guides for use and evaluation of library resources are provided by the library reference services (Chen & Lin, 2011). Myrberg (2017) recommended that as students are trained on how to find, download and read e-books, they also need to learn how to use different devices to enhance their information retrieval skills.

### **Competitions and Games**

Competing groups are used in orientation by some university libraries. Students are expected to go to different locations in the library and complete certain assignments (Gregory & Broussard, 2011).

### **Email Notifications**

It was noted by McDonald et al. (2015) that 65% of students become aware of e-books available in the library through e-mail notifications by the librarians.

### **Methodology**

Mixed Research Methods were used in data collection and analysis. Quantitative data was collected from undergraduate students through survey questionnaires. The survey questionnaire had a few open ended questions to allow for responses that were perceived by this researcher as important in enhancing the quality of findings. Survey questions were mainly structured on a five point Likert Scale. These assisted the researcher in providing data on the extent of use of e-books by undergraduate students in public universities in

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Kenya. Respondents for the survey comprised of 300 third year undergraduate students randomly sampled from a population of over 130,000 undergraduate students.

Qualitative data was collected from four focus group interviews drawn from third year undergraduate students, and face to face interviews carried out from 20 lecturers and 12 librarians drawn from four universities. Librarians were drawn from those directly involved with providing e-resources to undergraduate students. Focus groups are used in gathering data that aided in understanding factors that influences use from the perspective of their attitudes, beliefs, concerns, behaviours, and preferences (Connaway, et al., 2008; Gray, 2009; Weare, 2013).

Face-to-face interviews were selected as tools of investigation as they are identified as the most appropriate when seeking to get in-depth information, views and perceptions of respondents with regard to the problem being investigated (Gray, 2009; McDonald, et al. 2015).

To ensure enhanced precision in findings, undergraduate respondents were randomly selected from among undergraduate students in their third year of study in the respective universities sampled. These were perceived by this researcher to be most representative category of the undergraduate students in terms of understanding and experience in the use of e-books due to their length of stay in the university and the fact that these were not as pressured as the fourth years. Older public universities in Kenya were selected for the study with a perception that this would enable findings to be generalized to other universities as they have all been through similar foundational principles.

Survey questionnaires were analyzed using the Statistical Package for Social Sciences (SPSS). Focus group recordings and responses from lecturers and librarians were followed through by transcribing responses that were given by all the groups qualitatively by emerging themes after every focus group discussion and interview. Findings from groups of respondents were ultimately synthesized per category thematically in order to give a comprehensive understanding of the objectives of the study.

The use of both qualitative and quantitative approaches in data collection and analysis revealed certain truths that would have remained hidden if only one approach had been adopted. This approach had the advantage of enhancing the validity and reliability of data.

### **Findings**

Valid questionnaires were 71%. Undergraduate students surveyed in ages 20 to 24 years were 92%, and those aged 25 to 29 were 6%, while those above age 29 were 2% of the undergraduate student respondents. The male students were 63% as compared to 36.7 females. However, data collected did not reveal any peculiar trait for either gender nor for the age groups.

### **Level of Awareness**

Valid questionnaires were 71% (213 respondents). The survey revealed that 95.8% of the undergraduate students, as shown in Table 1, were aware about e-books.

**Table 1: E-Book Awareness**

<b>Awareness</b>	<b>Nos.</b>	<b>Percent</b>
Yes	204	95.8
No	9	4.2
Total	213	100.0

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The 4.2% undergraduate students shown in the Table 1 above who were not aware about e-books gave varied reasons for their lack of awareness. Some said that these were not available in their respective institutional libraries; others said that they had never come across them, while others reported that these had not been introduced to them.

A cumulative 87.3% as shown in Table 2 below reported a ‘moderate’ to a ‘very high’ level of awareness.

**Table2: Level of Awareness**

Measure	Frequency	Percent	Cumulative Nos.	Cumulative Percent
Very High	26	12.2	26	12.2
Quite High	59	27.7	85	39.9
Moderate	101	47.4	186	87.3
Quite Low	13	6.1	199	93.4
Very Low	14	6.6	213	100.0
Total	213	100.0		

However, focus groups revealed that very few undergraduate students could define an e-book. Their attempts at defining an e-book came up with definitions such as a blog, twitter and anything that can be read online. Some believed that the OPAC is an e-book. A sizeable proportion of undergraduate students in focus groups reported that it was their first time to hear the term “e-books”.

Undergraduate students were further asked how frequently they used e-books with a view of gaining a better understanding of their perception of e-books. The findings of the frequency of use are shown in Table 3.

**Table 3: Frequency of Use of E-Books**

Measure	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Daily	45	21.1	45	21.1
Once a week	78	36.6	123	57.7
Once a month	34	16.0	157	73.7
Once a semester	33	15.5	190	89.2
Never	23	10.8	213	100.0
Total	213	100.0		

A cumulative 57.7% (123), as shown in Table 3, reported to use e-books ‘daily’ and at least ‘once a week’.

### **Approaches Used in Awareness Creation**

It was also in the interest of the study to identify the channels through which they received awareness and motivation for use of e-books from a list of six possible channels. Respondents were at liberty to include other responses not in the list. The study revealed that undergraduate students became aware of e-books through various channels including library orientation, peers, lecturers, information literacy programs, brochures, and email services as shown in Table 4. Out of the 213 undergraduate respondents, 56 respondents who used e-books once a

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semester (33) or never used them (23) were not expected to respond to the question on their motivating factors to use of e-books. Multiple responses were allowed.

**Table 4: Channels Leading to Awareness of E-Books**

Channels of Awareness	Nos.	Percentage
Formal Library Orientation	129	60.6
Peers	116	54.5
Lecturers	102	47.9
Information Literacy Programs	47	22.1
Email services	49	23
Brochures	32	15

Other channels identified included social media such as WhatsApp and Telegram, and through the university library's online catalogue, university web pages, self-discovery, own experience and the Internet. Diverse approaches were used by librarians in creating awareness among undergraduate students including orientation for first years; school/ faculty awareness programs; continuous guidance and training; and Information Literacy Programs.

### **Orientation for First Years**

Both the undergraduate students and the librarians identified orientation as a way of increasing awareness of e-books. Focus groups drew the similar responses to those given in the survey questionnaires on how they became aware of e-books. In all universities undergraduate students reported that the only training they had undergone was the first year orientation.

### **School/ Faculty Awareness Programs**

In all the responding universities, the librarians were sometimes invited to create awareness as well as understanding of library e-resources by individual faculties and schools. They also held awareness sessions in different schools and faculties through their own initiative.

### **Continuous Guidance and Training**

Librarians encouraged undergraduate students to come in groups for demonstrations on how to access and use e-resources. However, in some cases, demonstrations to individual enquiries on how to access, search and use e-books were also offered. This was offered in all universities. In one university there was a documentary in its web site. This particular university also had knowledge ambassadors who were drawn for the student community. In all the universities there were librarians assigned to respond to reference questions and offer training on e- resources. These librarians offered guidance to students on a continuous basis. They were expected to be within reach by all undergraduate students. In addition to first year orientation, the librarians in all the sampled public universities engaged in continuous training for students who made enquiries. These trainings may be done to individual students or in groups of undergraduate students who are proactive in asking how they can access certain information. This made it possible for students to access information easily.

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### **Information Literacy Programs (ILP)**

Information literacy curriculum was embedded in a school in one university. There was also a draft information literacy curriculum in readiness to be launched university wide. The teaching of information literacy skills and awareness creation was reported to have resulted to increased use of e-resources by undergraduate students. According to this responding librarian, information literacy instruction had resulted to an increase in the use of e-resources. To increase the use of e-resources, it was reported that plans were underway to ensure that information literacy was integrated into the curriculum as a mandatory course. In one of the universities teaching of information literacy skills was availed through e-learning.

### **Discussion**

#### **Undergraduate Students Level of E-Book Awareness**

Levels of e-book awareness were different in different universities depending on the effectiveness of their respective awareness programs. In three of the sampled universities the greatest need of undergraduate students was awareness while in another the need was for consistent internet access. While awareness has been on the rise, full time access to online resources was a challenge due to fluctuating internet access. Their needs were therefore for facilitation for consistent access to the internet.

The level of differentiation between e-books from the internet and those provided by the libraries via their web sites in respective universities was blurred in all universities visited. There was also lack of proper distinction of e-books from other e-resources. To most undergraduate students any information access through the internet could be referred to as e-book. In one university, access to subscribed e-resources was by default as undergraduate students had their computers configured for direct access. Focus groups revealed that the bulk of undergraduate students did not know what e-books were. From the focus group discussions it was clear that students could not distinguish between different kinds of online resources as was also observed by Slater (2010). Some learnt of them for the first time in the focus group discussions. A majority of undergraduate students could not distinguish the platform they accessed the e-books from. Some were specific that they accessed through the university web site but many were unsure. The links they used were somewhat random leading to a scenario where they did not know the channel and many could not tell between accessing e-books from the library and accessing from the internet. Their method of access for many was trial and error as opposed to deliberate. Information resources from both the internet and the library subscribed databases are numerous and require almost similar mental input as they both require filtering where they do not have specific titles to search for. It is equally unlikely to get an exact title from the library e-books as it is from the internet and other open access resources. Hence they preferred to use whichever approach that could deliver and were not keen to limiting their search through the various university web sites.

The findings obtained showed no relationship in the data collected from the survey and those from focus group discussions. Responses from the survey indicated that their level of awareness of library subscribed online resources accessible was quite high, as 95.8% said that they were aware of e-books with a cumulative 57.7% reporting that they used e-resources daily or at least once a week. However, this did not translate to a discernible level of awareness of e-books accessible from their respective libraries through individual university web sites. Responses from focus group discussions revealed that undergraduate students were not clear on what e-books were. Focus group respondents were drawn from survey respondents. This researcher observes that these students preferred to use resources they are

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referred to and the ones they are familiar with. They will use unknown authors reluctantly and only when preferred titles are unavailable.

Undergraduate students required the ability to distinguish between different resources such as library e-books, open access, and other resources from other online platforms. Many believed that portable document formats (PDF) was synonymous with credibility. The attempts by librarians to convince undergraduate students to use library e-resources may not be sufficiently convincing to them as they also got different links from their lecturers.

Different reasons were given by the 4.2% undergraduate survey respondents for their lack of awareness. This may be possibly because orientation was done early in the first semester for the first years only and students late in reporting were likely to completely miss out in their entire university stay as they were unaware on how to request for it.

### **Awareness Programs in Place**

Several awareness creation programs were cited to be accessible to undergraduate students including formal library orientation, colleagues, lecturers, information literacy curriculum, brochures, email services and social media channels such as WhatsApp and Telegram. It is recommended that programs undertaken should be well structured to accommodate even the most basic ICT skills with the realization that there is a possibility that beyond the use of social media for students the use of ICT in studying could be a new experience. One librarian pointed out that some are completely unable to navigate the computer. Navigating guidelines should be designed in most basic steps. These should be easy, appropriate and straight forward. It is important to note that characteristics of the undergraduate students as well as most users include lack of patience with complex procedures.

### **Orientation for First Years**

Findings on how undergraduate students got to learn about e-books and other library resources were majorly through orientation which they received once in their first year. Dudley (2011) and Currie, et.al (2010) suggested that user training needs to be re-examined in order to improve on the perception on ease of use. They also observed that there is need for adequate user support to be provided to help students retrieve information in order to enhance perceived accessibility. This researcher is of the view that the first years were unable to fully relate the relevance of what they learnt in their academic programs to respective information resources provided by the library as they were also wrestling with many other socio-cultural adjustments to university life. This meant that the awareness programs through orientation and the skills they learnt were quickly forgotten and by third year use of e-books and other e-resources was fully forgotten. The use of print could be remembered as they could easily relate with books. There was also the 'lack of reason' syndrome that seemed to cause indifference and lack of interest to the e-books.

### **School/ Faculty Awareness Programs**

The momentum for use of e-resources could not be sustained despite initial records of high use. There is need for ensuring that e-books and other electronic resources are appropriately organized and packaged. There was no differentiation in training in the use of e-resources between e-books and e-journals.

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### **Continuous Guidance and Training**

Continuous guidance and training was provided in all universities. In one university it was demonstrated that it is possible to create awareness through innovative ways such as through documentaries. Evidence from the university with a documentary on the use of library resources on their website, and with the engagement of knowledge ambassadors, shows the need for awareness was substantially reduced.

### **Information Literacy Program**

The effectiveness of awareness programs in place was not discernible from user statistics. The overall impact of awareness programs has not been felt by the systems as evidence of use was lacking. However, librarians reported to identify problem areas and evaluate expectations of users through user surveys. The programs identified are recognized by this researcher as severely inadequate as in three out of four focus groups were unanimous on the need for awareness. In the one university the need for awareness was subdued by the need for consistent internet access. The engagement of multiple approaches in creating awareness was to be preferred. It was found that a university that engaged diverse approaches had minimal reports of lack of awareness.

One university had a pilot information literacy program in one school and was expecting to launch it in other schools. These programs were mainly given to undergraduate students in their first year of study unless when requested for by other students. In another university the use of online information literacy had been implemented. The use of e-books was expected to rise as a result of these programs. However, this researcher is of the opinion that there is need to engage the faculty through Problem Based Learning as the potential library teaching staff are inadequate. Findings also identified lecturers as major drivers in the use of e-books. It is recommended that they be provided with sufficient capacity in order to give them *reason* to encourage undergraduate students to use library e-books.

### **Conclusion**

Undergraduate students are intense users of electronic resources from diverse sites and were found to prefer e-resources to print. These were found to access sites and channels which they were assured of getting information. Most popular of these were Wikipedia and Google. This reveals that sites and channels that provide relevant information with ease of access, conveniently, and easy to use information are popular destinations. Rational choice demands that qualities of convenience ease of use, and time saving should be inherent in guiding the for e-book delivery structures to be adopted. Diversified strategies of awareness creation alone are inadequate to spur desired levels of use no matter how good they are as is evident from universities that have incorporated them. Levels of use are still below optimum use. There is need for a system that is in sync with the lecturing education system and in cognizance of rational choice theory. Use should be client driven as opposed to system driven.

The study found that undergraduate students were not clear about e-books. Students were under no obligation to use e-books from any specific site. Majority of undergraduate students were unaware of e-books subscribed by the libraries. The use of e-books was quite low compared to the use of e-resources from external sites.

### **Recommendations**

Orientation only in first year is not sufficient in creating awareness levels to desired levels. Among the reasons given by undergraduate students for lack of knowledge about e-books was

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that they missed out on orientation which is given in first year soon after their reporting on campus. In most cases this is the only mandatory scheduled program for creating awareness. This researcher recommends continuous orientation for all students. There is need for formal awareness creation at later levels of undergraduate study. The one university that has a pilot Information literacy curriculum cited lack of sufficient trainers as an obstacle to the successful implementation of the program. The program was envisaged to be implemented by librarians whose capacity in terms of numbers is severely strained. Whereas embedded librarianship should be ideal, the existing lack of synergy between librarians and the faculty needs bridging. The role of the faculty as major stakeholders in access and use of library electronic resources is undisputable. Some have recommended being involved in selection of information resources including e-books. For the use of e-books or other information resources by undergraduate students to be improved, there is need for faculty involvement from selection to provision and access. This researcher recommends a deliberate change of strategy which will ensure a seamless flow in selection, acquisition, access and use of e-books. Librarians have raised concern that lecturers are non-responsive when called upon to attend awareness creation programs. However, this can be done via channels agreeable by both parties.

It was because of lack of awareness, as observed by some lecturers, that they referred the undergraduate students to the Internet and online videos, forums, and sites. Lecturers pointed out that to ensure that e-books are used they needed to be more demanding of their students. Because “if it is not the lecturer, then who else?”

Awareness of e-books should be enhanced not only for undergraduate students but also for all librarians and library staff. Staff should have adequate knowledge on all forms of e-resources. The curriculum for library schools should be inclined towards more content in digital information management and much less of the traditional print information processing. Librarians should all have ICT training to meet the needs of the current crop of users. For effective continuous guidance and training it is recommended that capacities for librarians be improved through diversified training to ensure that awareness provided is program specific.

In view of the fact that ICT is gaining predominance in the education sector, the use of web-based instruction tools to reach users’ needs to be enhanced. This spells a very apt way of reaching users for information and training. The library is popular for serious study and remains a place where students retreat to when they want to engage in serious study because of an inspiring atmosphere that prevails and therefore awareness programs may be centered in the physical library. Awareness creation can be done from within these spaces for example by the use of information bulletins and guidelines on access and use of e-books customized for all programs. The curious adventurous minds will be quick to grasp and utilize the knowledge. This should follow a clear simple pattern to sufficiently compete with popular search engines which have remained popular arising from the fact that they are easy to use and are conveniently accessible.

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