

Access to Scientific Information and Quality in Higher Education in the African Region: The Critical Role of Information Literacy.

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Abstract

This paper examines first, why information literacy is a major factor in quality education in higher institutions of learning (HEIs) and crucial in the emerging knowledge society. Secondly, it examines literature to provide an overview of the current status of information literacy in the African region. Finally, it examines key challenges that universities in the region face and strategies they can adopt to ensure quality of learning outcomes through information literacy. The paper concludes that information literacy is a fundamental element of the survival skills required by young people in the knowledge economy of the twenty-first century. There is substantial development of information literacy in universities in the Sub-Saharan region although this development is uneven. The paper proposes a number of measures that can be undertaken to successfully implement information literacy programmes such as collaboration between academics and librarians collaborate in developing appropriate strategies for delivering information literacy training, integrating information literacy into the teaching and assessment process by establishing viable library services as an key component in the educational process.

Keywords: *Higher education, information literacy, sub-Saharan Africa, African region*

Introduction

The ability to access, evaluate and use information is a prerequisite for lifelong learning and basic requirement for the information society. At the university level, students are expected to conduct independent exploration in diverse disciplines and topics. Therefore irrespective of their areas of study, students at this level of study need to use information effectively. In order to do this, there is need for them to be information literate. The objectives of this paper are first, to examine the reasons why information literacy is a major factor in quality education in higher institutions of learning (HEIs) in the context of the emerging knowledge society. Secondly, it examines literature to provide an overview of the current status of information literacy in the African region. Finally, it examines key challenges that universities in the region face and strategies they can adopt to ensure equality learning outcomes through information literacy and producing graduates who can not only demonstrate that they have acquired and assimilated body of knowledge in specific subjects, but who also possess the skills of finding, evaluating and using information resources innovatively in as required by in the information society. These ideas will extend our understanding of information literacy act as well as a catalyst for furthering the current debate on the subject,.

The paper starts by defining the concept of information and its application in the context of higher education. Secondly, it examines critical elements of information literacy and distinguishes it from other literacies that have arisen over time. In this case it will discuss the key skills, values and competencies that are expected of an information literate person. Thirdly, the paper will investigate some of the reasons why information literacy is important to quality learning by university students. This will include a brief review of some of the theories underlying information literacy. Fourthly, the paper will assess the current status of information literacy in sub-Saharan Africa and some of the challenges facing its implementation in the region with focus on selected African countries. Finally, some recommendations are made aimed at promoting the status of information literacy in the region.

Defining Information Literacy

More than two centuries ago, Dr. Samuel Johnson observed that “Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it” (Matohisa and Grzech, 2005). “Knowing a subject itself” can be used to refer to the traditional practice where, students read books, and articles, attend lectures and laboratory in order to gain knowledge and thereafter take exams and write papers to prove they have acquired and assimilated knowledge. Notably, Although this referred to by Dr. Johnson is necessary, and has been the mainstay of teaching in many universities, it has been discredited as insufficient for comprehensive learning.

In stark contrast the concept of information literacy or at Dr Johnson put it knowing something by knowing “ where we can find information upon it”. Is equally important particularly because today a vast amount of information is available for those who know how to find it and are able to use information sources effectively learning does not have to stop at graduation from the university but can be lifelong pursuit. The concept of is based on the need to know how to access and apply information. Over the past 30 years Information literacy has become a powerful concept for library and information science domain. However but by no means is it confined to the realm of information science practice. It is now a prominent concept in education and training, continued professional development, management, as well as ICT programs and projects. Particularly it occupies a prominent place in the discourse on the “information society.

What then is information literacy? This is a compound concept with two constituent terms ‘literacy’ and ‘information’, which are combined to delineate a new concept. This compels us to answer two other questions. What is literacy? What is information? What is the meaning do they imply to the meaning of the concept of information literacy? These are questions that many scholars have grappled with, with the view to distinguish information literacy from the “unending number of ‘literacies’, that emerge with varying life spans every now and the’ (Owunsu-Ansah, 2003).

The earliest use of the term ‘information literacy’ has been attributed to Zurkowski (1974), then president of the American Information Industry Association, who described information literacy in terms of training in the application of information resources to work and techniques and skills for utilizing a wide range of information tools in finding information solutions to their problems (Mokhtar & Majid, 2006; Tyner, 1998). According to Callison (2003) information literacy implies knowledge of how to access, evaluate, synthesize and use information selectively from a wide variety of sources and formats [to make a decision, act or] to effectively communicate or present results to relevant audiences

The term information has been viewed as an interdisciplinary concept whose meaning has been the subject of divergent opinion among scholars (Manda, 2002). According to Stevens (1986) information is factual data, ideas, and other knowledge emanating from any segment of the society that are identified as being of value, sometimes gathered on a regular basis, organized in some fashion, transmitted to others and used in a useful fashion.

However according to Apostle and Raymond (1997:), the term information is often used to signify "knowledge, the process of becoming informed, and carrier of human communications as well as to refer to data, facts and different ...[categories] such as bibliographies, statistical or research results". These two definitions suggest that information and knowledge are inter-related by their structure and existence to the extent of being integral to each other and that the efficacy of information therefore lies in that it contributes to the knowledge.

Literacy has been broadly defined as the ability to read and write. However, over time, more complex definitions have emerged. Maybe the most novel definition of literacy emerged in 1993 which proposed literacy as "using printed and written information to function in society, to achieve one's goals and develop one's knowledge and potential" (Kirsch, et al, 1993). However, according to UNESCO, literacy involves a continuum of learning to enable an individual to achieve his or her goals, to develop his or her knowledge and potential, and to participate fully in the wider society." These definitions imply that first literacy is information related and secondly that it addresses 'skills, mindsets, individual knowledge bases as well as social processes' geared at making the individual proficient and function efficiently in the social setting (Owunsu-Ansah, 2003).

The key of the terms literacy and information as delineated here is that information literacy is a pack of skills on how to access existing information, process and, synthesise it to create new knowledge. Information literacy is about structuring knowledge and applying it to solve problems. Secondly there is an implication that information literacy is a variable construct and is shaped and understood according to context. Therefore in a learning context, it is shaped according to the values, motivations and cognitive approaches to learning that underpin formal educational systems. In a workplace context it can be viewed in terms of socio-cultural practice, which is influenced by social and embodied practices and processes, and characterized by specific requirements of learning at and to work.

According to some scholars, in educational context, the construct of information literacy is centred around "learning how to learn" through developing information skills that facilitate effective study and enhance the research process (Eisenberg 2007; Kuhlthau, 1993; Kapitzke, 2003). Therefore the outcome of information literacy instruction is argued to be the enabling and empowering of individuals to develop skill-based practices which facilitate problem solving and assist them to navigate through an information environment characterized by an increasingly complex array of print and digital sources of information (Lloyd, 2006). Kapitzke (2003) further describes the outcomes of these practices in "psychologicistic terms as abilities and/or skills".

Therefore information literacy is a process of mastering the necessary values, skills and competences that enable us to operate in a given the information landscape, and achieve a relationship with information. It is a process that acts as a catalyst to our learning and leads to expertise in our activity in any given context in which we live, work and learn. It is a transformational process in that we are in a position to review our understanding and meaning:

context specific and manifested through the discursive practices of context; and . not a disembodied process, but one that requires information drawn from the social dimensions of context and through embodied practices.

There are also many descriptions of information literacy as a skills-based literacy, in accordance with the context in which the phenomenon has been researched and conceptualized (ACRL, 2000; Bawden, 2001; Bundy, 2004; Doyle, 1992; Eisenberg and Berkowitz, 1990). These descriptions of information literacy commonly refer to skills such as information seeking, informed choices of information sources, evaluation of sources, selection, ethical use and presentation of information (Webber and Johnston, 2000). In the tertiary education landscape the generic qualities of information literacy are emphasized. Information literacy is viewed as a suite of skills which constitute a competency, and librarians and instructors focus their efforts on developing student information skills which can be applied across a range of academic disciplines and which prepare students for continued formal learning throughout life.

Wersig has argued that any specific decision making or acts require specific knowledge appropriate to the 'situation of action'. and therefore information is 'situation specific', and 'time-specific'. The same applies to the phenomenon we call information literacy. Information literacy is a necessary skill that can be applied in every aspect of a person's life. Information literacy, although it emerged from domain library and information science, is not simply a library competency nor is it relevant only in schools, universities or research institutions. On the contrary, it is also widely practised in businesses and in fact forms an integral component in knowledge management, which is currently an important aspect in every business organisations. It is also an integral component in knowledge management, which is currently an important aspect in every business organisation (Mokhtar, & Majid, 2006). For workers, information literacy skills can equip them with abilities to find the most current and reliable information that would assist them in doing their work more effectively. They are then able to constantly adapt to changes due to their capacity to keep up with the increasingly voluminous amounts of information that they encounter. Ultimately, information literate workers are dynamic and are able to add value to the organisation in which they work.

The current standard definition of an information literate is a person who is able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the information needed. Ultimately information literate people are those who have learned how to learn. They know how to learn because they know how information is organized, how to find information, and how to use information in such a way that others can learn from them (ARCL, 2000).

Doyle, (1992) defined an information literate person as one who:

- Recognises the need for information
- Recognises that accurate and complete information is the basis for intelligent decision making
- Identifies potential sources of information
- Develops successful search strategies
- Accesses sources of information, including computer-based and other technologies
- Evaluates information
- Organises new information for practical application
- Integrates new information into existing body of knowledge, and
- Uses information in critical thinking and problem solving “

From this discussion therefore, regardless of context or the skills required to navigate and explore, information literacy should be viewed as a way of knowing about how information is located within a specific disciplines and contexts. When we become information literate we come to understand what information is important and meaningful to us, how it relates to the activities of our specific landscape and which modalities of information will provide us with the resources necessary to become competent or accomplished knowing users of information. In effect we learn how to move through a landscape, and understand which actions and activities will facilitate us knowing the landscape more thoroughly. Through this form of knowing, and the reflective consciousness it produces, transformation occurs. As a result we become better students or better workers, better knowers of our landscape and its situated practices.

Critical Elements of Information Literacy in HE and Some Misconceptions

Over the past 30 years the cause of information literacy has been championed and well documented by library and information science (LIS) professionals who have described the phenomenon in neutral terms as a process which is constituted through a set of skills. The information literate student is defined according to a range of attributes, which, once acquired, facilitate the development of critical thinking and problem-solving skills and motivate students to learn throughout life. The general view is that information literacy creates opportunities for self-directed and independent learning where learners become engaged in using a wide range of information sources to expand their knowledge, construct knowledge, ask informed questions, and sharpen their critical thinking (Lupton, 2004).

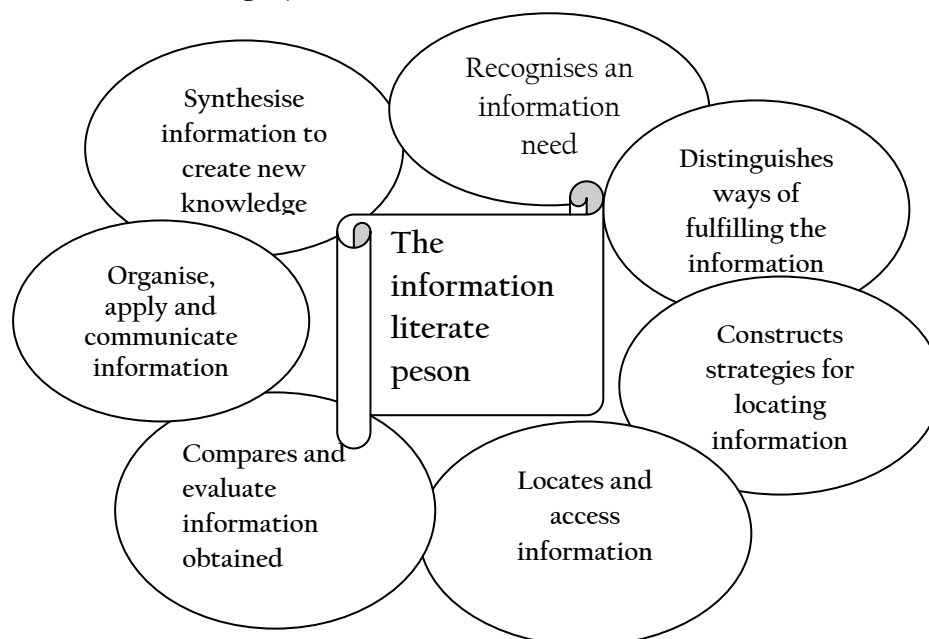
At the same time review of literature exposes glaring misconceptions which have a source of confusion and have negated constructive efforts to concretize understanding and information literacy. Information literacy has also been confused with other literacies such as library literacy, media literacy, computer literacy, network literacy, and digital literacy (Rajaram, 2006). Information literacy is a wider concept that encompasses all these literacies and much more. Other assumptions are that:

- Information literacy is learnt through osmosis
- Information literacy is covered by or is the same as information technology
- As technology improves access to information will become easier and therefore negate the need for information literacy training
- Information literacy is an updated version of library skills and is therefore related to printed sources
- With the emergence of electronic resources and e-literacy this negates the need for information literacy (Irving & Crawford, 2005)

The Society of College, National and University Libraries (SCONUL) has identified Seven Pillars that form a model for information literacy. These are:

- The ability to recognize the nature and extent of an information need
- The ability to distinguish ways in which the information 'gap' may be addressed: This includes knowledge of appropriate kinds of resources, both print and non-print, selection of resources with 'best fit' for task at hand the ability to understand the issues affecting accessibility of sources

- ❑ The ability to construct strategies for locating information. This includes being able to match needs against resources, develop a systematic method appropriate for the need, and to understand the principles of construction and generation of databases
- ❑ The ability to locate and access information This involves ability to develop appropriate searching techniques (e.g. use of Boolean), use communication and information technologies, including terms international academic networks and use use appropriate indexing and abstracting services, citation indexes and databases to use current awareness methods to keep up to date
- ❑ The ability to compare and evaluate information obtained from different sources with awareness of bias and authority issues, the peer review process of scholarly publishing appropriate extraction of information matching the information need
- ❑ The ability to organise, apply and communicate information to others in ways appropriate to the situation, cite bibliographic references in project reports and theses and with understanding issues of copyright and plagiarism
- ❑ The ability to synthesise and build upon existing information, contributing to the creation of new knowledge (SCONUL, 1999)



Adapted from: *Big Blue* (2002, p.16)

Fig 1: The seven skills and values that make an information literate person:

Variants of these skills and values have been adopted by many institutions in their models of information literacy (University of Huddersfield, 2004; 2005; Irving & Crawford, 2005). These models underline that information training is more than just teaching students how to use a database or find a particular book on the shelves. It is geared towards ensuring that students are equipped with skills and knowledge that enables them to effectively identify the required information to address the given problems and issues, the ability to find evaluate resources and information, organize and effectively use the information to address those issues including and not limited to academic assignments (Doyle, 1992; Owunsu-Ansah, 2003; Irving, & Crawford,

2005; Jones & Mathews, 2007). A diagrammatic representation of these skills is presented in Figure 1

The Case for Information Literacy in Higher Education Institution (HEIs)

i. Some Underlying Theories on Information Literacy

Constructivist theory

New education approaches such as e-learning embodies a change towards social constructivism with a greater student responsibility with respect to the learning path and the role of the teacher shifting that of a guide (de Beeck, 2002). According to Lightfoot, (2005), the learning of tomorrow will take place through interaction with ICTs and will greatly alter the nature of teacher/student relationship whereby the teacher will increasingly become a 'guide on the side' rather than a 'sage on the stage, while students will be masters of information.

New education approaches such as e-learning embodies a change towards social constructivism with a greater student responsibility with respect to the learning path and the role of the teacher shifting that of a guide. On the other hand, active learning techniques provide opportunities to students to contribute to their own education process, carry out research without relying heavily on teachers, learn at their own pace, evaluate the course more effectively, develop critical thinking abilities and retain the content better (Ogula & Onsogo, 2009). These methods such as term papers, case studies, projects, seminars, presume the existence of large collections of information resources, both in print and digital formats that provide a rich variety of ideas and diverse viewpoints to the student. They also presume that students are information literate.

Theory of Social Capital

Social capital refers to features of social life (such as trust and social norms) and connections among individuals that make their lives more productive, fostering cooperation (Stevens & Campbell, 2006; Coleman, 1988). According to Putnam (2000), social capital refers to "connections among individuals-social networks and the norms of reciprocity and trustworthiness that arise from them". According to Bourdieu, (1986;) Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition-or in other words-to membership in a group-which provides each of its members with backing of collectively owned capital" (Liu and Besser (2001) have identified four dimensions of social capital namely: informal social ties, formal social ties, trust and norms of collective action. Narayan and Cassidy (2001) on the other hand have defined social capital in terms of group characteristics, generalised norms, togetherness, everyday sociability, neighbourhood connections, volunteerism, and trust)

The core idea of social capital theory is that social networks have value and that social is embedded in a dense network of reciprocal social relations" (Putnam, 2000). Similarly, Jones and Symon (2001) observe that social capital "has been found to have the capacity to enhance quality of life and increase levels of participative and democratic activity" Social capital has been conceived in terms of lifelong learning which emphasizes the creation of learning societies, in which continual learning enhances connections among individuals and engenders civic participation (Coleman, 1988; Putnam, 2000; Field, 1997; Schuller, Baron, & Field 2000) Jones and Symon (2001). It can also be seen as the range of institutions, relationships, and

norms that shape the quality and quantity of a society's social interactions (World Bank, 2002).

Putman (2000), and Fukuyama (2001), have argued that social capital is key to building and maintaining democracy, development and maintenance of rule of law. Democracy is based on self governance. However for this to happen, societal members must be informed, and must be able to access information in all formats including government publications and databases and be able to use information effectively in making decision about complex issues. From the perspective of social capital theory, information literacy assists the students learn how to learn and to develop the competencies necessary to engage as informed citizens in their communities and in the larger world which is right condition for lifelong learning and the generation of social capital (Stevens & Campell, 2006).

An educated, autonomous member of the contemporary society, within some context and framework for making meaning out of personal life and for participating in an informed and reflective way of public life (Shapiro & Hughes, 1996). Students' development of information literacy competencies is inextricably linked to learning about the world and ways of participating productively in it. It therefore enhance students social capital by giving them the capacity to make informed decisions throughout their lives about how their actions and/or inactions by ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities

Competence Theory

Information literacy is key to the quality of the competence of an individual Competency Theory suggests that people who function at a low level of skill lack the metacognitive ability to recognize their own incompetence and are unable to accurately assess the skill levels of others. Therefore, they tend to overestimate their own abilities and to proceed with confidence as they develop awkward strategies and make poor decisions. Worse still, because the incompetent do not know they are incompetent, they may be unlikely to seek training or skill-remediation services. Bandura (1981) perceives competence as critical in successful interaction of the individual with the environment. It gives information about which tasks and activities are within the possibilities of a person and which interactions are and activities are worthy trying.

Information literacy has the general impact of making individual more objective in the perception of their competence by improving improving the way they select and process information and be more sensitive to external evaluation. According to Bandura (1981; 1982), competence is determined by two processes, first the selection and secondly the processing of information. This information consists mainly of one's own achievement, characteristics of the tasks performed, information about performance of other, the characteristics of these others and finally the reactions of others to successes and failures and performance attempts. According to Burns (1979), people with high perceived competence tend to forget information about their own failure, evaluate similar performance as more positive and are less sensitive to evaluations of others.

Kruger and Dunning (1999), tested university students' ability in the areas of identifying humor, logical reasoning, and English grammar and then asked these students to estimate how well they performed on these tests. Those who scored in the bottom quartile: significantly

overestimated their performance; tended to feel that they performed at a higher level; than their peers; believed that they were above average in ability; were unable to gain insight into their own performance from analyzing their peers' performance; and were unable to recognize competence in others.

From this study, Kruger and Dunning (1999), concluded that one of the biggest problems with incompetents is that they do not know that they are incompetent. They are unaware that the approaches they develop and decisions they make are not optimal because they do not have the skills needed to critically assess their own work. Further, their lack of information processing skill also keeps them from being able to perceive competence in others. So instead of proceeding with caution, they advance with confidence. However, unlike the low-performing group, high performers are able to correct their self-perceptions when given the opportunity to view their peers' work. Studies have shown that this is true of information literacy.

Low levels of information-literacy may: keep people from recognizing the need for information; keep them from recognizing the value of libraries and reference services (traditional or digital) to their needs; render them unable to assess services, programs, and systems accurately when they do access them; and finally, impede their ability to make good relevance judgments and to recognize the information they need when they see it (Gross, 2005). The role of information literacy in improving the competence of individuals is that first, it improves the way they select information and use it to form a perceived competence (Bandura, 1982; Otto, 1989)

Other Compelling Reasons for Information Literacy

Transition into the information society

Information literacy is the basis for innovation because it provides the skills of accessing information and synthesising it into new products. Information literacy is a pre-requisite to participative citizenship in the information society, social inclusion, the creation of new knowledge and personal empowerment (Bundy, 2005). Providing information literacy has been viewed as a prerequisite for fostering equitable access to information and building inclusive knowledge societies and bridge the digital divide (UNESCO)

The challenge therefore for students is to develop an understanding of the fundamentals of information literacy and the tools required to prepare for, and participate in an evolving information society. The Prague Declaration on information literacy stressed that information literacy is a prerequisite for participating effectively in the information society, and is part of the basic human right of lifelong learning.

Breivik (1999) also observed that within today's information society, the most important learning outcome for all students is their being able to function as independent lifelong learners. The impact of information literacy training endures beyond assisting the student to writing of essays or completing coursework and research. It fosters independent learning and preparing the student for engagement beyond the classroom to the world of work and everyday life (Peters & Mathews, 2007). Therefore it equips the student with competences for successful living in the modern knowledge-based economy.

Information explosion and overload

The emergence of information literacy recognizes new requirements for performance in a world of rapid changes due to the proliferation of digital information. Students have to contend with

an increasing amount of choice in the range and quality of information resources available to them (Peters & Mathews, 2007). For example, today information is contained in a wide variety of formats besides books such as books, pamphlets, and periodicals. More and more information is published in electronic formats: interactive CDs-ROMs, online journals, e-books, digital images, and stand alone articles in the internet. Most importantly, whereas traditional print resources could be easily reviewed for quality assurance, a number of internet resources are not easily amenable to quality assurance mechanisms and the user must apply a set skills (Zorana, 1998).

The current explosion of information has led to related problems of information overload, inappropriate use of the internet materials, , failure to evaluate and synthesise information, and neglect of non-digital sources of information, and engage in plagiarism (Irving & Crawford, 2005; Kavulya, 2004) In contrast, information literacy offers a possible remedy for these ills in that it :

- Increased ability of students to find and use information;
- Increased ability of students to keep up with rapid changes in the range and type of information resources;
- Improved performance by students on research assignments;
- increased ability of students to self-direct their information seeking;
- Increased personal control for students in their learning;
- Increased cognitive skills for students;
- Increased ability for students to compete in the marketplace;
- Improved library and information services, and systems;
- Improved teaching techniques across the curriculum; (Gross, 2005)

Information literacy enables students to know how to bridge the gap between the known and the unknown, by asking the right questions, retrieving the right information, contacting the right experts and find the answers they need. Students who are critical in their thinking, motivated and confident in managing their learning and have developed research and information skills will be able to take on challenges of higher learning with success (Peters & Jones, 2007)

Status and challenges in teaching IL in African region

According to a survey done by Fidzai (2006), the development of information literacy in universities in the Sub-Saharan region is uneven. Literature shows that information literacy in the region takes a variety of forms depending on the institution in question. However the main forms are credit courses, user-education programs and course integrated courses. For example communication skills courses are common among both public and private universities in Kenya (Fidzai, 2006).

At the same time, efforts have to create platforms for the discussion and development of information literacy both at the national and international level such as the conference on information literacy held in Kampala in 2004 by the Standing Conference of National and University Libraries of Eastern and Central and Southern Africa. .

Case studies that have been carried out in countries such as Kenya (Kavulya, 2004),Nigeria Idiodi, 2005), Zambia and Zimbabwe (Kiondo & Msuya, 2005) also reveals that there has been considerable efforts towards information literacy in the region. In a study carried out in Tanzania by Lwehabura (2008) found out that information literacy is relatively new in

Tanzanian universities although some elements of it are practiced. He further established that IL training faced challenges such as lack of adequate resources, lack of IL policy, lack of proactive solutions among librarians, inadequate library staffing and lack of collaboration between librarians and teaching staff.

A case study carried out in Kenya revealed that many university students are unfamiliar with IT, and new students are reluctant to use electronic resources, the main reason being lack of database search skills, and unawareness of what to expect. This study also established that, first there was rampant lack of awareness on the part of the students on the role of librarians in providing guidance in information use, and secondly, the time allocated to library orientation sessions (lecture, tour and demonstration) are inadequate to impart useful skills to new university students (Kavulya, 2004)

In a study to investigate teaching and learning information literacy in institutions of higher learning in KwaZulu-Natal province and Alawi, Chipeta (2008) established that although information literacy training was taking place at Mzuzu University, in Malawi, only a handful of students were aware of its availability. This was because the course was not offered across the whole university. The study also established that the key modes of training included lectures and learning guides and included theoretical and practical approaches. This study also established that students who had received formal training were confident that they can independently identify, locate, retrieve and use information resources using the OPAC. They could correctly write citations and references as opposed to those who had not undergone formal training in information literacy. However in this university information literacy initiative is facing a number of problems such as inadequate time allocation, lack of computer skills among students, inadequate venues and equipment for teaching and student's practicals, lack of co-operation from faculty members, overcrowding in classes, as well as erratic power supply due to power disruptions (Chipeta, 2008).

One general problem that is viewed to hinder information literacy efforts in the sub-Saharan region is traditional and inappropriate information systems. Studies have shown that in the sub-Saharan Africa, like in other developing countries there is rampant use of traditional methods such as textbook and lecture method that encourage memorizing of instructor's notes that do not encourage student initiative and critical thinking (World Bank, 2002). These do not adequately create a dynamic workforce or citizens who can exploit global information or knowledge to be innovative and improve their conditions.

Lack of prior library experience is a major hindrance to teaching of information skills in many sub-Saharan countries. In many countries such as Kenya school and public libraries are poorly developed. This means that majority of the students in the region enter into universities without knowledge about the value of libraries or the habit and the basic skills of using them. Moving them from this level to a situation where they appreciate the social and educational value of libraries requires more time and efforts than has been allocated in the university setting.

Conclusion and recommendations

From the above discussions a number of conclusions can be made. In the first place information literacy is a fundamental element of the survival skills required in the knowledge economy of the twenty-first century. With current shifts to constructivist-based approaches to education such as e-learning whereby students learn independently, and active learning instructional

methods, it is important for students are given opportunities to build their skills and competences for autonomous learning through information literacy.

Secondly, according to current literature, there is substantial development of information literacy in universities in the Sub-Saharan region although this development is uneven. Literature shows that information literacy in the region takes a variety of forms depending on the institution in question. At the same times information literacy efforts are hampered by a myriad problems including inadequate time allocation, lack of computer skills among students, inadequate venues and equipment for teaching and student's practicals, lack of co-operation from faculty members, overcrowding in classes, as well erratic power supply due to power disruptions

A number of recommendations can be made towards ensuring the success of information literacy programmes. It is important for academics and librarians collaborate to develop appropriate strategies for delivering information literacy training if significant achievement is to be achieved. There is need for librarians and academic staff to work together to integrate the information skills sessions into courses and to tailor the content according to the needs of specific groups. They should collaborate with academic staff to build an information literacy programme that can benefit students for the rest of their lives.

It is important for academics and librarians collaborate to develop appropriate strategies for delivering information literacy training if significant achievement is to be achieved. Libraries and information service provide an environment with resources and services for free and open learning and play a key role in people's life-long learning. Therefore there is need to establish the library systems as an active partner in the educational process. Integrate libraries and information resources into teaching programmes since they Therefore library services should be regarded as an integral resource and an optional part of higher education.

Information literacy module should be embedded into the whole university curricula as a dedicated module or as part of the courses. In this respect, there is need to train information professionals in key areas of information literacy such as curriculum preparation and implementation. They should particularly keep abreast of developments in teaching, training and learning to as to be able to apply the most teaching approaches in IL training. There is need for more research to provide evidence of current information literacy programmes and their training needs. There is need to shift focus from the general library orientation which are common in many universities to more detailed information literacy courses which will not only teach the use of skills but also a set critical thinking skills. Information literacy courses should not offered to select groups of students or a particular educational level. Rather it should be a continuous experience which be offered to all groups of students. Due consideration should be given to the specific needs of students.

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