Information Literacy (IL) learning experiences: A literature review

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This paper is a review of extant literature on information literacy. The study reports literature on IL learning experiences in institutions across the globe. It also discusses the spectrum of literacy to give information literacy a context. Furthermore, the paper presents an overview of IL learning initiatives in academic environments in developed and in developing countries, and concludes that there are more IL activities in most developed countries except parts of Europe as compared to developing countries. In Africa, despite infrastructural, technological and personnel challenges, many countries have significant IL learning initiatives at individual universitiy levels, except in South Africa where there are several initiatives that are national and regional. The paper demonstrates that although IL is gaining attention in universities in Africa as a critical aspect of higher education learning, a lot needs to be done to expedite the process in terms of policy guidelines and resources to ensure adequate equipment and trained personnel. The study is important in informing trends of information literacy development and implementation in academic environments in both the developed and developing countries for comparison.

Keywords: Information literacy, learning experiences, literature review

1. Introduction

Increasingly, higher educational institutions the world over and library professional associations have recognized information literacy (IL) as an important tool to equip students with skills to be effective users of information. Effective use of information will require skills that enable a student to think and make informed decisions and choices. The rapid technological changes have resulted in an unprecedented growth in the amount of information being produced, and in varied formats. The masses of information at one's fingertips require that users have the knowledge and skills to identify quality and reliable information. Institutions are consequently introducing information literacy programmes in their curricula in a bid to address the situation (Maybee 2006; Baro & Zuokemefa 2011).

As the IL momentum increases, it becomes imperative to understand the learning experiences of students because learning experiences provide an indication of which learning interventions may be needed to achieve desired end goals and outcomes of an education system (Gallagher 2011). Such interventions are critical in current times where there is a growing student-focused approach to learning (Ertl *et al.* 2008). Furthermore, Bruce and Partridge (2011:1) found that research on information experiences opens ways of understanding and interpreting how people engage and interact with the information environment. Whereas learning to be information literate implies an end to a process, information literacy learning implies a continuum.

This paper reviews studies that focus on information literacy (IL) learning experiences. The paper compares various IL initiatives in Africa with the rest of the world, with a focus on how universities are involved. The paper discusses the definition and development of the concept of information literacy, the spectrum of literacy, information literacy conceptions and learning experiences of students, information literacy initiatives and IL learning challenges in higher education. Both empirical and theoretical literature is reviewed.

2. Definition and development of the concept of information literacy

The concept of information literacy has been defined and interpreted in various ways since its inception in the nineteen seventies. Different terms have been used to refer to information literacy, including: information skills, library skills, research skills, study skills, bibliographic instruction, library orientation and information competency (Johnson 2001). The term 'information literacy' was first used by Zurkowski (1974), in a proposal to the national communication on libraries and the National Commission on Library and Information Science (NCLIS) in 1974. In his report, he stated that information literates were people trained to apply information as a resource to their work, especially those who had learned techniques to use information as tools to find solutions to problems at their workplaces (Zurkowski 1974).

The report declared the establishment of a national programme to achieve universal information literacy by 1984. As opposed to library or bibliographic instruction that concentrated on teaching the use of library tools to access information, the IL concept grew as a response to the expanding variety of information formats that made information

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available to students outside the library. There was a need to prepare students in a manner that was not limited to a particular format or physical library.

IL has been defined by several authors from different perspectives. A few of these definitions are highlighted briefly, in chronological order. After Zurkowski's application of the term in 1974, the seminal event in the development of the IL concept is traced back to the American Library Association's (ALA) Presidential Committee on Information Literacy, formed in 1987. The final report of the committee declares: "to be information literate a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the information obtained" (ALA 1989:para 3). The definition in the American Library Association's Final Report (1989) has been widely accepted, leading to a renewed emphasis on information literacy in all education sectors (Bundy 2002). ALA's definition sees IL as an important tool, both for academics and life beyond the academy.

The Chartered Institute of Library and Information Professionals (CILIP) defined IL in similar terms as ALA, by declaring that being information literate was "knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner" (CILIP 2011:para 1). This definition implies skills that include an understanding of a need for information; the resources available; how to find information; the need to evaluate results; how to work with or exploit results; ethics and responsibility of use, how to communicate or share your findings and how to manage your findings. Similarly, the Center for Intellectual Property in the Digital Environment (CIPDE 2005) describes information literacy as a way of thinking rather than a set of skills, emphasizing critical and reflective capacities, as well as disciplined creative thought, that impels the student to range widely through the information environment. When sustained through a supportive learning environment, information literacy can become a dispositional habit of mind that seeks on-going improvement and self-discipline in inquiry, research and integration of knowledge from varied sources (CIPDE 2005:viii-ix).

An information literate person therefore goes beyond merely acquiring a skill and being able to apply it, but includes understanding and evaluating information before appropriately using it. As the information environment keeps changing, especially as affected by technological changes, the specific definitions of IL also change. However, the key elements of IL remain and are only modified to reflect the changing information environment and give emphasis to certain aspects. The wording of the definitions will also change, but the meaning remains the same. There is a strong link between information literacy and literacy in general. Many other literacies form part of the literacy system.

2.The literacy spectrum

Literacy is a concept that seems easily understandable, yet it is as complex as it is dynamic. Rassool (1999) observes that the definition of information literacy changes over time, as society transits from one socio-historical or ideological or technological ambient to another. According to the *United Nations Educational, Scientific and Cultural Organization* UNESCO (2006), literacy is described in the form of four understandings: first that IL literacy is an autonomous set of skills. The skills include reading, writing and oral expression. The second understanding includes literacy as applied, practised and situated. The third understanding describes literacy as a learning process and the fourth describe literacy as text.

2.1 Basic literacy

Basic literacy includes alphabetic literacy and is also referred to as functional literacy (Nutbeam 2000). According to Lemke (2012), basic literacy refers to language proficiency and numeracy at levels necessary for success on the job and in society. Similarly, Nutbeam (2000) describes basic literacy as acquiring sufficient basic skills in reading and writing to be able to function effectively in everyday situations. Looking beyond grammar and semantics, Kagitcibasi, Fatos and Gulgoz (2005) agreed with Rassool's reasoning that functional literacy requires that people are competent to read, speak and understand a language.

2.2 Library literacy

For a long time the library has sought ways to help its users get the information they need in an effective and efficient manner. Terms used in literature for these efforts include *Library instruction, User education, Bibliographic instruction* and *Library orientation* (Fatzer 1987; Bawden 2001). According to Bell (1990:32), library literacy refers to "the acquisition of a range of skills relating to identification of and familiarity with sources and information seeking processes, usually through formal bibliographic instruction and informal user education." Furthermore, Fatzer (1987) regards library literacy as being beyond acquiring specific skills that enable one to get resources in a library. She defines library literacy as being able to follow a systematic path or search strategy to locate information resources and evaluate their relevance with regard to the search topic.

2.3 Digital/Information Communication Technology (ICT) literacy

It is becoming increasingly difficult to discuss information literacy and not mention technology. Digital technology has permeated most spheres of life and learning is not an exception. Gilster (2007) defines digital literacy as the ability to understand and use information in its multiple formats, from a wide range of sources when it is presented via computers. According to the International ICT Literacy Panel (2002:2), ICT literacy is using digital technology, communications tools and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society. This definition reflects a broad understanding of the concept, incorporating critical thinking and problem-solving skills alongside the application of technical skills and knowledge covering simple to complex tasks. Furthermore, both IL definition and ICT literacy definition include the important aspect of evaluation, the ability to ensure the information accessed addresses the information need in question. The emphasis of ICT literacy is on the integration of technical skills with cognitive skills. This is summarized by Martin (2005:135-6), who defines digital literacy as:

> the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in context of specific life situations, in order to enable constructive social action; and to reflect upon this process.

Martin's definition highlights three important aspects of understanding digital literacy: social awareness, critical thinking and knowledge of digital tools.

After analysing the various definitions of digital literacy and new literacies in literature, Belshaw (2012) describes what he calls eight essential elements that he believes best define digital literacy. They are: *Cultural* – the need to understand the various digital contexts an individual could be in, *Cognitive* – understanding that literacy is about expanding the mind; *Constructive* – ability to create something new; *Communicative* – an understanding of how communications media work; *Confident* – understanding that the digital environment can be more forgiving with regard to experimentation than physical environments; *Creative* – understanding that there is a need to create new knowledge by doing new things in new ways; *Critical* – involves a reflection upon literacy practices in various domains and *Civic* – involves use of literacy practices for the betterment of civil society. Belshaw concludes that digital literacies are transient: they change over time, may involve using different tools or developing different habits of mind, and almost always depend upon the context in which an individual finds him/herself (2005:204).

2.4 Media literacy

The term has been in use since the early 1980s, with the most adopted definition found in the Aspen Institute Report of the National Leadership Conference on Media Literacy of 1992, which defines media literacy as "the ability to access, analyze, evaluate and communicate messages in a variety of forms (Aufderheide 1993:xx). The European Commission brings in the question of the context of the communication, by describing media literacy as "the ability to access the media, to understand and to critically evaluate different aspects of the media and media contents and to create communications in a variety of contexts" (EC Media Literacy Portal n.d.). The emphasis of media literacy is the information literacy aspect, which deals with evaluation of information and its source for validity, reliability and usefulness. In terms of breadth, Bawden (2001:225) observes that media literacy included both print and post-print media and is a component of information literacy. Bawden specifically notes that media literacy concerns the ability to critically think and assess information that is found in mass media (television, radio, newspapers and the internet).

2.5 Visual literacy

Images are critical for communication and therefore there is a need for skills to understand and communicate visually, even as new technologies that enhance visual communication emerge. Several definitions of visual literacy exist, varying from discipline to discipline. The commonly referred to, and foundational, definition of visual literacy, is by Debes (1969:25), who defined a visually literate person as one who is able to discriminate and interpret visible actions, objects, symbols, natural or man-made, that he encounters in his environment, and be able to creatively use the competencies to communicate visually. Ultimately, visual literacy involves one's ability not only to see, but to understand, the image they see and the context, think about it and clearly communicate the message in whichever format.

2.6 Academic literacy

Ballard and Clanchy (1988:8) defined academic literacy broadly as a student's capacity to use written language to perform those functions required by the culture of the academic institution in ways and at a level judged to be acceptable by the reader. That capacity refers to a set of skills that would help a student find how to acclimatize to the new environment and practices. Lea and Street (1998:159-160) provided a very succinct description of academic literacy as the ability to read and write within disciplines that enables students to learn new subjects and discover new areas of study. Academic

literacy happens in the context of institutions of learning that act as places of discourse and power. They build on the earlier approaches that were based on developing skill and socialization by adding on the consideration of power relations and institutional or epistemological context.

2.7 Cultural literacy

According to Christenbury (1989), cultural literacy refers to a familiarity with the dominant culture. Christenbury adds that students and the population at large need a body of general and specific knowledge as a point of reference for all. Hirsch (1987) pointed out that there is a need to have a common body of knowledge possessed by all members of a society and that schools are best placed to impart this shared knowledge. Despite different emphases and specific perceptions, cultural literacy is generally seen as the awareness of and ability to communicate in one's cultural context, and this is best acquired by being taught. The Metri Group (2001) described the profile of a culturally literate student as one who:

- understands the impact of culture on behaviour and beliefs,
- is aware of specific cultural beliefs, values and sensibilities that might affect the way that they and others think or behave,
- understands that historical knowledge is constructed and therefore moulded by personal, political and social forces,
- is familiar with and able to effectively engage in new technology environments, including social media, and
- is able to engage and positively interact with individuals from other cultural groups.

2.8 Critical literacy

Critical literacy has been described in different ways in the literature. Jewett and Smith (2003) describe critical literacy as critically analysing and transforming texts by acting on knowledge that texts are not ideologically natural or neutral, that they represent particular points of view while silencing others and influencing people's ideas. It is also referred to as critical competence, and aims to transform and produce a practice by seeking to understand and interpret the many meanings, beliefs and assumptions behind written texts (Luke 2000). The knowledge gained from interpretation and critical analysis gives one cognitive skills that enable one to exert greater control over life events and situations.

2.9 Information literacy

The need for information literacy has been well documented in the literature of library and information studies. The significance of IL is closely related to the nature of the skills, competencies and abilities that come with it, and the higher levels of understanding concerning the context of information in today's society. The world finds itself with an avalanche of information, in great quantity, of varying quality and in various formats (text, electronic, image, spatial, sound, visual, numeric), a situation commonly referred to in information studies literature as 'information overload' (Rockman 2004). The significance of IL is therefore felt in all aspects of society, from educational institutions to society in general, including the corporate sector.

2.9.1 Information literacy in higher education

Information literacy initiatives in academic settings have been implemented, all aimed at assisting students to enhance their information competencies. Rockman (2004) stresses that IL in an academic context is a campus-wide issue that should involve all administrators, faculty, librarians, media and information technologists, assessment coordinators, faculty development directors, service learning specialists, student affairs personnel and career development professionals. Amalahu, Oluwasina and Laoye's (2009) study of users' e-learning information needs at Tai Solarin University of Education in Nigeria found the need to increase the presence of information literacy in their curriculum in order to encourage better use of electronic resources available. The study suggested that users needed to be equipped with skills and knowledge that would enable them to succeed in their academic endeavours and beyond.

The Boyer Commission Report, *Reinventing Undergraduate Education* (1998), conjectured that undergraduate education needed to be a continuum that prepared students to be continual learners after graduation, by equipping them with critical thinking skills. Besides, students need confidence in handling information if they are to succeed in any environment. They will find themselves in a better position to handle information that comes their way if they have the skills to find, select, interpret, evaluate, organize and use information for specific purposes.

A study on IL among undergraduates at the University of California-Berkeley by Maughan (2001) found that students thought they knew more about accessing information and conducting library research than they were able to demonstrate when put to the test, and that students continued to be confused by the elementary conventions for organizing and accessing information. The study demonstrated that a lack of information literacy skills in university graduates left them ill-prepared for efficient functioning in the information society.

2.9.2 Information literacy conceptions and learning experiences by students

In literature, the terms conception, perceptions and experience are often used interchangeably. They are used to refer to people's ways of seeing things, the interaction between people and the object they are interacting with. The growing student-focused approaches to learning have made student learning experiences critical in the assessment of quality in higher education (Ertl *et al.* 2008). Surveys at institutional and national levels have been carried out to evaluate student experiences, as well as institutional quality.

Cahill, Turner and Barefoot (2010) studied the academic staff's experience in enhancing the student learning experience across several disciplines and found that establishing readiness, connecting with students and the learning environment, played a significant role in enhancing student learning experiences. Establishing readiness included the resources and infrastructure needed to promote and support student learning experiences. Connecting with students included involving them as active participants in the whole learning process, from admission through to graduation. Effective learning experiences are also a result of conducive formal and informal learning environments. Cahill, Turner and Barefoot (2010:292) observed that physical environments needed to support the students' learning process and not to allow distraction or disruption of intended learning goals as a result of psychosocial disharmony.

Leading in describing the way students experience and conceive information literacy is Bruce's Seven Faces of Information Literacy model (Bruce 1997; 2000), which resulted from a phenomenographic investigation of variations in the experiences of information users. In her study, Bruce took a relational approach to understanding undergraduate students' experience with information. The study found that information literacy was experienced by students as using IT for communication and information awareness, finding information from appropriate sources, executing a process, controlling information, building up a personal knowledge base in new areas of interest, working with knowledge and personal perspectives adopted in such a way that novel insight is gained and using information wisely for the benefit of others. These experiences differ from one group of users to another in terms of the extent of their applicability.

Dabbour and Ballard (2011) conducted a cross-cultural study of IL perceptions and library instruction experiences on undergraduate students at a large American university, targeting Latinos and white students. Over two-thirds of the respondents agreed that the IL skills they had acquired greatly contributed to their academic success. They further concluded that, although IL instruction needed overhauling in terms of *when*, *where* and *how* it is presented in the curriculum, as well as how it is assessed, it was of great value to students in both ethnic categories. Similarly, Lupton (2008) underscored the importance of IL learning, when she conducted a phenomenographic study of first-year environmental studies students' experience of information literacy in an Australian university. The results revealed three categories of how the students experienced IL, including seeking evidence, developing an argument and learning as a social responsibility (Lupton 2008:404). These three ways of experiencing IL were, however, found not to be mutually exclusive but having inter-relationships among them and IL.

In their study, Diehm and Lupton (2012) sought to discover how undergraduate students approached and viewed learning IL. The study established three methods that students use to learn information literacy: 1) learning by doing; 2) learning by trial and error; and 3) learning by interacting with other people (2012:219). Diehm and Lupton further observed that, since students used a variety of approaches to learn information literacy, librarians and lecturers needed to collaborate and provide a variety of opportunities, experiences and practice that will encourage students to improve their learning outcomes.

While considering student information literacy experiences in a specific discipline, several studies have used a qualitative approach (Genoni & Partridge 2000; Osborne 2011; Diehm & Lupton 2012; Maybee *et al.* 2013). In their study on how doctoral students handled their research data and information, Genoni and Partridge (2000) found that students in a given discipline have unique research needs that should be addressed specifically in order to have a more successful learning experience. This is further demonstrated by Osborne's (2011) study of IL conceptions of undergraduate nursing students. Osborne found that IL is perceived as part of a nurse's professional role in supporting evidence-based practice, although it is context dependent and variable.

Maybee *et al.* (2013:17) studied undergraduate students' experience of IL and found that students who experienced IL as both learning to use information and focusing on the subject content emphasized meaning-making as resulting from using information. Other students focused only on either learning to use information or the content of the lesson. Seamans (2002) studied how undergraduate students acquire, use and perceive information. She found that undergraduate students often did not see libraries as part of their information support network, but embraced technology as a means to learning. This understanding is useful to IL instructors for the design of IL curricula.

This section has revealed that students experienced and conceptualized their IL experience in personal, professional and academic contexts. IL was experienced in several ways, but all these perceived IL as a learning process. The

experiences, as conceptualized and practised were varied depending on the nature of the need for information, the resultant type of information needed and the context of the experience.

3 Information literacy initiatives and challenges in higher education

Since the early 1980s, the importance of information literacy in national and regional educational planning has kept growing. Several accrediting organizations and information professional associations have increasingly emphasized the significance of IL. This section presents a brief overview of initiatives that affect IL in institutions of higher learning, including the frameworks and standards for IL learning at various levels, and by various stakeholders across the globe.

3.1 IL Initiatives in the United States

Information literacy initiatives in the United States (US) have roots in the early seventies and are found at various levels: national associations, state and individual colleges or universities. This research concentrates only on initiatives that specifically address IL in higher education. Since the establishment of the Library Instruction Round Table in 1977 within the ACRL, information literacy has grown to be a well-established learning goal in higher education institutions in the US and Canada (Goff 2007). State university systems have played key roles in enshrining IL activities in education as a graduation requirement, starting with the California State University System, in 1983. Others include Texas (TILT – Texas Information Literacy Tutorial at the University of Texas), Ohio (Project SAILS at Kent State University), State University of New York, Wisconsin and Massachusetts. These efforts are complemented by the numerous IL online learning tutorials by individual universities and associations in support of higher education learning.

At the national level, the ACRL (under the ALA) have built on earlier efforts and developed the Information Literacy Competency Standards for Higher Education (ACRL 2000). These standards detail how to assess the progress and outcomes of learning information literacy, and act as guidelines for partnerships between various libraries and associations. Individual libraries and groups of libraries have developed guidelines and rubrics for IL that fit their situations, but can also be adopted by any interested libraries. According to Goff (2007:131), the standardization efforts in the US have been greatly boosted by accrediting bodies that have recognized IL as a core learning ability, and require educators to demonstrate how this is achieved, and the coming together of collaborators in the IL movement. The co-operation at local, regional and national level among IL stakeholders can be regarded as one key element that has led to the success of the IL initiatives in higher education and other sectors in the US.

3.2 IL Initiatives in Canada

The Canadian Literacy and Learning Network forms the national initiative, with several provincial and territorial networks. For lack of their own, universities and academic institutions in Canada have adopted the ACRL standards for their IL initiatives and integrate IL into credit courses (Goff 2007). Information literacy initiatives for Canadian universities include the Cooperative Online Repository for Information Literacy (CORIL) Listserv that encourages exchange of ideas among IL librarians. The Canadian University Information Literacy Initiatives (CUILI) wiki is a national movement by academic librarians across Canada, available to all universities. The Ontario Council of Academic Vice-Presidents (2005) offers guidelines for university undergraduate degree level expectations and IL is one of them.

3.3 IL Initiatives in Europe

Through professional associations and individual information literacy practitioners, various definitions, models and standards have been advanced in Europe (Bundy 2004; Society of College, National and University Libraries 1999). Notable early initiatives include the 1994-1997 EDUCATE (End-user Courses in Information Access through Communication Technology) project funded by the European Union, which included universities from Ireland, Sweden, France, Spain and the UK and the DEDICATE (Distance Education Information Courses with Access Through Networks). Horton (2006) found that UNESCO and the International Federation of Library Associations (IFLA) are among the international bodies that have supported IL initiatives in Europe. A leading European IL initiative is the Library and Learning Support Working Group (LLSWG), consisting of librarians and information professionals from over 260 universities, that offers regular IL sessions at its annual and international conferences. Regional level initiatives include the NORDINFO for Nordic countries.

At the institutional level, Bruce (2001) observed that the key IL issues include integration of the concept into curricula and the collaboration between librarians and lecturers in teaching information literacy. Consequently, initiatives have been advanced to raise IL discussions from the library to being a matter for the whole institution (Johnson & Webber 2003; Corrall 2007). Following up on the same view, Corrall (2007) investigated levels of strategic engagement with information literacy in UK higher education and found an IL evaluation framework and assessment model for institutional self-appraisal and benchmarking. Stubbings and Franklin's (2006) study found many IL practitioners in the UK emphasized the

need to embed IL strategies in institutional documents, linking it to educational goals. Corrall's (2007) study found evidence of strategic commitment to information literacy in the UK universities, as reflected in graduate attributes statements and other strategic policy documents.

Britain has the majority of IL initiatives developed for university students. Leading was SCONUL that developed the Seven Pillars of Information Skills model (SCONUL 1999) that act as guidelines for institutional IL initiatives. The Seven Pillars of the model include: the ability to identify a personal need for information, the ability to assess current knowledge and identify gaps, the ability to construct strategies for locating information and data, the ability to locate and access information and data needed, the ability to review the research process and compare and evaluate information and data, the ability to organize information professionally and ethically and the ability to apply the knowledge gained by synthesizing new and old information and data to create new knowledge and disseminating it in a variety of ways.

Other initiatives in the UK include the Jisc User Behaviour in Information Seeking that seeks to understand university students' information-seeking behavior, Big Blue Project by the University of Manchester and University of Leeds, and EduLib for teachers of IL. The British Open University has also done considerable work in using technology to enhance IL delivery to distance learners, with several web-based IL instructions and tutorials. Stubbings & Brine 2003) found many universities had embraced electronic IL initiatives that included online catalogue tutorials, virtual tours and information skills tutorials. Webber & McGuinness (2007) found the application of IL in universities varied from institution to institution with some facing challenges in achieving well developed systems due to lack of active IL practitioners, collaboration among lecturers and librarians and limited resources.

In other European countries, Rader (2002) points out that several Scottish and Irish universities have been involved in various aspects of teaching information literacy skills, including Robert Gordon University (www.iteu.gla.ac.uk/IIInfoLit.html), the University of Glasgow and Queens University. However, Rader's study of five Irish universities revealed that IL held a less significant place in higher education. A recent initiative is the Welsh Information Literacy Framework, which seeks to promote the understanding and development of IL in education, the workplace and the general Welsh community (Welsh Information Literacy Project 2011).

In Germany, a number of universities were involved in IL instruction at various levels and with different approaches, led by the University of Heidelberg and the University of Hamburg. However, Homann (2003) pointed out that lack of qualified librarians and teachers of IL was a hindrance to the advancement of the initiatives. The Swedish NordINFOLIT Group is a leading initiative in IL that is responsible for a number of activities. The Chalmers University of Technology also has comprehensive programmes for IL that are available online for undergraduate and graduate students.

The Danish Electronic Research Library (DEF) initiative is credited with spearheading IL in higher education in Denmark. The Centre for Teaching Development and Digital Media (2012) noted that METRO, a Danish virtual resource is an example of a product of collaboration between librarians and faculty for guiding students on how to get relevant resources for their studies. Tolonen (2007) found the Finnish Virtual University's state project as spearheading IL initiatives in Finland. Encouraged by the Ministry for Scientific and Technical Information, French universities have, for a long time, implemented IL programmes led by the University of Paris.

3.4 IL Initiatives in Australia and New Zealand

The concept of information literacy is well explored, understood and applied in Australia and New Zealand's higher education system. Peacock (2007) found that strategies that have led to the success of IL include intensive engagement at policy and planning levels, implementation, testing and evaluation of approaches that support IL and its integration in educational curricula. Rader (2002) observed that information professionals in Australia had closely connected the IL concept with the concept of lifelong learning, which has greatly fostered the collaboration between librarians and faculty and enhanced IL teaching and learning. Instruction in IL in Australia includes several online tutorials by leading universities, adopted by higher education institutions for individual or group use.

With regard to standards, Australia and New Zealand librarians have developed a comprehensive IL framework adopting the ACRL standards, with two additional sections on creation of new information and lifelong learning (Bundy 2004). Specific to the university scene is the Council of Australian University Librarians Information Literacy Standards and Best Practice Characteristics (CAUL 2004). Several policy statements and guidelines by associations and organizations exist to promote IL in higher education in Australia and New Zealand, led by the Australian and New Zealand Institute (ANZIIL) for Information Literacy, the Queensland University Libraries Office of Co-operation (QULOC) and the Council for New Zealand University Librarians (CONZUL). In spite of these impressive efforts, Peacock (2007) observed that a comprehensive instruction framework is still difficult to attain, even with most universities explicitly and implicitly stating that IL is a core attribute of a tertiary education qualification.

3. 5 IL Initiatives in Asia

A study by Zeng *et al* (2008) identified a variety of IL approaches including special workshops, credit courses and online information literacy instruction as leading initiatives in China. Additionally, Rader (2002) found the national IL meetings and symposia had increased interest in the concept of information professionals across the country. There are standards that consist of seven first-level indicators (Standard), 19 second-level indicators (Performance Indicator) and 61 third-level indicators (Outcome). These give a national point of reference for IL practice in academic institutions throughout China.

Although the concept of information literacy in library and information science literature is fairly recent in India (Babu 2008), related terms and concepts have existed before. According to Gedam and Agashe (2009), India has several IL initiatives in institutions of higher learning, including seminars and workshops for faculty and librarians, some supported by the government of India and others by international organizations. IL initiatives are supported by an increasingly large number of well-trained information professionals. However, national standards and guidelines for IL in India are yet to be realized.

3.6 IL Initiatives in Latin America

Countries in this region with marked IL initiatives in a few academic institutions of higher learning include Argentina, Brazil, Chile and Mexico (Lau 2007:31). Lau (2007) reported that these initiatives rarely involve IL inclusion in curricula and are scattered from one country to another. With regard to standards, the only referred to IL guideline in Latin America are those published in Mexico. The IL content offered by these universities included multimedia videos that gave library tours and demonstrated use of electronic resources in the libraries. A key initiative that sought to describe the concept in an understandable way was the National Meeting of Informative abilities in the University of the Autonomous City of Juarez (UACJ) in 1997 and 1999, which brought together hundreds of librarians in Mexico. Lau (2007) reported a number of doctoral level IL studies that have been done in Brazil, Mexico and Cuba, to show how extensively the concept has been investigated in some of the Latin American countries. He further revealed that university libraries in the region were increasingly organizing workshops and seminars to address the lack of formal training for librarians and information professionals with regard to delivery of IL.

3.7 IL Initiatives in Africa

Information literacy initiatives and developments in Africa are at different levels and vary from country to country. Fidzani (2007) found most universities conducted user education for new students, with a few others developing more formal and structured IL programmes. Conspicuously absent are national, regional or professional associations' IL initiatives and frameworks, as found in the US, Europe and Australia. User education includes library orientation, library use instruction and introduction to library guides and manuals. Several studies found library use courses were usually integrated in general first-year courses, referred to as a communication skills, general studies, information skills or college English (Kavulya 2003; Fidzani 2007; Lwehabura 2007). Fidzani (2007:111) further revealed that many African universities hosted online IL tutorials on their websites and links to other tutorials outside their campuses.

Studies reviewed revealed that challenges facing IL initiatives in African universities were almost similar from one country to another, including shortage of qualified staff to teach IL, its exclusion from the educational curricula and inadequate funding, (Kavulya 2003; Dadzie 2007 2009). Non-commitment by institutions to IL was demonstrated by lack of clear policies on IL, leading to haphazard application of IL initiatives (Kavulya 2003; Lwehabura 2008). Similarly, Dadzie (2007) investigated information literacy in Ghanaian universities and found that inadequate staffing, inflexible curricula, poor technological infrastructure and ignorance on what IL is about were key hindrances to IL teaching and learning. In his study, Lwehabura (2007) found lack of institutional commitment as hindering IL initiatives in Tanzanian universities, and suggested mainstreaming IL in the university curriculum as the solution. Mlambo (2010:29) observed that IL initiatives in higher education in Zimbabwe had become critical. She quoted the University of Zimbabwe as a case that had embedded IL in the curriculum and integrated it with a communications skills course which was examinable.

In Kenya, information skills are taught in many universities as communication and study skills (Kavulya 2003). Amunga (2011:431) found computer illiteracy among students and staff as a major impediment to information literacy efforts in Kenya. She noted that it is not uncommon to find a student having completed a four-year university education and having never stepped into the library (2011:430). The absence or limited exposure to how information can be sought and utilized is one reason for such a trend. Curriculum design and its implementation, including collaboration between librarians and faculty, were some of the major IL challenges in Kenyan universities (Kavulya 2003; Amunga 2011). However, there are several initiatives by individual libraries and a national consortium aimed at sensitizing and developing IL in Kenyan universities. The Kenya Libraries and Information Services Consortium (KLISC) has organized capacity

building workshops for university librarians that focus on information literacy. Another group initiative is the Maktaba Award (Library of the Year Award) by the Kenya Library Association, in conjunction with the Goethe-Institute, Nairobi, and the Jomo Kenyatta Foundation, where, among the issues considered by the judges for the award include a library's information literacy initiative and ICT usage.

Studies by Rader (2002) and De Jager, Nassimbeni and Underwood (2007) revealed that South Africa has been more active in developing IL initiatives on the continent than any other region, even as the education system undergoes transformation and adoption of ICT. Karelse (1996) observed that IL advances in South Africa are partly associated with the evident successful INFOLIT initiative. The INFOLIT project, under the Cape Libraries Co-operative, supported development of IL in five tertiary institutions in the Western Cape region, but this later spread beyond the initial mandate. A credit-bearing course started by the project is still on-going at the University of Cape Town. In spite of appearing in some strategic plans and policy statements, most South African universities, like the rest of Africa, were found to have little evidence of institutional commitment to information literacy (De Jager & Nassimbeni 2005:36). Individual university libraries have also adopted measures to address IL issues among their communities. Ocholla (2016:4) discusses the IL initiatives adopted by the University of Zululand library that include developing training topics for workshops, specifically intended to address effective ways to research and communicate scholarly output. The topics included, but were not limited to *Introduction to library facilities, services and resources; Plagiarism; Turnitin; Advanced search techniques for e-resources; Referencing management tools (Endnote or Mendeley); e-TDs & IRs; Social networks for researchers; Publishing, including OA and copyright; Visibility, including research or author impact and researcher ID; and Research funding.*

Furthermore, most universities in South Africa have at least one librarian specifically designated for information literacy teaching, often supported by subject librarians.

As much as information literacy is being declared as the key agenda of the institutions, Corall (2007) and Owusu-Ansah (2007) observed that the implementation of IL initiatives is mostly left to unco-ordinated, short, optional instructions, rarely integrated within the university curriculum in Africa. Focus should therefore be on implementation of IL in a way that gives it the centrality it deserves in educational institutions of higher learning.

4. Conclusions

Various definitions of IL abound in literature, as various IL practitioners and professionals engage the concept from different standpoints. One common understanding in the LIS literature reviewed is that information literacy is a necessary concept for the 21st century and beyond. Throughout the literature surveyed, the growing importance of IL in academic institutions demonstrates that the concept is critical part of the current and future generation's entire life.

Literature has shown that the goal of IL is to develop lifelong learners who can adapt to any changing information landscape by critically evaluating information and using it effectively, conscious of its impact. Changes in technology have changed the way universities offer instruction, including information literacy. Differences in implementation depend on national, regional and institutional policies and budgetary allocations. Implementation of modern ICTs in delivering information literacy is growing in many countries, with some being supported by national governments, but a majority being institutional efforts. Availability of the appropriate equipment and knowledge of using them to access information by librarians and lecturers is key to successful implementation of IL on the modern technological stage of higher education. The general focus of the initiatives is empowering the student to be able to find and analyse the information they need to address a given problem.

This study is important in informing trends of information literacy development and implementation in academic environments in both the developed and developing countries for comparison. The limited current studies on IL student experiences present a gap that requires more attention, especially in developing countries. The paper has also demonstrated that although IL is gaining attention in universities in Africa as a critical aspect of higher education learning, a lot needs to be done to expedite the process in terms of policy guidelines and resources to ensure adequate equipment and trained personnel. It is therefore recommended that librarians, academic administrators, faculty and higher education players at national, regional and institutional levels individually and collaboratively address IL as the important component for higher education learning that it has been demonstrated to be.

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