



**UNDERSTANDING INFORMATION LITERACY SKILLS AND COMPETENCIES FOR
UNDERGRADUATE STUDENTS: A REVIEW OF THE LITERATURE**

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ABSTRACT

The paper provides a review on the concept and significance of information literacy. Different typologies of information literacy are also provided in line with the different submissions of the body of knowledge. The paper also gives an in-depth analysis literature on the roles of university libraries in inculcating the necessary information literacy skills to undergraduate students as important information users. The paper further identifies the specific information literacy skills and competencies required by undergraduate students in order to effectively and efficiently utilize the ever-growing information in the digital age.

KEYWORDS: *Information literacy, Information competencies, University libraries, Nigeria*

Introduction

In modern days, the world is experiencing information explosion ever than before. Explosion of information on Internet with millions of sources like websites, pages, e-books, e-journals, music, and videos. Access and retrieval of these information resources is a critical factor for effective use of the resources. However, university users especially students at undergraduate levels, face many difficulties in locating, evaluating, using and communicating information from these sources as a result of poor information literacy skills. Hence they require a special skill to handle this fast and ever growing variety of information to allow for their use effectively for educational purposes. Information literacy is the basic need of everyone in the modern technological era because every day there is a new technological challenge coming out of the soil of technological experiments. Therefore, the students need literacy skills so that they can recognize their information needs, locate and evaluate the quality of information, store and retrieve information, make effective and ethical use of information for their future perspectives (Catalano & Phillips, 2017).

Lwoga (2014) noted that information literacy (IL) has developed to address the requirements generated by the overload or explosions, the complexity, the needs of the information society for competent information consumers, and to meet the requirements of the knowledge economy for a responsive and informed workforce. This will enable university students, as potential researchers, to develop and enhance their information literacy capabilities and be able to access and use information based on some attributes of authenticity, reliability, relevance and accuracy. IL allows users of information to cope with data, available to users in different formats and channels, by equipping them with the necessary skills to recognize when they need information, where to locate it, and how to use it effectively and efficiently. Thus, this paper attempts a review of the literature on IL issues of university students as well as the roles of university libraries in providing and inculcating the required IL skills to the university undergraduate student.

Information Literacy: Conceptualisation

Information literacy is the capacity of people to: recognize their information needs; locate and evaluate the quality of information; store and retrieve information; make effective and ethical use of information, and apply information to create and communicate knowledge (Lombard, 2016). Information literacy refers to the ability to access, evaluate, organize and use information from a variety of information sources (Ode & Ape, 2013). According to Azubuike (2016) Information literacy is a competence, a set of skills possessed by an individual to interact with information through the use information resources in making rational decision. He further stated that, it is a vital ability for the modern information-intensive world, enabling personal, economic, social and cultural development. Bruce (2013), defined it as the ability to access, evaluate, organize, and use information in order to learn, problem-solve, make decisions in formal and informal learning contexts, at work, at home and in educational settings.

The American Library Association (2000), on the other hand, describes IL as a set of abilities requiring individuals to recognize when information is required and have the ability to locate, evaluate, and use effectively the needed information. UNESCO (2013), reports that IL encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning. However, Vicki (2010) defines IL as an individual's ability to: recognize a need for information; identify and locate appropriate information sources; know how to gain access to the information contained in those sources; evaluate the quality of information obtained; organize the information and use the information effectively. In their submission, Kurbanoglu, Akkoyunlu and Umay (2014) conclude that IL incorporates the abilities to recognize when information is needed, to initiate search strategies designed to locate the needed information, to evaluate, synthesize and use information appropriately, ethically and legally, to communicate and share the results of the information problem-solving efforts accurately and creatively across the range of information formats, and to evaluate how well the final product resolved the information problem.

IL is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning (ACRL, 2016). Thus, being information literate requires knowing how to clearly define a subject or area of investigation; formulate a search strategy that takes into consideration different sources of information and the variables that information is organized; analyze the data collected for value, relevance, quality, suitability, and subsequently turn information to knowledge. This involves a deeper understanding of how and where to find information, the ability to judge whether that information is meaningful and ultimately, how best that information can be incorporated to address the issue at hand.

Understanding Basic and Functional Types of Information Literacy

According to Horton (2008), literacy encompasses a wide range of individual functionalities, each of which can be observed and measured on a scale of competencies, i.e. beginner, intermediate and advanced. Modern demands of literacy include far more than decoding and producing text; they have expanded to include information processing and critical-thinking skills (Ntiri, 2014). According to Bilawar and Pujar (2011), IL has a bunch of literacies in terms of components, which include basic or functional literacy, library literacy, media literacy, computer literacy, among others. On the other hand, Ntiri (2014) notes that the new wave of global change and technological innovation has further pushed the boundaries of literacy and led to the growth of multiple literacies to address diverse audiences and needs. Although each component is often treated separately, all literacies rely on each other and sometimes build on each other. Horton (2008) notes that it includes many learnable skills, positive attitudes and behaviour that impact on every aspect of one's life. Stedman and Kaestle (2014) are of the view that literacy cannot be thought of as a single set of skills, but various skills by which a person may demonstrate different levels of competence. Characterising someone as literate or illiterate raises the question of degree and type of literacy.

Basic or functional literacy refers to the ability to read and write at a level of proficiency adequate for communication or the ability to read and write and use numeracy to handle information (Olaleju, 2010). Horton (2008) considers it as the classic or conventional literacies of learning how to read, write and how to perform numeric calculations and operations so that an individual can function at the most basic or elementary level in society at home, at work, at school, and in community settings; basic literacies in almost all societies are learnt in primary formal educational settings, and can also be learned at home or in non-formal community centres. On the other hand, Ntiri (2014) describes functional literacy as the empowerment of adults to meet the reading and writing demands placed on them. It can be seen clearly from the definitions of basic or functional literacy that it acts as the foundation for other literacies such as computer literacy, media literacy and information literacy, among others because it is core to the progression of the other literacies.

Computer literacy, digital literacy and ICT literacy are all interrelated and intertwined converging together in the new technologies which are also related to IL. Horton (2008) defines computer literacy as a set of skills, attitudes and knowledge necessary to understand and operate the basic functions of information and communication technologies, including devices such as laptops. Computer literacy is usually subdivided into hardware and software. Childer (2013) opines that other terms such as computer competency, digital literacy, Internet literacy, computer skills, informatics and computer proficiency are used to define computer literacy. Computer literacy involves skills aimed at helping one understand how to use computers. He tries to differentiate between computer proficiency and computer literacy by arguing that computer proficiency should describe the skills needed to do whatever tasks are necessary on computer, noting also that proficiency is not literacy, but the ability to do things based on rote memorisation or using very little adaptation. However, proficiencies can be used to estimate a person's computer literacy.

The concept of digital literacy, according to O'Brien and Scharber (2013) has a wide range of descriptors such as; digital media, new technologies, new literacies or new literacy studies. They define digital literacy as socially situated practices supported by skills, strategies and stances that enable the representation of ideas using a range of modalities enabled by digital tools. Digitally literate people not only represent an idea by selecting modes and tools, but also plan how to juxtapose spatially and temporarily multimodal texts to best represent ideas. Digital literacies enable the bridging and complementing of traditional print literacies with other media. Goodfellow (2011) refers to digital as the latest descriptive term used in education to express the incorporation into its activities of new information and communications media. It succeeds, 'computer', 'online', 'networked', 'web-based' and the now ubiquitous.

Significance of Information Literacy

There are a number of benefits of understanding IL requirements of students, citizens and workers especially to information professionals. In this regard therefore, the theoretical submission of Hancock (2013) is worth noting; that, IL ensures active learning by making students to take more control and responsibility for their learning. Secondly, information literate citizens know how to analyse and use information to best apply to their work and everyday life, such as how and when to start a business, which school to send their child to, and how national policies affect them. IL equips an individual with intellectual and social skills to use information tools wisely and create new ideas from prior ones that could subsequently improve situations that range from personal to global. Munshi and Nagar (2016) posited that, IL initiates, sustains, and extends lifelong learning through abilities that may use technologies but are ultimately independent of them.

Patrick (2011) identified the importance of information literacy to students; to include enabling them to read widely, develop an argument informed by varied sources and multiple perspectives, use evidence to back up an argument, make connections between ideas and concepts, synthesize and integrate information, cite and reference consistently and correctly, evaluate the trustworthiness of information, critique the quality of information in regard to bias, view point and perspective, explore and use primary and secondary sources, manage and organize data and information, contextualize data and evidence with regard to the relevant literature. With regard to the usage of information, he further proclaimed that, IL enables students to create and use the web, library

databases and catalogues, visual presentation software, communicate via email and electronic discussion boards, manipulate and present images, video and audio.

Salleh (2011) and Hadimani and Rajgoli (2014) opined that, IL has formed the basis of the learning processes, which could be practised in all disciplines, in all learning environments and at all levels of education. It enables learners to master the context and extend their investigations, become more self-directed and assume more control in their own learning. The ALA (2006) noted that IL allows people to cope by giving them the skills to know when they need information and where to find it effectively and efficiently, including the technological skills needed to use the modern library as a gateway to information. It enables one to analyse and evaluate the information, thus giving one the confidence to use that information to make a decision or create a product. IL is critical to both lifelong learning and day-to-day activities. IL competence extends learning beyond formal classroom settings, and provides practice with self directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all areas of life. IL equips an individual with intellectual and social skills to use information tools wisely and create new ideas from prior ones that could subsequently improve situations that range from personal to global. It is an approach to building knowledge, solving problems, and communicating information and ideas that empowers people to be lifelong learners who are equipped with analytical and critical thinking skills that are beyond the scope of their formal schooling (Bruce, 2013).

Information Literacy Skills and Competencies: Literature Perspectives

IL skills are a prerequisite for the students to be able to utilize information resources. This requires universities to impart IL skills to students and equip them with the necessary skills to enable them to make maximum use of e-learning opportunities presented by the development and growth of education. According to Munshi and Nagar (2016), IL skill means possessing knowledge as to which type of information is required, what types of resources are available for that information, have the knowledge how to find the information and how to communicate the findings with others. Doyle (1992) identified 10 steps required to execute an information task, which build on each other, and formulate a total and systematic approach to being information literate. The 10 steps are:

1. Recognize the need for information;
2. Recognize the need for accurate and complete information;
3. Formulate questions based on needs;
4. Identify potential sources of information;
5. Develop successful search strategies;
6. Access sources including computer-based and other technology;
7. Evaluate information;
8. Organize information for practical application;
9. Integrate new information into an existing body of knowledge;
10. Use information in critical thinking and problem solving

Using these specifications in line with the submission of the American Library Association (ALA, 2006), it can be deduced that an information literate individual is able to:

- i. determine the extent of information needed;
- ii. access the needed information effectively and efficiently;
- iii. evaluate information and its sources critically;
- iv. incorporate selected information into one's knowledge base;
- v. use information effectively to accomplish a specific purpose;
- vi. understand the economic, legal, and social issues surrounding the use of information;
- vii. access and use information ethically and legally (ALA 2006).

Roles of University Libraries in Inculcating Information Literacy Skills in Undergraduate Students

With regard to the roles of university libraries, scholars have made a number of contributions, among them are; Bitagi and Garba (2014) who argued that the roles of academic libraries in Nigeria



are to effectively support the institutions to attain the key functions of teaching, research and community service. While Gbaje and Okojie (2010) identify that the libraries provide information services that enable users to locate, evaluate and access information in a variety of formats. In that respect therefore, university libraries are expected to provide all necessary information services that best meet the information needs of their numerous users. Maitaouthong, Tuamsuk and Tachamane (2012) conducted a study on the roles of university libraries in supporting the integration of IL in the course instruction, their findings revealed that they have four major roles to play in terms of teaching IL and supporting its integration in various undergraduate courses.

The four roles include: preparation of resources and learning sources, supporting educators and librarians in their teaching of information literacy, arranging instruction that develops students' IL and organizing activities to help develop educators' IL. They went further to opine that the major aim of any university library is to support teaching, learning and research activities of its parent institution. They must therefore, make sure that their resources are well utilized as this is essential for the educational development of the students. In agreement with this, Rathinasabapathy (2015) posits that library is an important intellectual resource of the academic community, and helps them to fulfil the curriculum requirements and to promote studies and research. The library, however, includes the totality of human and organized materials resources available in both book and non-book format for providing and obtaining needed information (Ahiauzu, 2012).

Dadzie (2008) points out that, "librarians have the responsibility to lead the IL drive since they have custodial duties of collecting, organizing and providing access to the multiple forms and sources of information in a timely manner so that information is used appropriately" (Dadzie, 2008, p29). She also stated that "information literacy, though an issue for librarians, is not a library affair and requires partnership with faculty and senior university managers to integrate information literacy into the curriculum" (Dadzie, 2008, p31). There is also the sense that a higher education institution should have as part of its mission the teaching of lifelong learning skills, particularly in the context of an information society, and that one place that those skills may be taught is through the library (Marchionini, 2014). It was further argued that libraries have a responsibility to teach students how to effectively use available information technologies, and that IL programs that incorporate hardware and software components go far in supporting an educational mission of information literacy.

Conclusion

Library institutions need to understand the IL requirements of their community. In order to ensure developing or integrating IL courses in their curricula, not simply to jump in the bandwagon together with the rest of the world, but to achieve the ultimate goal of producing knowledgeable, dynamic, creative and independent individuals who are key players in the global arena of the future. University libraries in particular should be at the forefront of this mission so that information resources of different types are accessed and utilized effectively and efficiently at the right time and by the right users in line with the long theoretical standing of the profession.

REFERENCES

- Ahuazu, B. (2012). *Use of library: a practical approach*. Owerri: Spring Field Publishers.
- Azubiike, C.O. (2016). Information literacy skills and awareness of electronic information resources as influencing factors of their use by postgraduate students in two universities in South-West Nigeria. *Library Philosophy and Practice*. Retrieved March 30, 2017, from <http://digitalcommons.unl.edu/libphilprac/1407>
- American Library Association (2006). *Information literacy community partnership toolkit*. Retrieved April 16, 2016, from <http://library.astin.tx.us/staff/navarro/communitypartnership/toolkit.html>
- American Library Association. (2000). *Information literacy competency standards for higher education*. Retrieved March 12, 2016, from <http://www.ala.org/acrl/>.



- Association of College and Research Libraries. (2016). *Framework for information literacy for higher education*. Retrieved April 12, 2017, from <http://www.ala.org/acrl/standards/ilframework>
- Bilawir, S., & Pujar, K. (2011). Librarian-Faculty collaboration on a library research assignment and module for collage experience classes. *Community and Junior Collage Libraries*. 19 (3), 23-25.
- Bitagi, A.M., & Garba, S.K. (2014). Evaluative study of information resources and services utilization for research in academic libraries in Niger State, Nigeria. *International Journal of Research in Business management*. 2 (5), 2-4.
- Bruce, C. (2013). Faculty-Librarian partnerships in Australian higher education: critical dimensions. *Reference Services Review*. 29 (2), 9-12.
- Catalano, A.J., & Phillips, S.R. (2017). Information literacy and retention: A case study of the value of the library. *Evidence Based Library and Information Practice*. 11(4), 148-150
- Childer, S. (2013). Computer literacy: necessary or buzzword? *Faculty publications UNL libraries*. Retrieved October 15, 2016, from <http://digitalcommons.unl.edu>
- Dadzie, P.S. (2008). Electronic resource: access and usage at Ashes university college. *Computer Wide Information System*. 22 (5), 28-32.
- Doyle, C. (1992) Outcome measures for information literacy within the National Education Goals of 1990: *Final Report to the National Forum on Information Literacy*.
- Gbaje, E.S. & Okojie, V. (2010). User-oriented access to knowledge initiatives in Nigerian university libraries. *Nigerian Libraries*. 44(1), 5-8.
- GoodFellow, R. (2011). Literacy, literacies and the digital in higher in education. *Teaching in Higher Education*. 6 (1), 12-15.
- Hadimani, M.B. & Rajgoli, I.U. (2014). Assessing information literacy competence among the undergraduate students of college of agriculture, Raichur: A Case Study. *Journal of Library and Information Technology*. 30 (2), 9-11.
- Hancock, V.E. (2013). Information literacy for lifelong learning. ERIC Digest. ED 358870
- Horton, F.W. (2008). Understanding information literacy: A Primer. Retrieved August 7, 2016, from <http://www.unesdoc.unesco.org>
- Kurbanoglu, S.S; Akkoyunlu, B. & Umay, A. (2014). Developing the information literacy self-efficacy scale. *Journal of Documentation*. 62 (6), 334-338.
- Lombard, E. (2016). Information fluency: Not information literacy 2.0. *The Journal of Academic Librarianship*. 42, 281-283.
- Lwoga, E.T. (2014). Mapping information literacy outcomes and learning experiences of health sciences undergraduate students. *Partnership: The Canadian Journal of Library and Information Practice and Research*. 9(1), 34-36. Retrieved September 16, 2014, from <http://www.lwoga%202014&hl=en-us>
- Maitaouthong, I; Tuamsuk, K & Tachamane, Y. (2012). The roles of university libraries in supporting the integration of information literacy in the course instruction. *Malaysian Journal of Library & Information Science*. 17(1), 7-10. Retrieved October 10, 2014, from <http://majjis.fsktm.um.edu.my/detail.asp?AID...>
- Marchionini, G. (2014). Interfaces for end-user information seeking. *Journal of the American Society for Information Sciences*. 43 (2), 156-163.
- Munshi, S.A., & Nagar, P. (2016). Information literacy skills among the postgraduate students at Aligarh Muslim University, India. *Library Philosophy and Practice*. Retrieved March 30, 2017, from <http://digitalcommons.unl.edu/libphilprac/1419>
- Ntiri, D.W. (2014). Towards a functional and cultural salient definition of literacy. *Adult Basic Education and Literacy*. 3 (2), 127-130.
- O'Brien, D. & Scharber, C. (2013). Digital literacies go to School: Potholes and possibilities. *Journal of Adolescent and Adult Literacy*. 52 (1), 407-423.
- Ode, M.I. & Ape, R. (2013). *Developing information literacy skills in students of Nigerian tertiary institutions: impetus for information access, retrieval and utilization*. Lagos: Waltodanny Visual Concept.



- Olaleju, M.A. (2010). Functional literacy empowerment for nomadic herdsman in Osun State, Nigeria. *Language, Culture and Curriculum*. 23 (2).13-23
- Patrick, B. (2011). Patterns of student use of a college library. *College and Research Libraries*. 26 (2), 102-121.
- Rathinasabapathy, G. (2015). Application of radio frequency identification technology (RFID) in libraries: Proceeding of the VII Tamilnadu Library conference Chennai: TLA.
- Salleh, M.I. (2011). Measuring the effect of information literacy on the undergraduates' academic performance in higher education: *International conference on social science and humanity*. Retrieved December 16, 2015, from http://www.ipedr.com/vol_5/no_2/112-h102-67.pdf.
- Stedman, L & Kaestle, F. (2014). Measuring information literacy: beyond the case study. *Journal of Academic Librarianship*. 37 (3), 78-81.
- UNESCO (2013). Education for all. *Global monitoring report*. Retrieved December 12, 2015, from <http://Unstats.Un.Org/Unsd/mi/pdf/MDG%20Book.pdf>
- Vicki, E.H. (2010). Information literacy for lifelong learning. Retrieved October 20, 2016, from www.libraryinstruction.com/information-literacy2.html