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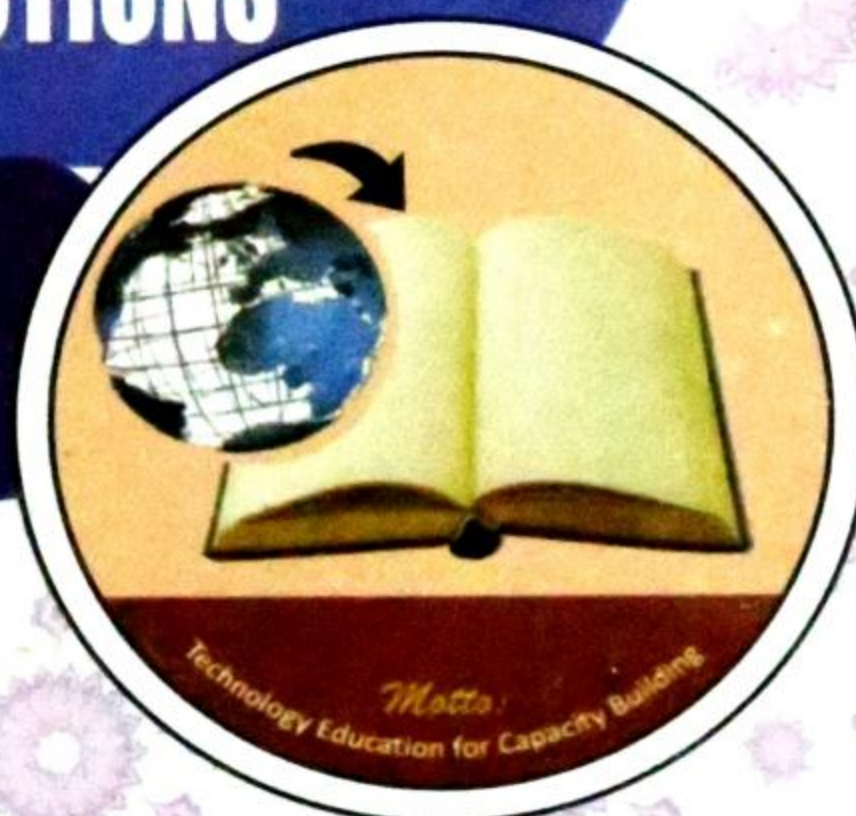
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Enhancing Information Literacy Instructions in the Era of Multimedia Technologies in Nigerian Tertiary Institutions

By

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Abstract

Information literacy competences are essential for success in education, lifelong learning and active participation in the contemporary society. It is worthwhile for tertiary institutions to ensure that graduates of their programmes are information literate. However, one of the key tools for realizing this, which is information literacy instruction, has not been properly repackaged and accorded its requisite status in line with the realities. This article presents strategies for enhancing information literacy instructions in this era of multimedia technologies in Nigerian tertiary institutions. It argues that various regulatory agencies of tertiary institutions such as National Universities Commission, National Board for Technical Education, and National Commission for Colleges of Education, including Nigerian Library Association, Librarians' Registration Council of Nigeria, and management of tertiary institutions have various roles to play in this regard.

Keywords: Information Literacy, Instructions, Multimedia Technologies, Tertiary Institutions, Nigeria

Introduction

The rapid development of information and communication technologies (ICTs) such as computing systems, telecommunication gadgets, storage platforms and multimedia devices work together for data processing and information management functions. The execution of data processing and information management functions of these ICT are not only for individuals and their personal needs, but also for all forms of organizations and establishments. Thus, these ICTs, especially multimedia systems work in networked environments for performing tasks and responsibilities. By definition, multimedia is seen as the combination of several elements and different presentation media such as text, spoken audio, music, graphics, animation, still images, video and sound using computer (Heathcote, 2006; Penrose & Pollard, 2007). Multimedia systems are well integrated systems that store, retrieve, and process different types of data such as texts, graphics, images, full motion video, audio and animation. It encompasses a group of computer-based technologies that integrate different types of media, such as texts, graphics, animation, audio and video, to generate information. Besides the usual central processing unit and peripherals, for a computer to have multimedia capabilities, it should also have a CDROM drive, stereo speakers, microphone for voice output, sound card, video card, video compression card, and other components that facilitate linkage to the Internet and other digital media technologies (Gupta, 2008).

There is no doubt that multimedia and associated ICTs are influencing the delivery of all forms of educational programmes across the universe. Be it in pre-primary, primary, secondary and tertiary institutions, the use of these technologies are contributing to the learning process thereby facilitating easeir delivery on the part of instructors and quicker assimilation on the side of learners. Today, the emergence of digital books, e-books, open access movements, online resources, open educational resources, e-journals, and other electronic resources with full features and components of multimedia is accessible to all and sundry with the requisite Internet connectivity. Libraries, librarians, allied

information practitioners and information users in tertiary institutions are therefore no exception, but have to queue in and benefit from the opportunities multimedia offers.

Meanwhile, in tertiary institutions, librarians have been pre-occupied with strategies of facilitating access to and the use of information resources and services in their libraries by the users. User education, bibliographic instruction and library-use skills have been adopted by these librarians as means of engaging users to patronize the information resources made available by the library. However, with the increase in the enrollment of students in universities, polytechnics, colleges of education and other tertiary institutions, it appears librarians can no longer cope with educating these users via face to face class instructions and associated paper-based mechanisms. Furthermore, with the emergence of digital technologies and systems, these students now prefer access to online resources and e-based services. Little wonder they are referred to as digital natives and core citizens of the net generation. This scenario of the digital era poses challenges for librarians on how to cope and remain relevant. Thus, the question now is: what can librarians and other categories of information practitioners do to bring back the users?

In view of the foregoing, it is glaring that the traditional technique of instruction cannot withstand modern challenges and particular address the needs of contemporary library users. The fundamental of bringing back users of libraries in tertiary institutions requires innovations and tailor-based services in line with the preference of the students who are the key users. Information literacy instruction, which is the contemporary nomenclature for user education, is one of the key means to adopt in this regard. Thus, this paper examines the feasibility of enhancing information literacy instructions in this era of multimedia technologies in Nigerian tertiary institutions.

Development of Information Literacy

Before now, emphasis is on teaching library users the skills for accessing catalogue card, indexes, abstracts, annotated bibliographies and other retrieval aids that facilitate access to print-based information materials in the library. These are components of library-user education. It was more effective when information resources and services of libraries are predominantly in print formats and executed using paper-based transactions with users. However, the concept of information literacy emerged in response to the information explosions, data overloads, and knowledge glut caused by the rapid development of the Internet and related technologies. Thus, information literacy connotes a set of competencies for accessing, evaluating and using all forms of information materials, including print, electronic and online information resources. Information literacy is also seen as aggregate of knowledge and skills, which requires individuals to identify their information needs, access and locate information resources that will cater for needs, critically evaluate the located resources, synthesize reliable components of the accessed resources, and appropriately use them to create new knowledge. In the process, principles of information ethics involving citation, referencing, acknowledgement of sources, fair use devoid of plagiarism are also adhered to. Furthermore, information literacy competences empower the learners to be effective in the information search and use process, and also prepare them as experts in the research process in order to contribute to the development of new knowledge for humanity. Individuals that possess these skills and competencies are known as information literates.

Meanwhile, studies have shown that possession of information literacy competences are of great importance to individuals in all sectors of the economy (Igwe, Uzuegbu, Okite & Ndubuisi-Okoh, 2015). In addition, reviews of scholarly findings indicate that the value of information literacy cuts across various dimensions such as health, business, agriculture, academic, media, socio-political, and legal information literacy (Attama & Igwe, 2015). These reinforce the fact that tertiary education in this era of multimedia technologies should be geared towards training individuals who are information literates.

The present use of information literacy is attributed to Paul Zurkowski in 1974, when he was the president of the United States Information Industry Association, in a proposal he submitted to the *National Commission on Libraries and Information Science* (NCLIS). According to Zurkowski (Zhang, Majid, & Foo, 2010):

people trained in the application of information resources to their work can be called 'information literates' because they have learnt techniques and skills for utilizing the wide range of information tools as well as primary sources in moulding information solutions to their problems

The strategic importance of information literacy in tertiary institutions has led to the emergence of various information literacy competency standards and models by notable library associations such as Association of College and Research Libraries (ACRL) of the American Library Association (ALA), Australian and New Zealand Institute for Information Literacy and Committee of Australian University Librarians (ANZIIL & CAUL), the Society of College, National and University Libraries (SCONUL) UK, as well as the Chattered Institute of Library and Information Professionals (CILIP), UK. Today, many universities and other educational institutions across the world have either adopted existing information literacy standards and models or have developed one to guide their information literacy education and instructions (Attama & Igwe, 2015).

However, in Nigeria, it is unfortunate that after over four decades since the emergence of information literacy concept, no reasonable attention, if any at all, paid to it by the major planners of educational system in Nigeria, including regulatory bodies of tertiary institutions. In other words, there is yet to be a policy statement or an action plan from the National Universities Commission (NUC), the National Board for Technical Education (NBTE), and the National Commission for Colleges of Education (NCCE) regarding information literacy and how to chart a better course for it. This is not unrelated to a series of findings indicating that students of Nigerian tertiary institutions possess poor information literacy skills (Issa, Amusan & Daura, 2009; Oyedum, 2010; Igwe & Esimokha, 2012; Babalola, 2012; Ekenna & Mabawonku, 2013; Ilogho & Nkiko, 2014; Igwe & Ndubuisi-Okoh, 2014; Issa, Amusan, Olarongbe, Igwe & Oguntayo, 2015). Rather the traditional phenomenon of use of library which has been overtaken by digital services still dominates in Nigerian tertiary institutions. This accounts for why digital natives who are students in tertiary institutions do overlook and bypass libraries for other access points to information resources and services. There is the need for full coverage of the content of information literacy instructions instead of the use of library as taught in Nigerian tertiary institutions (Abubakar & Isyaku, 2012).

State of Information Literacy Instructions in Nigerian Tertiary Institutions

In Nigerian tertiary institutions as earlier hinted, the emphasis is still on user education, instead of holistic information literacy programme. This is the situation in colleges of education, polytechnics and universities across the country. In the colleges of education, Bala (2010) reports that NCCE created GSE 112 (Use of Library) as one of the general studies course which students must pass before they are awarded National Certificate in Education (NCE). It is a 100-level course in the three-year NCE programme with the following content (Bala, 2010):

Objectives and functions of the library; Types of library; Types of library materials;
Organizational structure of the library; Bibliography; Cataloguing and classification;
Use and care of the library.

In the polytechnic system, it appears that NBTE did not make concrete submission concerning the use of library that is binding on all polytechnics. In other words, it is not clearly defined in the curriculum of many programmes offered in the polytechnics. There are many cases where students do not offer the course at all. There are some situations where use of library content is part of the use of English course; in others, it is a component of research methodology, and in few cases it is a single unit course. Whatever be the case, the emphasis is still on resources of physical libraries without recourse to holistic information literacy instructions.

In the case of universities the National Universities Commission (NUC) has reviewed the Benchmark Minimum Academic Standards (BMAS) for all undergraduate programmes in Nigerian universities which led to the separation of Use of English from Use of Library. There is now a standalone compulsory two (2) units course coded GST 121 with the title 'Use of Library, Study Skills and ICT' (Okojie, 2007), which is expected to be offered by all universities for inculcating information access and use skills in undergraduate students. Below is the content of the course as it is in the BMAS document (Okojie, 2007):

Brief history of libraries, library and education, university libraries and other types of libraries, study skill (reference services), types of library materials, using library resources including e-learning, e-resources, etc, understanding library catalogues (card, OPAC, etc) and cataloguing and classification (meta data), copyright and its implications, database resources, bibliographic citations and referencing, development of modern ICT, hardware technology, software technology, input devices, storage devices, output devices, communication and internet services, word processing skills.

With the situation in colleges of education, polytechnics and universities, what appears clearly is that much emphasis is still on teaching traditional library-use skills. This involves the librarians teaching users how to access and use library resources and services. This approach may no longer be appropriate in this digital era. However, a critical look at the content of universities shows that it contains the message of information literacy, though with minor elements that are no longer relevant to undergraduate students who are not only digital natives, but also technologically-savvy and core members of the net generation. What is now paramount is that the case of universities, and by extension others, requires strategic approach in the implementation of the GST 121 course so that undergraduates will feel the impact of such course not only for academic performance, but also for productivity in the future.

In view of the afore-mentioned scenario, what then lies ahead that is paramount in our tertiary institutions is how to enhance information literacy instructions, for appropriate inculcation of information literacy competences in students. The concerted effort of all stakeholders is required here to put information literacy on the front burner for overall human resources development in Nigeria.

Enhancing Information Literacy Instructions in Nigerian Tertiary Institutions

Various strategies need to be put in place for enhancing information literacy instructions in Nigerian tertiary institutions in this digital era. The major tertiary education regulatory agencies such as NUC, NBTE, and NCCE also have roles to play in this regard. The efforts of librarians, Nigerian Library Association (NLA), Librarians' Registration Council of Nigeria (LRCN) require more visibility and impact. The adoption and use of multimedia and other e-based platforms are inevitable. However, in executing the strategies that will bring them into full use, there are some key questions to ask. Who are these information literacy instructions meant for? What are the characteristics of those the information literacy instructions are meant for? What are the factors that influence those the information literacy instructions are meant for, especially nowadays? These questions are for undergraduate students in tertiary institutions. There is no doubt that students are very comfortable with this era of computing, the internet and multimedia technologies. Therefore, apart from exploring the role the regulatory agencies could play, opting for online information literacy instructions will be a welcomed development. What will be the roles of regulatory agencies? What is online information literacy instruction? How can online information literacy instruction be carried out? Are there impediments to implementing information literacy instructions in Nigerian tertiary institutions?

The Roles of NUC, NBTE, and NCCE: These regulatory bodies should consider the development of a harmonized information literacy framework, with learning outcome for all students. They may also review and adapt already existing models like that of Association of College and Research Libraries (ACRL) of the American Library Association (ALA); Australian and New Zealand Institute for Information Literacy and Committee of Australian University Librarians (ANZIIL & CAUL); the Society of College, National and University Libraries (SCONUL) UK or the Chattered Institute of Library and Information Professionals (CILIP), UK, then tailor it to Nigeria for the implementation of information literacy programmes. For regulatory agencies to achieve this, librarians that have passion for information literacy, NLA, and LRCN should be co-opted and involved in the process.

The table below is an adapted example of the learning outcomes and objectives of an information literacy instructional programme which all undergraduate students of tertiary institutions should meet. In addition, each academic department may add additional information literacy outcomes to meet the needs of their students within a particular academic programme. Upon graduation, every student should be able to meet the eight outcomes as follows:

Table 1. Learning Outcomes and Objectives of Information Literacy Instruction

Outcomes	Goals and Objectives
1. Define the research topic and the need for information	1. Articulating a research question, problem, or issue. 2. Obtaining background information to identify and define key concepts and terminology related to the research. 3. Defining a manageable focus and timeline for completing the research project. 4. Identifying types of materials that can be used for research (books, journals, web sites, government documents, primary sources, datasets, media, technical reports, etc.) that are needed and appropriate for the project. 5. Recognizing that information may be limited, unavailable, or may not exist on a given research topic.
2. Develop and implement an effective search strategy	1. Differentiating among the types of reference sources and the purpose of each. 2. Choosing and accessing appropriate reference sources for a given research question. 3. Using search terms appropriate to the research tool and the topic. 4. Transferring skills learned in previous research efforts to new projects.
3. Locate and retrieve information	1. Using the library's online catalogues, online union catalogues, article databases, web search engines, and other research tools effectively, in print and online. 2. Interpreting citations accurately and using appropriate components of a citation to search for the items. 3. Recognizing key elements of call numbers and uniform resource locators (URLs) and using them to locate library materials and web sites.
4. Evaluate information	1. Investigating the author's or sponsoring body's expertise, credibility, and points of view. 2. Assessing the authority, accuracy, reliability, completeness, and timeliness of the information found in books, articles, web sites, etc. 3. Distinguishing between reliable and unreliable sources of information, scholarly and popular sources, substantiated facts and points of view.
5. Assess the research strategy	1. Determining whether the information retrieved is relevant and sufficient for the project or whether additional sources are needed. 2. Analyzing successes and failures, revising research topics, and trying different techniques and research tools as needed.
6. Employ principles consistent with the ethical and legal uses of information	1. Demonstrating knowledge of the issues regarding intellectual property and plagiarism in academic setting. 2. Citing and acknowledging sources appropriately. 3. Creating accurate references using a consistent citation style.

7. Organize, synthesize, and communicate information	1. Examining, categorizing, and storing citations to the materials discovered while conducting research, e.g. in reading and online searching. 2. Managing the information selected and the research materials consulted. 3. Using and integrating information from a variety of sources appropriate to the research question. 4. Presenting the information in an effective and coherent manner to communicate it to others.
8. Effectively navigate the body of knowledge within the student's major discipline	1. Recognizing how the literature (i.e. information resources) in the major discipline is organized. 2. Distinguishing among primary, secondary, and tertiary sources in the major discipline and their uses. 3. Using research tools and databases in the major discipline.

Source: Adapted from New Jersey Institute of Technology (n.d)

* **Arguments for Online Information Literacy Instructions:** It is no longer debatable that students in tertiary institutions are digital natives who are born during or after the rise of networked digital technologies and systems. Therefore, any educational programme and its delivery mechanism that does not suit their preference, meet them at their comfort zones and be attractive to them may suffer setbacks. Information literacy instruction is not an exception. Thus, the case for online information literacy instructions, which is described as an e-learning and web-based method of delivering information literacy instructions for inculcating information skills in students, is need to be considered.

Some studies have shown that online information literacy instructions are suitable for students in this digital era. For instance, Mutula, Kalusopa, Moahi and Wamukoya (2006) report that online information literacy instruction through WebCT improves students' competences more than the face-to-face instructions. From another submission by Seiler, Mill and Lepik (2012) involving a web-based course on information literacy, they state that qualitative content analysis of feedbacks and reflections from graduates indicate that students value the knowledge and skills obtained from the course. Another interesting report is from New Jersey Library Association (2015) in which online information literacy programme consists of online videos and tutorials with assessment and evaluation tools. The integration of videos in such an instructional programme is an indication that multimedia systems have come to stay to facilitate teaching and learning process in the digital society. Thus, these are justification that the design and delivery of online-based courses and e-learning programmes are the preference of contemporary students in our tertiary institutions. Therefore administrators of tertiary institutions should not overlook e-learning, otherwise the laudable objectives of various courses and programmes offered in our tertiary institutions may not be realized.

Conclusion and Recommendations

The development and enhancement of information literacy instructions is realizable in Nigerian tertiary institutions. This requires the effort of all stakeholders in the education system, such as NUC, NBTE, NCCE, NLA, and LRCN. Such concerted effort will be result-oriented if put in place with all necessary resources. However, this effort becomes imperative looking at the findings of Adeleke, Arikawe and Asaolu (2015) that information literacy is still at the formative stage in Nigeria and as such, not regularly implemented in academic libraries in Nigeria.

Furthermore, the adoption of online information literacy instructions is the way to go considering the characteristics of students in the present digital society. It is believed that such e-learning approach will be attractive to students and also enable few professional librarians in our tertiary institutions to manage the number of students' enrollment that offer information literacy programmes. Unfortunately, the actualization of this laudable approach in delivering information literacy instructions may be hampered

by the extent of requisite skills and competencies possessed by librarians in Nigerian tertiary institutions. Thus, some librarians appear not up-to-date in their information literacy skills in order to impart same in students, coupled with low use of ICT components in the process (Umeji, Ejadafiru & Oghenetega, 2013; Ojedokun, 2014; Anyaoku, Ezeani & Osuigwe, 2015).

In view of the above, there is need for continuous professional development of practicing librarians in Nigerian tertiary institutions especially in the area of information literacy competences and implementation of e-learning programmes. Librarians need to collaborate with ICT experts in their institutions which are usually from departments like management information system, computer science, computer engineering, among others. These experts can provide assistance with the use of various open source software such as Joomla, Drupal, Word Press, Librarian DB, among others for digital content development and management i.e. to develop interactive websites for delivering online information literacy instructions to students. Librarians can also take advantage of blogs and other various social media platforms for information literacy delivery.

Finally, a significant transformation in the techniques of user education is imperative in this contemporary period. The traditional approach presently being used by many tertiary institutions cannot have a meaningful impact on the students since they are ICT inclined and driven by networked digital systems. To avoid wastage of funds and effort, the regulatory bodies of tertiary institutions should as a matter of urgency organize a retreat for all stakeholders for a review and restructuring of the use of library curriculum for holistic information literacy instructional programme to meet the challenges of the modern times.

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