

Sustainable Teacher Education in Nigeria through Information Literacy in the 21st Century

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Abstract

The 21st century characterized by information revolution has been responsible for what is today known as globalization which has to do with global interaction between humans on issues of common interest irrespective of space or time, the emergence of these slogan Countless number of information is produced almost every second, in countless formats; just as different technologies are invented or upgraded which facilitate easy and fastest access to this information, leaving information consumers with a multiple source and types of information to choose from. It is in the light of this that, this paper examines the challenges of the 21st century to the teacher education institutions which are expected to train teachers that will in turn, train others preparing them for the places of work in the information age. It is recommended in this paper that, a paradigm shift is necessary from the traditional "use of libraries course" that is taught in educational institutions to Information Literacy which by its concept and content, is more encompassing and will be able to prepare the students better for lifelong learning. An outline course was recommended in this paper for examination by experts and possible review and implementation in tertiary institutions especially teacher education institutions for the effective teaching of information literacy skills in teacher education institutions in Nigeria in line with the Association of College Research Libraries-ACRL's guideline

1. Introduction

Like many other centuries, the 21st century came with its own revolution, this time, the Information Revolution. This revolution according to the United States Department of Labour-USDL, (1999) is powered by technology, fueled by information and driven by knowledge. As a result of this revolution, our societies are now becoming more divers, complex, media saturated and borderless once. There is no mixing word; this revolution is having a greater impact on our society than the transition from oral to print society (US Department of Labor, 1999). The revolution is responsible for the paradigm shifts in every aspect of human endeavor, the education sector inclusive. The century has been characterized by increase in the need and the demand for information resulting in the increase in its production, and the resultant explosion in the scramble for its access. Consequently upon this, there is a strong challenge for schools to shift from their traditional methods of being mere venues for the transmission of a prescribed knowledge/information from a teacher to students in a given time and place to what Thornburg (2000) called the principles of "learning to learn" (the knowledge and skills of possible continuous learning), this new paradigm is known as constructivist theory. The shift is necessary because, illiteracy in the 21st century according to Tuffler, (2002) will not be inability to read and write, but the inability to learn, unlearn, and relearn.

Our 21st century students are facing many emerging issues such as: Global warming, Famine, Poverty,

Health Issues, Global population explosion, Economic down tone and other environmental and social issues and most ultimately, Information explosion or overload.

These issues require constant investigations into cause effects, and most importantly, solutions for them. Because the problems are global in nature, they require both individual and collective approach with partners beyond the shores of once immediate environment. This has prompted the need for students of the 21st century to be proactive in terms of ability to communicate effectively beyond their immediate environment. This will equally enable them to participate in global matters that affect their society, and be able to impact changes either individually, or in collaboration with others around the world in solving any challenge they may face.

Given the new emerging technologies and the resulting globalization, there is no limit to the chances for igniting new discoveries and developments in areas such as new forms of energy, advances in medicines, restoration of environmentally ravaged areas, and exploration of the space and beneath the sea.

Age is of no significance in this strive; anybody can make an impact with effective education that addresses the "person as a whole", without limit to professional development and curriculum designed for a particular workplace. Our students need the 21st century skills which could be learned through our curriculum that should be interdisciplinary, integrated, project-based, and are learned within a project-based curriculum. However, more information is produced on a daily bases, in every fraction of a second. Everybody today is more or less a "publisher" since anybody can host a website, or go into desk top publishing.

According to Humes, (2000) "We are outfitting our schools, libraries, and homes with electronic technologies--but are we preparing our students and teachers for the onslaught of information that is provided by these technologies? What happens when the student can get more information from the Internet than previously conveyed by a teacher or a textbook? What should a student do when faced with so many informational possibilities? Which of the information is credible and which is not?"

With the increase in the production of so much information, and the exponential growth in their access, there is therefore, every chance of misinformation, hence, everyone whether in the education system or not--must have not only reading skills and computer skills but information skills, too.

Education according to World Bank (2008) is the premise of progress in every individual, family, or society; hence, it is a treasure that must be cherished by all. This is because, education makes man a right thinker, it tells him how to think and make decisions. It is only education that makes it possible for man to receive information from outside his world, acquaint himself with the past and collect all necessary information regarding the present (khan 2006). Hence, the place of education in the development of human mind and that of any nation can never be over emphasized.

Education is one of the most required powerful instruments, which is central to development, and a key to the realization of any development goal. At global level, it has been realized that, the fight for reduction in poverty, inequality and sustainable economic growth etc which form parts of the Millennium Development Goals, (MDG) can never be realized without Education (World Bank, 2008). Hence, one can safely say that, Education is globally acknowledged as one of the crucial allies in the development process.

Education can be either formal or informal however; this paper is more concerned with the formal education which according to Brickman (2008) is that intentional and more or less systematic effort to affect the behavior of others, while the informal education has to do with the way people learn to adapt their behavior to that of their environment. Formal education is usually acquired in three stages of Primary, Secondary, and Tertiary Institutions (Colleges and Universities).

For the purpose of precision, this paper is focused on the tertiary institutions especially, the colleges and faculties of education and other teacher education institutions. Tertiary institutions according to Ojedokun (2007) are institutions that are responsible for the advancement of learning and knowledge as well as the roles of transmitting and transferring knowledge in such a way that it would assist in the achievement of both economic and social objectives of a nation. This he observed they can do through their graduates who should provide "leadership roles in education as researchers, teachers, consultants, and managers". These

graduates are challenged to create and apply new knowledge and innovations and also provide analytical perspectives on development problems and services to both public and private sector.

Within many organizations the ability to initiate and process change and the capacity to turn new ideas quickly into marketable products or services is what determines your worth, (Ashton and Sung, 1994). Staff are increasingly required who are multi skilled, have problem solving skills, can deal with less routine tasks, are IT literate and capable of independent continuous learning. These demands have significant implications for education at all levels. In reality therefore, we are in the 21st century, but in practice our students especially teacher education students in Nigeria are not yet there. This is particularly so because, most of our teacher education institutions (Colleges and Faculties of Education in Nigeria within the knowledge of the author) don't have any information literacy programme in place that could equip these students with all the attitudes, and knowledge they require to function effectively as global citizens.

The only similar programme is the age long "use of libraries" course which is ironically taught by almost anybody willing to teach as long as he or she is a library staff or in the alternative, in some institutions such courses of study don't even exist as a unit but as topics under another course "English and Communication Skills" (Jimoh, 2009).

2. Skills Required in the 21st Century Workplace

The work place of the 21st century is characterized with certain skills which must be possessed by anyone who wants to be relevant in the society. Such skills according to EnGauge; North Central Regional Educational Laboratory in Tinio, (2002) include amongst others;

- Adaptability: Ability to adapt and manage in this new complex, interdependent world,
- Curiosity: Desire to know, and to know more than is already known.
- Creativity: Ability to use imagination to create new things.
- Risk-taking: Ability to take risks,
- Teaming: Ability to work in a team,
- Collaboration and interpersonal skills: Ability to interact smoothly and work effectively with others.
- Personal and social responsibility: Be accountable for the way one uses ICT's and to learn to use ICT's for the public good.
- Interactive communication: This has to do with Competence in conveying, transmitting, accessing, understanding and using information.
- High Productivity: Ability to prioritize, plan, and manage programs and projects to achieve a desired result, ability to apply what is learnt in the classroom to real-life contexts to create relevant, high-quality products (application of knowledge).

To this effect therefore, our students who are potential teachers, leaders, and managers of different institutions and organisations after school must be equipped with what has been described as the 21st century skills. These skills amongst others are: ability to collaborate with others in team, ability to think critically by being able to take on complex problems, ability to communicate fairly in presenting issues orally, they also need to have good skills of writing, knowing how to utilize technologies independently is also a necessity. Other skills required include; citizenship education; this involves the ability to take on civic and global issues; they are equally required to learn about careers through internships, and be able to conduct research and do all of the above. All of these skills are best acquired through an effective and well developed Information literacy curriculum.

3. Information Literacy

Information literacy, otherwise known as information competency, is the ability to access, evaluate, organize,

and use information from a variety of sources. Being information literate requires knowing how to clearly define a subject or area of investigation; select the appropriate terminology that expresses the concept or subject under investigation; formulate a search strategy that takes into consideration different sources of information and the variable ways that information is organized; analyze the data collected for value, relevancy, quality, and suitability; and subsequently turn information into knowledge (ALA 1989). 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 problem or issue at hand.

Information literacy according to Darch et al. (1997) requires an awareness of the way in which information systems work, of the dynamic link between a particular information need and the sources and channels required to satisfy that need.

4. Importance of Information Literacy

The need to evaluate the credibility of information cannot be over emphasized, this is especially bearing in mind the continuous proliferation of different types of information, the need for them, and diverse medium through which they are disseminated, especially the contemporary electronic medium (internet etc).

To this effect, since anyone can make a Web page, the question is how one can tell how reliable such information is. A critical point about using the Internet is that individuals posting information aren't required to pass through traditional editorial constraints or undergo any kind of fact-checking required in conventional published print media (Literacy Update 1997). The reluctance to look for information from tried and true sources such as well-indexed books or the temptation to assign value to information simply because it came off of the computer will likely provide results with poor quality.

An information literate person is according to ALA, (1999)is one who has learned how to learn. He knows how to learn because they know how knowledge is organized, how to find information and how to use information so that others can learn from them. They are people prepared for lifelong learning because they can always find the information needed for any task or decision at hand."

5. Conclusion

The Information Age which is characterized with information explosion in which even information professionals have lost count of what information is produced when, where, and at what time is no longer a mirage nor is it any longer a figment of imagination, it is now a reality and this revolution is rather exploding beyond what is known of it. Each day when one wakes up, some newer and more sophisticated information and Communication Technologies are either invented, re-invented, or improved upon, consequent upon this, something new information or knowledge is created and disseminated world over at the speed of light. Most of this information is disseminated electronically via the internet where everybody log-on to in order to post anything of his wish and its access is open to everybody as well. The fundamental issue therefore, is since this is now undermining the traditional pair-review of intellectual output, resulting in what some information specialist describe as "information overload," the only and easiest way to manage the crises of information explosion is by being information literate.

6. Recommendations

In the light of the of the need for everybody to be information literate in order to equip themselves with adequate tools and attitude required to navigate the information superhighway, especially our teacher education students whom after school are expected to train others on how to continue learning in the spirit of lifelong learning, the following course programme is hereby proposed for discussion and consideration in line

with the Association of College and Research Libraries ACRL, (2005) also endorsed by the American Association for Higher Education (October 1999) and the Council of Independent Colleges (February 2004) and equally recommended for Nigerian Teacher Education Institutions by Ojedokun, (2007). These course if effectively covered in a semester or two will sufficiently take care of the numerous problems our students face in knowing when information is needed, what type of information is needed, what source (reliable) to get the desired information, how to use information and most ultimately, how to cite and reference information source in these information saturated 21st century of ours.

6.1 Suggested Course of Study on Information Literacy for Teacher Education and other Higher Education Institutions

Course Title: Introduction to Information Literacy

Credits: 3 contact hours per week

Goal: This course is aimed at providing the students with the essential skills and attitudes required to function successfully in this Information Age.

General Objective

At the end of this course, students should be able to:

- 1.0 Know the concept of Information
- 2.0 Know the various Sources of Information
- 3.0 Know Information Access tools
- 4.0 Know information search strategies
- 5.0 Know how to evaluate Information Sources
- 6.0 Know how to cite Information sources.
- 7.0 Know the legal issues in the use of Information

1.0 Know the concept of Information

- 1.1 Define Information
- 1.2 Explain the characteristics and types of information i.e. oral, textual, graphic, and numeric.
- 1.3 Explain the formats of information
 - 1.3.1 Print
 - 1.3.2 Audio-visual
 - 1.3.3 Micro-format
 - 1.3.4 Electronic etc.
- 1.4 Explain the importance of information
 - 1.4.1 To feed anticipation
 - 1.4.2 To reduce uncertainty
- 1.5 Understand the concept of **"use of Information"**

2.0 Know the various Sources of Information

- 2.1 Define information sources
- 2.2 Explain the different types of information sources with examples.
 - 2.2.1 Primary
 - 2.2.2 Secondary
 - 2.2.3 Tertiary.

3.0 Know Information Access tools

- 3.1 Define information access

- 3.2 Identify and explain information access tools i.e. indexes, abstracts, bibliography, catalogues, OPAC, e.t.c.
- 3.3 Know the web search tools (web directories, search engines, library gate-ways etc).

4.0 Know information search strategy

- 4.1 Define information search strategy
- 4.2 Explain information search strategies
 - 4.2.1 Explain search preparation
 - 4.2.2 Query formulation
 - 4.2.3 Structuring of search query
 - 4.2.4 Application of Search strategy
 - 4.2.5 Explain web-search techniques/strategies

5.0 Know how to evaluate Information Sources

- 5.1 Define information evaluation
- 5.2 Identify and explain evaluation criteria
- 5.3 Explain how to evaluate on-line resources

6.0 Know how to cite Information sources.

- 6.1 Introduction/definition of citation and plagiarism.
- 6.2 Explain the reasons for citation.
- 6.3 Identify and explain citation elements i.e. Author, Title, Date of Publication, Publisher, Place of Publication etc and their arrangements according to APA, AMA, MLA, Turabia, Chicago, etc.
- 6.4 Differentiate between reference citation and reference list (stating the location of each).

7.0 Know the legal Issues in the use of Information

- 7.1 Define and explain "intellectual property" and "intellectual property right"
- 7.2 Explain what copy right is
 - 7.2.1 Ownership
 - 7.2.2 Coverage
 - 7.2.3 Statement
 - 7.2.4 Period of validity of copy right
 - 7.2.5 Fair use of copy righted work

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