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Ngozi Maria Nwaohiri Mrs

Federal University of Technology Owerri Nigeria, adaude2003@yahoo.com

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**OPEN EDUCATIONAL RESOURCES (OER) IN NIGERIAN UNIVERSITIES:
PROMOTION AND AWARENESS OPPORTUNITIES FOR ACADEMIC LIBRARIES
FOR A PATH TO HIGHER EDUCATION SUCCESS**

NWAOHIRI NGOZI MARIA (PhD)

SENIOR LIBRARIAN

UNIVERSITY LIBRARY FEDERAL UNIVERSITY OF TECHNOLOGY, OVERRI

EMAIL: ngosiude@gmail.com

Abstract

Cost of scholarly and educational publications has escalated and necessitates the shift from teaching, learning and research materials that are not easily accessed because of restrictive copyright laws and high cost to an opportunity of using the World Wide Web which helps institutions, students and faculty members meet equity of access missions, a platform for everyone to share, use and reuse teaching and learning materials with the resultant effect of increasing both student and faculty member achievement and educational goals. The study investigated promotion and awareness opportunities for academic libraries on the imperativeness using Open Educational Resources (OER) in Nigerian universities for teaching, learning and research. The study employed descriptive survey design method. The population of the study was one hundred and thirteen (113) obtained from three (3) university libraries in the South East, Nigeria, one hundred and ten questionnaires were completed and returned which represented 91% return rate. The research instruments used were structured questionnaire and oral interview schedule. Descriptive statistical techniques such as percentages, mean score, significant mean and standard deviation were used to analyse the data. Some of the findings that academic libraries should imbibe outreach skills, subject based guides, seminars and workshops to create awareness for OER, librarians should play advisory roles to faculties by integration of OER in their courses, offer advice to institutions, academic staff and students. The study recommended

among others that academic libraries should mount aggressive awareness campaign and advocacy for increase use of OER to enhance teaching, learning and research.

KEYWORDS: Educational Resources; Open Access; Awareness; Nigerian Universities; Academic Libraries

INTRODUCTION

Open Educational Resources (OER) have been lauded for their ability to reduce student fee and improve equity in higher education. The textbook most especially, has for a very long time been a significant element of the education system at all stages. In addition to being the requisite mechanism of curriculum delivery, textbooks have traditionally been the primary learning resource for students. According to Perry (2016), for a multiplicity of market-based reasons, the price of educational resources has risen considerably over the last two decades, outpacing the price increases of all goods and services by roughly four times within higher education, these price increases, ultimately descend on the students, who are responsible for acquiring their own course materials. In reaction to these price trends, many educators have turned to open educational resources (OER) (Baraniuk, 2008; Smith, 2009). The Chronicle of Higher Education reported a survey finding that 7 out of 10 college students had skipped buying a textbook because of cost. The 2012 National Survey of Student Engagement reported that: "Concern for finances appears to affect many students' academic performance. About one in four first-year students and one in three seniors frequently did not purchase required academic materials due to their cost, and a third of students believed that financial concerns interfered with their academic performance." (Boston College Libraries, 2021).

While OER refers to any educational resource that is openly licensed and freely distributed, this study will be limited to those accessed on academic libraries online repositories owned by Nigerian Universities

The idea of Open Education Resources (OER) was first introduced by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) at a meeting on 'the impact of open courseware for higher education in developing countries' held in July, 2002. The term OER

refers to education resources and other materials that have been designed for use in teaching, learning and research, that are openly available for use by educators, students and researchers respectively, without the accompanying need to pay royalties or license fees (Kanwar & Uvalic-Trumbic, 2011).

According to OpenStax, the principal producer of OER textbooks, acceptance of OER textbooks has saved students an estimated \$616 million dollars since 2012 (Ruth, 2018). Moreso according to a recent survey by Seaman (2017), the survey data suggest that OER textbooks now compete with commercial textbooks in terms of overall market share.

Out of the 153 universities in Nigeria, 50 have enrolled for the Open Educational Resources (OER) since 2017 when Nigeria adopted it, this is almost one-third of the total universities, which is a good beginning (NUC, 2017).

While many authors have testified to the fact that OER movement has been successful in reducing the cost of educational materials, many have wondered how best to ascertain the quality of OER repositories in Nigerian Academic Libraries, the level of awareness of the existence of these OER repositories by librarians, how best librarians can help to achieve educational goals of teaching, learning and research through the use of OER repositories and possible ways academic librarians can adopt to promote OER repositories in Nigeria. These therefore are the import upon which this study was undertaken.

Literature review

OER are said to be any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are openly available for use by educators, researchers and students, without any complementary need to pay royalties or licence fees (Kanwar & Uvalic-Trumbic, 2011).

McGreal's (2011) defines OER repositories as digital databases that accommodate learning content or materials, applications and tools such as papers, texts, audio recordings, videos, multimedia applications and social networking tools. Through these repositories, OER are made accessible to learners and instructors on the World Wide Web

The purpose of OER repositories is to support educators in searching for educational resources in a structured way, sharing their own materials, reusing existing materials and creating new materials through adapting or translating, and in collaborating with other members of the user community by commenting upon, reviewing, promoting and developing resources.

In addressing the issue of quality of repositories, Atenas & Havemann (2013) opined that the creation of OER repositories can be said to comprise four key themes, which are Search, Share, Reuse, and Collaborate. They posited that in order for existing open content to be discovered and made use of, it is imperative that such materials must be easy to search for and retrieve. As the content is domiciled in repositories, support tools for search and retrieval is therefore fundamental. On the idea of sharing, they pointed out that repositories can and must play a key role by not only facilitating resources to be shared, but enabling and fostering sharing. In their own opinion which corroborates with the idea of OER, the reuse of educational resources requires something of a shift in academic practice, and as such it also entails addressing the barriers and resistance. Reuse must first of all be clearly allowed or permitted as well as expedient. Finally in, they pushed that for a successful repository, it simply will not be a virtual storehouse for content but an assembly place for communities of practice, within which knowledge is not only stored but shared, appraised, and co-created. Through this affordance of social interaction, repositories can allow resources to be evaluated, commented upon, and rated.

Tuomi, 2006, opined that the quality of repositories can be divided into two characteristics, namely, the social and technical characteristics. The social characteristics are those related to tools which enable social interaction within an OER repositories while technical characteristics relate with the design and functionality of the OER repository interface.

From several literatures, some of the basic quality assurance indicators of an OER repositories, that has mostly been highlighted are stated below;

Featured resources: The Featured resources is a social characteristics of an OER. According to Hylén (2006) and Pegler (2012), OER should have the ability of featuring resources that are potentially of high interest for teachers because of its design or content.

User evaluation tools: User evaluation tools are social tools. These tools provide users the ability to evaluate resources by rating. Downes, (2007) posits that repositories should include evaluation tools in order to measure quality of content.

Peer review policy: Schuwer et al., (2010) in their article suggested Peer review as an OER repository policy to revise and analyse each resource to ensure its quality.

Authorship: Petrides & Nguyen (2008) and Browne et al. (2010) are of the suggestion that for repositories to be said to have quality, they should be always include the name of the author(s) of the resources

Keywords: Richter & McPherson (2012) on their own side saw the inclusion of keywords on OER repositories, as one of those indicators of quality assurance. They opined that repositories should meticulously describe the contents to make easy the retrieval of the materials within specific subject areas.

Creative Commons Licences: Jacobi & Woert (2012) pushed that OER resources should always specify the type of Creative Commons Licence or give information about the specific type of license for all the resources. Other indicators of quality assurance are; Metadata, Multilingual support, Social Media support and Source Code or Original Files. While quality is an important facet of an OER repositories, awareness of this innovation is paramount. This aspect of OER begs to use the Rogers' diffusion of innovations theory (2003), which states that "diffusion is the process in which an innovation is communicated through certain channels over time among the members of a social system." In this case, OER is the innovation, the members of the social system comprise of educators, researchers and learners. Following Rogers' theory (2003), the first stage in the innovation-decision process is to extensively introduce the concept of OER to build awareness.

Varied results on the level of awareness of the OER movement has been published, some of the studies showed that awareness of the OER movement among educators is low (Pawlowski & Hoel, 2012; Rolfe, 2012), while some studies like that conducted by Acros, Farrow, Perryman, Pitt, and Weller (2014) reported that awareness on OER movement has been growing. Rolfe (2012) in his study found that nine out of 50 (i.e., 18%) of the academic staff who worked in a UK university had not even heard of the term OER. While in the same year, Reed (2012)

discovered that only 32% of the 59 participants from the two different UK universities in his study were aware of the movement. In another study, Allen and Seaman (2014) in their study, surveyed faculty members working in US universities and found that, out of 2,144 respondents, almost 33% (n = 707) were aware of OER. Boston Consulting Group (2013) analysis of survey data from 377 K-12 educators found that a little more than 50% of OER users are somewhat aware of OER in the United States. Faculty staff (n=6) were requested to participate in semi-structured interviews which enabled the development of a questionnaire. Staff respondents (n=50) were found not to be familiar with the term OER but had a clear view of what it meant. They were said to be familiar with open content repositories only within the university but not externally. (Rolfe, 2012)

To date, researchers have measured educator awareness of OER at the PK-12 and higher education levels, and so many researches shows that, the rising, OER awareness is not yet ubiquitous throughout education systems. This was further backed by a study by Allen and Seaman (2017), they surveyed PK-12 educators in 584 school districts on their common awareness of OER idea. Their survey found awareness of OER and Creative Commons licensing to be low amongst the educators, with 28% of them, indicating that they are aware.

This therefore calls for librarians to play the leading role, in helping the OER movement meet its goal of teaching and learning. A study by Davis et al. (2016) recommended that librarians should play advisory roles to faculties, by trying to influence integration of OER in their courses. Suggestions made ranged from building collections or lists of OER available to their integration in academic programmes. Robertson (2010) examined the possible roles of academic libraries in promoting, supporting and sustaining Institutional Open Educational Resources initiatives. The study found that librarians can offer advice to institutions, academic staff and students because they are engaged in OER through metadata and content description, information management and resource dissemination, digital or information literacy training (finding and evaluating OER), subject-based guides for finding resources, managing intellectual property rights and promoting appropriate open licensing.

They also highlighted that library can work with institutional research to collect data from the bookstore on textbook prices and adoption, analyze the data by class, section, instructor,

department and used for outreach while trying to understand the current textbook use and practices. This will be a great first step for OER promotion.

Peet (2016) is of the view that librarians can also support the implementation of OER as library resources in their respective institutions. Bueno-de-la-Fuente et al. (2012) maintain that academic libraries should play a foremost role by providing access to scholarly and educational content in multiple formats and by incorporating OER in their collections, selecting and suggesting relevant OER for their institutional curriculum and their users. Some authors have suggested some promotion strategies, Smith & Lee (2017) in their article suggested some OER promotion strategies which includes outreach skills, subject based guides, seminars and workshops. Librarians can also orient patrons to free and open access materials through their databases, digital repositories and websites (Martin, 2010).

The CARLI Open Educational Resources Task Force (2018) gave suggestions on how librarians can promote OER in the university. The following strategies were outlined

1. Organising workshops for faculties
2. Set up Library or Institutional textbook affordability committees
3. Creating Informational websites and help guides on OER
4. Investigating OER service providers
5. Working toward no-textbook degree programs
6. Environmental scan: interviews and surveys with students and faculty about textbooks and OER
7. Including OER as part of the library's strategic plan

Objectives of the study

This study is anchored on the following objectives;

- i. To identify quality assurance indicators of Open Educational Resources (OER).
- ii. To find out ways of promoting Open Educational Resources (OER) in universities.
- iii. To determine the level of awareness of Open Educational Resources in academic libraries

- iv. To make recommendations on how best to create awareness of Open Educational Resources for academic libraries.

Research Questions

- i. What are Open Educational Resources (OER) quality assurance indicators?
- ii. What are the ways of promoting Open Educational Resources (OER) in Universities?
- iii. What is the level of awareness of Open Educational Resources (OER) in academic libraries?
- iv. How can awareness of OER be created among academic libraries?

Methodology

Descriptive survey design was adopted for the study. The population was made up of the entire library staff from South East Federal universities. The research instruments used were structured questionnaire and oral interview schedule. A total of 113 copies of questionnaire were distributed by the researchers. A period of three days were given for the completion of the questionnaire thereafter one of the researchers went to the schools to collate the completed instruments. Out of this number distributed, only 110 were duly filled and returned giving a response rate of (97%). Items on the questionnaires bothered on Gender, Age, level of education, Academic qualifications, length of service, Quality evaluation criteria, The degree of awareness of OER, role of librarians in OER movement, Promotion strategy for OER movement. To guarantee the reliability of the instrument, it was administered on thirty(30) participants out of the envisaged population of the study. A test-retest reliability method of two weeks interval was observed and instrument was re-administered to the same thirty (30) respondents. Response obtained was subjected to Pearson Product Moment Correlation (PPMC) method and a reliability co-efficient of 0.83 was obtained. Descriptive statistical techniques such as percentages, mean score, significant mean and standard deviation were used in describing the data.

Table 1: Distribution of Respondents according to University Libraries

S/N	University Library	Frequency	Percentage (%)
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1	NAU	16	14
2	UNN	66	58
3	FUTO	31	27
	TOTAL	113	100

Source: Administrative Records in the various University Libraries (2019)

The above table shows the descriptive statistics of the respondents based on the university library. The table however revealed that 14%(16) of the respondents are from Nnamdi Azikiwe University (NAU), 58%(66) are from University of Nigeria Nsukka (UNN), while 27%(31) of the respondents are from Federal University of Technology Owerri(FUTO) making the total number of respondents 113, with UNN having the highest (58%) number of respondents.

Table 2: Level of Agreement of Respondents on OER Quality Assurance Indicators.

	SA	A	% Agreed	D	SD	% Disagreed	Mean	SD±
Featured resources	39	19	79	0	15	21	3.1	15.923
User evaluation tools	29	24	73	4	15	27	2.9	10.743
Peer review policy	27	22	67	13	11	33	2.9	7.309
Authorship	32	32	88	0	9	12	3.2	16.238
Keywords	42	18	82	4	9	18	3.3	16.786
Creative Commons Licences	41	19	82	8	5	18	3.3	15.976
Metadata	31	23	74	10	8	26	3.1	11.061
Multilingual support	34	13	64	21	5	36	3.0	12.229
Social Media support	23	29	71	10	10	29	2.9	9.279
Source Code or Original Files	23	34	78	5	11	22	2.9	13.038
Pooled Mean							3.06	

Table 2 shows the level of agreement of respondents on the quality assurance indicators stated.

Greater percentage of the respondents agreed that featuring of resources(79%), user evaluation(73%), peer review policy(67%), Authorship(88%), keywords(82%), creative commons licenses(82%), metadata(74%), multilingual support(64%), social media(71%) and Source code or Original files(78) are quality insurance indicator of a good OER repository. These, however gave a pooled mean value of 3.06.

Table 3: Ways of Promoting OER in Universities

Item	SA	A	% Agreed	D	SD	% Disagreed	Mean	SD±
librarians should play advisory roles to faculties, by trying to influence integration of OER in their courses	42	15	78	2	15	22	3.1	16.718
librarians can offer advice to institutions, academic staff and students	31	27	79	4	11	21	3.1	13.076
Academic libraries can incorporate OER in their collections, selecting and suggesting relevant OER for their institutional curriculum and their users.	22	15	51	15	22	49	2.5	4.215
Academic libraries should imbibe the outreach skills, subject based guides, seminars and workshops .	30	21	70	13	9	30	3.0	9.522

Including OER as part of the library's strategic plan is a way of promoting OER	46	13	81	4	9	19	3.3	19.147
Pooled Mean							3.0	

Table 3 reveals that 78% of the respondents agreed that librarians should play advisory roles to faculties, by trying to influence integration of OER in their courses, while 22 disagreed with a mean value of 3.1 ± 16.7 . 71% of the respondents were in the affirmative that librarians can offer advice to institutions, academic staff and students while 21% were of the negative opinion with a mean value of 3.1 ± 13.07 . 51% of the respondents agreed that academic libraries can incorporate OER in their collections, selecting and suggesting relevant OER for their institutional curriculum and their users while 41 disagreed with a mean value of 2.5 ± 4.2 . When asked if Academic libraries should imbibe the outreach skills, subject based guides, seminars and workshops, 70% agreed while 30% disagreed with a mean value of 3.0 ± 9.522 . 81% however, were of the opinion that Including OER as part of the library's strategic plan is a way of promoting OER while 19% disagreed with a mean value of 3.3 ± 19.1 . These gave a pooled mean value of 3.0

Table 4: Level of Awareness of OER among Respondents

	SA	A	% Agreed	D	SD	% Disagreed	Mean	SD \pm
You know much about Open Education Resource (OER)	23	34	78	5	11	22	2.9	13.038
You are well acquainted with the creative commons licensing levels used by OER repositories	20	35	75	8	10	25	2.9	12.565

The rate of awareness of OER among educators in your school is high	22	24	63	19	7	37	2.8	7.566
I know of many OER repositories	9	24	45	21	18	55	2.3	6.571
Pooled Mean							2.7	

Table 4 shows the level of awareness of respondents on OER; 78% of the respondents indicated that they know much about OER while 22% stated otherwise, this gave a mean value of 2.9 ± 13.0 . Also, 75% of the respondents revealed that they are well acquainted with the creative commons licensing levels use by OER repositories while 25% of them were of the negative, this gave a mean score value 2.9 ± 12.5 . When asked if the rate of awareness of OER among educators in their school is high, 63% of the respondents were of the affirmative while 37% were of the negative opinion, with a mean value of 2.8 ± 7.6 . 45% of the respondents indicated that they know of many OER repositories while 55% were negative, this gave a mean value of 2.3 ± 6.57 . The table gave a pooled mean value of 2.7 indicating a moderate level of awareness among the respondents.

Summary of Major Findings

From the results of the analysis, the under listed findings are made;

1. Greater percentage of the respondents agree that featuring of resources, user evaluation, peer review policy, authorship, key words, creative commons licence, multilingual support (original files) and the social media are quality assurance indicators of good OER repository.
2. Libraries should play advisory roles to faculties by influencing integration of OER in their courses, offer advice to institutions, academic staff and students.
3. Academic libraries can incorporate OER in their collections by selecting and suggesting relevant OER for their institutional curriculum and users.

4. Academic libraries should imbibe outreach skills, subject based guides, seminars and workshops to create awareness as part of library strategic plan as a way of promoting OER.
5. Greater percentage of the respondents has a smattering knowledge about OER and is awarded creative commons licencing levels used by OER repositories.
6. Although awareness of OER among educators are relatively high, knowledge of OER repositories is on the lowest ebb.

Recommendations

In view of the fact that Open Educational Resources (OER) are essential component resources which support educators, students and researchers in searching for educational resources in a structured way as well as sharing their own materials, the following recommendations;

- Academic libraries should mount aggressive awareness and advocacy for increased use of OER to enhance teaching, learning and research.
- More awareness should be created for proper understanding of creative commons licencing levels used by OER repositories.
- Awareness creation on open licencing among educators is imperative to enable them impact positively on students.
- Awareness on how best to locate OER repositories scattered across the internet should be intensified to guarantee increased location, retrieval and use of OER.

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