

Open Educational Resources as a Catalyst for Innovation in Distance Education in Nigeria

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Abstract: This paper investigated open educational resources implementation in distance learning education in Nigeria. This study adopted descriptive survey designed. In analyzing the data simple percentage and mean with the aid of Statistical Package for Social Sciences (SPSS) were used. The findings of this study revealed that Open Educational Resources is a critical innovation tool for improving teaching and learning in distance education in Nigeria, that there is a significant relationship between academic staff training and job satisfaction in Distance Learning Institute University of Ibadan and identified low level of skillfulness in the use of electronic information, inadequate computers and slow internet connectivity as the core limitations and weakness of open educational resources implementation in distance learning education in Nigeria. While improving teaching and learning, increase sharing of knowledge and reduced cost of printing educational materials and textbook are the core strength of open educational resources implementation in distance learning education in Nigeria. The study recommends the need for Developing New strategies and method that would complement existing OER programmes success should be funded by National Universities Commission in order to intensify research and development goals.

Keywords: Distance education, Distance Learning Education, Open educational resources, information science, electronic learning resources, digital learning resources, online learning, Nigeria.

1. Introduction

The term Open Educational Resources first came to use in 2002 at a conference hosted by UNESCO. Participants at that forum defined OER as: “The open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes.” The currently most used definition of OER is: “Open Educational Resources are digitised materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research.” To further clarify this, OER is said to include: Learning Content: Full courses, courseware, content modules, learning objects, collections and journals. Tools: Software to support the development, use, re-use and delivery of learning content including searching and organization of content, content and learning management systems, content development tools, and on-line learning communities. Implementation Resources: Intellectual property licenses to promote open publishing of materials, design principles of best practice, and localization of content.

The National Universities Commission in 2017 birth open educational resources (OER) policy. This document is designed to address the dearth of learning resources in quality, quantity and currency in tertiary education (NUC, 2017). The concept of OER was first conceived 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 and learning, that are openly available for use by educators and

students, without the accompanying need to pay royalties or license fees. The main attribute of OER is the ability to use educational resources for free.

“Open Educational Resources (OERs) are any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, course work, tests, projects, audio, video and animation” (UNESCO, 2013). Access to knowledge and information resources is increasingly essential for participation in the global information society. Thus, scholarly interest in the way knowledge is sought, found, created, disseminated, and used has also increased (Hedesstrom & Whitley, 2000; Gagnon, 2009). In academia, knowledge and information resources in the form of educational materials are essential to the provision of quality education (Mulder, 2008). Institutions of higher education consider educational resources, including digital educational resources, important tools for supporting teaching and learning. Access to quality and affordable educational resources is, in many cases, limited for many students and educators. The situation is worse in many developing countries where government funding of education is grossly inadequate (World Bank, 2010). For clarity, educational resources in this thesis refer to such teaching and learning materials as effectively designed curricula, textbooks, lecture notes, syllabi, assessment materials, etc. One of the suggested ways of improving available teaching and learning resources at institutions of higher education, and for providing access to education in a truly scalable manner, is the use of OER (United Nations Educational, Scientific and

Cultural Organization [UNESCO, 2002], Atkins, Brown, & Hammond, 2007; The Organization for Economic Cooperation and Development [The OECD], 2007).

Statement of Problems of the Study

The weakness with open content is that by its nature, at its purest it is stripped of these developmental, contextual and 'environmental' components that are essential for effective learning. In other words, OER are just like coal, sitting there waiting to be loaded. Coal of course is still a very valuable product. But it has to be mined, stored, shipped and processed. More attention needs to be paid to those contextual elements that turn OER from raw 'content' into a useful learning experience. This means instructors need to build learning experiences or environments into which the

Objectives of the Study

This study examined open educational resources implementation in distance learning education in Nigeria. Other objectives are as follows;

- i. Find out whether Open Educational Resources is a critical innovation tool for improving teaching and learning in distance education in Nigeria.

Research Questions

The following research questions were formulated to address the problems of the study.

1. Is Open Educational Resources a critical innovation tool for improving teaching and learning in distance education in Nigeria?
2. What are the strategies and methods for selection of Open Educational Resources in distance education in Nigeria?
3. How can we address the limitations and weakness of Open Educational Resources implementation in distance education in Nigeria?

2. Review of Related Literature

OECD (2007) defines Open Educational Resources as freely and openly available digitized learning resources that can be adapted, modified, and re-used for teaching, learning, and research. Strategic implementation of Open Educational Resources (OER) in higher education institutions' research and practice is currently gaining momentum (Huyen, 2006). Seaman (2015) states that an increasing number of higher education institutions have implemented some sort of OER in their environment, and that many more are seriously considering implementing OER in the near future to (1) share knowledge, (2) reuse publicly available knowledge, (3)

Therefore, this paper is aimed at investigating open educational resources as a catalyst for innovation in distance education in Nigeria.

OER will fit. Despite these limitations, teachers and instructors are increasingly creating open educational resources, or making resources freely available for others to use under a Creative Commons license. There are increasing numbers of repositories or portals where faculty can access open educational resources. As the quantity of OER expands, it is more likely that teachers and instructors will increasingly be able to find the resources that best suit their particular teaching context.

- ii. Discover the strategies and method for selection of Open Educational Resources in distance education in Nigeria.
- iii. Recommend on how to address the limitations and weakness of Open Educational Resources implementation in distance education in Nigeria

reduce cost of knowledge creation, and (4) conduct good public relations (Huyen, 2006). This momentum has been largely driven by both significant financial support from corporations and empirical research findings that support OER efficacy, perceived value, and, importantly, cost reduction

(Fischer, Hilton, Robinson, & Wiley, 2015; Hilton, Gaudet, Clark, Robinson, & Wiley, 2013).

The Hewlett Foundation defines OER as 'teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others.' Creative Commons provides the licensing tools for permitting this free use and re-purposing; Hewlett considers the Creative Commons Attribution (CC BY) license to be the license of choice, allowing for maximal reuse and repurposing of copyrightable educational resources while still acknowledging the creative work of the developer.

David Wiley elaborated on the idea of the permissions granted to an educational resource by an open license:

"The term "open content" describes any copyrightable work (traditionally excluding software, which is described by other terms like "open source") that is

licensed in a manner that provides users with free and perpetual permission to engage in the 5Rs activities:

1. *Retain* — the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage)
2. *Reuse* — the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video)
3. *Revise* — the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language)
4. *Remix* — the right to combine the original or revised content with other open content to create something new (e.g., incorporate the content into a mashup)
5. *Redistribute* — the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend). (www.opencontent.org, 2015).

Research on OER has focused largely on student benefits, while organizational benefits and cost when implementing OER remain largely undiscovered. For example, successful OER implementation requires a substantial amount of financial and human resources, along with purposeful planning and facilitation; otherwise, innovations are not likely to be sustained (Poole & Van de Ven, 2004). Higher education institutions should realize that participation in the OER movement requires a significant investment and a strategic plan when initiating a university and program-level effort (Schaffert, 2010). For example, ample time is required to locate and put in place appropriate OER materials. Procurement and maintenance of a technological infrastructure are reliable indicators of successful initiatives. For the OER movement to become sustainable, a solid

3. Methodology

This study was carried out using a descriptive survey design. The study areas comprised of the University of Abuja (UniAbuja) and University of Ibadan (UI) which were selected from among the federal universities running distance education program for a long time now. The population of the study was made up of 560 final year students of the UniAbuja and 676 final year students of UI. The choice of the final year students was because they are in a better position to assess the management of the program having spent five years in the various institutions. Purposive and simple random sampling techniques were employed in selecting 100 students from each university thereby making a total of 200 students. The data is collected through a questionnaire consists of 15 questions. All questions are close ended questions with the use of a four point Likert scale consisted of strongly disagree, disagree, agree and strongly agree. All questionnaires were distributed and collected by hand from the lecturers. A four-point likert-scale structured questionnaire was subsequently

business model and secure funding are highly recommended (Schaffert, 2010).

There are many critical issues surrounding access, quality and costs of information and knowledge over the Internet as well as on provision of content and learning material. As it becomes clearer that the growth of Internet offers real opportunities for improving access and transfer of knowledge and information from universities and colleges to a wide range of users, there is an urgent need to clarify these issues with special focus on Open Educational Resources (OER) initiatives. There is also a need to define the technical and legal frameworks as well as business models to sustain these initiatives. This study aim to map the scale and scope of Open Educational Resources initiatives in terms of their purpose, content, and funding and to clarify and analyse OER Innovation in Distance education learning in Nigeria.

Like any other learning resource, the primary role of OER is to support learning. OER play an important role in the dissemination of information and knowledge. It is difficult to find any work in the subject area without a reference to the beneficial role of OER as important learning resources and tools for knowledge propagation. Diallo, Thuo, and Wright (2012) indicate that the flexibility of access allowed by digital academic content such as OER makes it possible for learners in multiple locations to be reached. They further state that OER assist in facilitating access to quality education. Diallo and colleagues also note that the most important role of OER in education is the reduction in the cost of learning. Cost savings from OER can result from time saved when teachers repurpose and reuse OER for teaching instead of creating new materials from scratch. Learners, particularly students, can reduce the cost of learning when they are assigned textbooks that are openly and freely available.

administered to the 200 respondents. Among others, the questionnaire covered two key issues examined in this study. These issues are adequacy of learning environment; and adequacy of available information sources for effective academic program. Analysis of data involved both descriptive and inferential statistical tools. Means were used to analyze the fundamental research questions. The analysis of data was organized within the framework of the key research questions. The questions are (a) Is Open Educational Resources a critical innovation tool for improving teaching and learning in distance education in Nigeria? and (b) What are the strategies and method for selection of Open Educational Resources in distance education in Nigeria? A decision rule was made for the research questions. A cut-off point of 2.50 was established as the mean result for the research questions. Any mean from 2.50 and above was regarded as positive result while mean scores below 2.50 were regarded as negative.

4. Result and Data Analysis

The section presents the results from the analysis of the research questions. Results of the statistical analysis of the data are presented in the tables below:

1. Research Questions Analysis:

Is Open Educational Resources a critical innovation tool for improving teaching and learning in distance education in Nigeria?

Table 4.1: Descriptive analysis of open educational resources and improvement of teaching and learning among distance education students in Nigeria

S/N	Statement	Universities	Response Categories				Mean	S.D	Decision
			VA	A	IA	VIA			
1	Open resources is available in the institution	UniAbuja	5	12	14	69	1.53	0.089	Inadequate
		UI	31	34	17	18	2.78	0.10	Adequate
2	Open resources is enhancing teaching and learning	UniAbuja	5	12	14	69	1.53	0.089	Inadequate
		UI	31	34	17	18	2.78	0.10	Adequate
3	Open resources is reducing cost of learning	UniAbuja	5	12	14	69	1.53	0.089	Inadequate
		UI	31	34	17	18	2.78	0.10	Adequate
4	There is open and free text book at the institution	UniAbuja	5	12	14	69	1.53	0.089	Inadequate
		UI	31	34	17	18	2.78	0.10	Adequate
5	Open resources is helping to share knowledge	UniAbuja	5	12	14	69	1.53	0.089	Inadequate
		UI	31	34	17	18	2.78	0.10	Adequate
Grand Mean		UniAbuja	2.43				Inadequate		
		UI	3.02				Adequate		

Source: Field Survey, 2019

Table 4.1 presents the adequacy of the information sources for use by the students of sandwich program at UniAbuja and UI. According to the table, UniAbuja students had a grand mean of 2.43 while UI had a grand mean of 3.02. Following the decision rule adopted, UniAbuja has inadequate information sources for sandwich students since the mean score is less than the cut-off point of 2.50 while UI has adequate information sources available for sandwich students. Finding report hold the view that Open Educational Resources is a critical innovation tool for improving teaching and learning in distance education in Nigeria. Findings above is consistent with Diallo, Thuo, and Wright (2012) assertion

2. Research Questions and Hypotheses Analysis:

What are the strategies and method for selection of Open Educational Resources in distance education in Nigeria?

that the flexibility of access allowed by digital academic content such as OER makes it possible for learners in multiple locations to be reached. They further state that OER assist in facilitating access to quality education. Diallo and colleagues also note that the most important role of OER in education is the reduction in the cost of learning. Cost savings from OER can result from time saved when teachers repurpose and reuse OER for teaching instead of creating new materials from scratch.

Table 4.1: Descriptive analysis of strategies and method for selection of open resources among distance education students in Nigeria

S/N	Strategies and Method	Universities
1	Retain	UniAbuja UI
2	Reuse	UniAbuja UI
3	Revise	UniAbuja UI
4	Remix	UniAbuja UI
5	Redistribute	UniAbuja UI

Source: Field Survey, 2019

The table 4.2 showed that both universities identified retain, reuse, revise, remix and redistribute as the core strategies and method for selection of open resources among distance education students in Nigeria. Findings above is in agreement

with Bliss and Smith (2015) emphasis that 5Rs activities are considered critical in the strategies and method for selection of open educational resources namely retain, reuse, revise, remix and redistribute.

3. Research Questions Analysis:

How can we address the limitations and weakness of Open Educational Resources implementation in distance education in Nigeria?

Table 4.3 The limitations and weakness of open educational resources implementation in distance education Nigeria

Limitations & weakness	Strength
Low level of skillfulness in the use of electronic information	Improving Teaching and Learning
Inadequate computers	Increase sharing of knowledge
Slow internet connectivity	Reduced cost of printing educational materials and text book

Source: (Field Survey, 2019)

The frequency distribution in table 4.3 above reveals that low level of skillfulness in the use of electronic information, inadequate computers and slow internet connectivity are the core limitations and weakness of open educational resources implementation in distance learning education in Nigeria. While improving teaching and learning, increase sharing of knowledge and reduced cost of printing educational materials and textbook are the core strength of open educational resources implementation in distance learning education in Nigeria. Findings above corroborate with CNI (2016) report which identified low level of skillfulness in the use of electronic information, inadequate computers and slow

internet connectivity are the core limitations and weakness of open educational resources implementation.

5. Conclusion and Recommendation

This study examined open educational resources implementation in distance learning education in Nigeria. The findings of this study revealed that Open Educational Resources is a critical innovation tool for improving teaching and learning in distance education in Nigeria, that there is a significant relationship between academic staff training and job satisfaction in Distance Learning Institute University of Ibadan and identified low level of skillfulness in the use of

electronic information, inadequate computers and slow internet connectivity as the core limitations and weakness of open educational resources implementation in distance learning education in Nigeria. While improving teaching and learning, increase sharing of knowledge and reduced cost of printing educational materials and textbook are the core strength of open educational resources implementation in distance learning education in Nigeria. This paper has given rise to the following recommendations.

1. There is need for National Universities Commissions to ensure implementation and monitoring of OER programmes among universities in Nigeria offering distance learning education courses.
2. New strategies and method that would complement existing OER programmes success should be funded by National Universities Commission in order to intensify research and development goals.
3. New technological innovation and creation should be developed to address the current limitations and weakness threatening OER programmes success and full implementation among universities in Nigeria offering distance learning education courses.

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