

# The Relationship Between Distance Learning Education and Open Educational Resources Development in National Open Universities of Nigeria

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**Abstract:** *This paper examined the relationship distance learning education and Open Educational Resources in National Open Universities of Nigeria. Descriptive Survey research method was adopted for the purpose of the study. The total number of students who participated in this study was two hundred and fifty two (252). But only two hundred and fifty (250) students returned questionnaire that were found useful for analysis. Pearson product statistics was used to analysis the data. This study revealed that Open Educational Resources (OER) has capacity to provide quality educational resources for teaching and learning in National Open University Nigeria, that there was a significant relationship between Distance learning education and Open Educational Resources ability to enhance access to quality knowledge repositories for learners, teachers and researchers in National Open University Nigeria, and that the integration of Open Educational Resources in distance learning education would expand access to higher education and training .provision in a cost effective manner. There is need for reengineering and integration of open educational resources in National Open University of Nigeria (NOUN) with learning management system software.*

**Keywords:** Distance Learning, , Distance Learning Education, Open Educational Resources, Development, Quality Education, educational resources for teaching and learning, National Open Universities of Nigeria, Cost Effectiveness of OER

## 1. INTRODUCTION

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.

The Open Educational Resources (OER) movement is a technology- empowered effort to create and share educational content on a global level, (Caswell, Henson, Jensen, and Wiley, 2008). It originated from developments in open and distance learning (ODL) and in the wider context of a culture of open knowledge, open source, free sharing and peer collaboration, which emerged in the late 20<sup>th</sup> century.

Open Educational Resources are freely accessible, digitized materials, documents and media usually openly licensed which are useful for teaching, learning, educational assessment and research purposes. They are available for educators, students and self-learners to use and re-use for teaching, learning and research. They reside in the public domain and they have been released under an intellectual property that permits their free use or re-purposing by others (The William and Flora Hewlett Foundation). The aim was to "enhance human learning worldwide by the availability of a web of knowledge. Many other Universities who supported the project include: Yale, the University of Michigan, and the University of California Berkeley. Several institutions use these educational materials as courses in their universities. These are the Massachusetts Institute of Technology (MIT), the Open University, Johns Hopkins, Kyoto University, Notre Dame, and Korea University.

Distance education is confronted by many challenges among which are issues of expanding access, reducing cost and improving quality of teaching and

learning at a time when growth in higher education is generally increasing. In order to tackle these challenges, open educational resources (OERs) have been identified as the strategy to adopt for cheaper, easier material production and faster dissemination of knowledge. OERs are essentially 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 or repurposing by others. They may include full courses, course materials, modules, textbooks, streaming videos, tests, software, tools, materials, or techniques that are used for supporting access to knowledge.

OERs are grounded in the understanding of education as a common good with the ethos of open and distance learning (ODL) and are guided by non-commercial and non-monopolistic principles. In distance education, OERs constitute a strategy in which educational resources can be shared and disseminated across institutions. Examples of OERs are African Virtual University (AVU) OERs and materials used for the Teacher Education in Sub-Saharan Africa (TESSA) program that were developed by a consortium of experts in teacher education to assist in the provision of quality teacher education in Sub-Saharan Africa. However, in order to promote the use of OERs and to ensure that sharing of learning materials across borders is enhanced for better quality teaching and learning, it is important to investigate the perceptions of the leaders and managers of higher education institutions in Africa on the integration of OERs in distance education. The National Open University of Nigeria (NOUN) being the tertiary institution for Open and Distant Learning is leading OER development in Nigeria. NOUN has no doubt, taken gallant strides towards the provision of highly accessible and enhanced quality education; anchored on social justice, equity, equality and National cohesion, through a comprehensive reach that transcends all barriers.

### Statement of Problems of the Study

Access to relevant learning resources is an important aspect of lifelong learning, and the ability to provide that access at the necessary scale is proving a challenge. Addressing this challenge is essential for ensuring inclusive and equitable quality education and lifelong learning opportunities for all, as outlined in NUC Policy, as well as for supporting citizens in gaining sustainable livelihoods. The development of OER is a potential answer to these challenges, as it provides governments, institutions, organisations and individuals with access to some of the best materials

available globally, allowing them to adapt the materials to fit local contexts and reduce the costs associated with materials and course development.

Open Educational Resources development is been threatened by issues such as Author need time to develop and deliver OERs but are not always released from other work commitments, Academics may be reluctant to share their work or use that of others, Authors may be working in a second language, Copyright issues and Intermittent Internet access and electricity may be an issue if working collaboratively or online. Therefore, this study intends to examine the relationship between distance learning education and Open Educational Resources in National Open Universities of Nigeria.

### Research Objectives

This study investigated the relationship between distance learning education and Open Educational Resources in National Open Universities of Nigeria. Other objectives are as follows;

- Discover whether OER has capacity to provide quality educational resources for teaching and learning in National Open Universities of Nigeria.
- Determine whether there is a significant relationship between Distance learning education and OER ability to enhance access to quality knowledge repositories for learners, teachers and researchers in National Open Universities of Nigeria.
- Assess whether the integration of OER in distance learning education will expand access to higher education and training provision in a cost effective manner.
- Recommend on how to improve distance learning education using Open Educational Resources'.

### Research Questions

The following research questions were sought so as to provide solutions to the problems of the study.

1. Does OER has capacity to provide quality educational resources for teaching and learning in National Open Universities of Nigeria?
2. Is there a significant relationship between Distance learning education and OER ability to enhance access to quality knowledge repositories for learners, teachers and researchers in National Open Universities of Nigeria?
3. Will the integration of OER in distance learning education expand access to higher education and training provision in a cost effective manner?

## 2. REVIEW OF LITERATURE

### 2.1 The Concept of Open Educational Resources

The term OER was created in a meeting at UNESCO in 2002. Since then, the OER movement has progressed all over the world, and in 2012, COL and UNESCO organised the first World OER Congress. This resulted in the 2012 Paris OER Declaration, calling upon all countries to release teaching, learning and research materials developed with public funds under an open licence to allow their reuse, revision, remixing and redistribution without the permission of the copyright holders.

The 2012 Paris OER Declaration defines OER as

*teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work. (UNESCO, 2012).*

In their simplest form, OER are any “educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcast, and any 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 licence fees” (Butcher, and Hoosen, 2011).

OER projects can expand access to learning for everyone, but most of all for non-traditional groups of students, thus widening participation in higher education. They can be an efficient way of promoting lifelong learning, both for individuals and for government, and can bridge the gaps between non-formal, informal and formal learning (OECD, 2007). In other words, OER provide quality, affordable educational materials adaptable to the broadest range of teaching and learning needs.

David Wiley’s framework of 5Rs describes what can be done with OER: *Retain*: the right to make, own and control copies of the content; *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); *Revise*: the right to adapt, adjust, modify or alter the content itself (e.g., translate the content into another language); *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); *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) (Wiley, 2014).

## 2.2 The nature and types of OER

OER include learning objects such as lecture materials, references, readings, simulations, experiments, and demonstrations, as well as syllabi, curricula, and teachers’ guides (UNESCO, 2002). These are resources that can be used to support instructional activities as well as for the purpose of learning. Wiley (2006) categorizes OER into two broad types: (a) OER designed for teaching and (b) OER designed for studying. Examples of OER designed for teaching include a set of presentation slides, syllabi, skeletal lecture notes, etc. These resources are designed on the assumption that they will be used by people with considerable knowledge in the content area. OER designed for studying include such materials as video lectures, interactive quizzes, and instructional simulations. These materials are usually heavy in content and are specifically designed to support learning.

OER are available in different formats. The most common format is the textual format. Textual OER take a variety of forms (Wiley, 2006), including HTML, XML, and PDF. Audio OER contents are mostly in MP3 format while video contents are in MP4. OER are also available in many different languages. The majority of OER are created in the English language and must be adapted to other languages for use by non-English speakers. Although OER are mostly seen as digital materials (OECD, 2007), print materials can be considered OER if such materials are open to modification, reuse, and dissemination. In the literature, OER often is used interchangeably with open courseware (OCW) (UNESCO, 2002; The OECD, 2007). However, while all OCW materials can be regarded as OER, not all OER are OCW materials. A subset of OER, OCW are teaching and learning materials made publicly available by higher educational institutions through the use of open licenses. As the use of OCW

and other types of OER continues to grow, it is important to continually learn more about the resources and how they are being used by different groups across the globe. Figure 2.1 is a typical model

of Open Educational Resources in the Open University London.

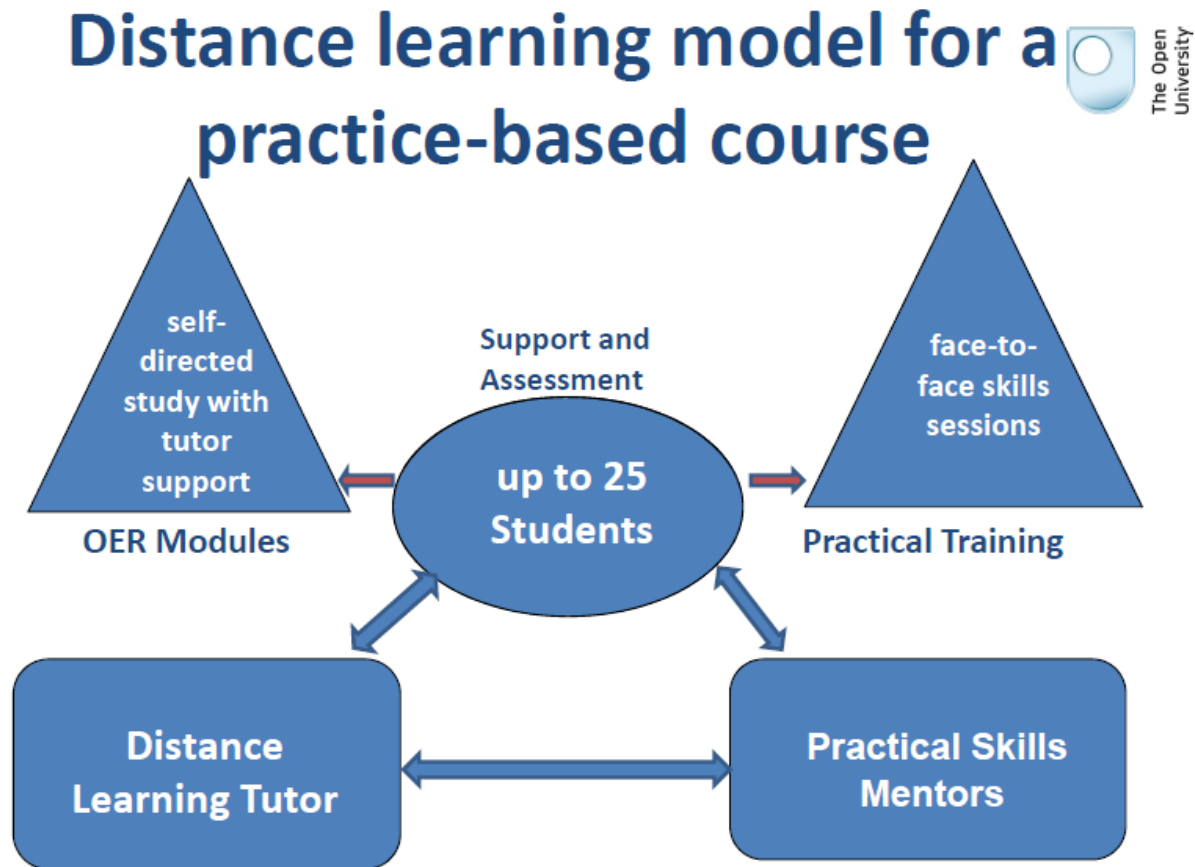


Figure 2.1: Open Educational Resources Model (The Open University London, 2017)

### 2.3 The Case Study OER Model

NOUN was established in 1983, suspended in 1984 because the government perceived it to have a lack of infrastructure in the ODL mode, then subsequently reopened in 2002. As an ODL institution, NOUN strives to provide education for all and promote lifelong learning. NOUN's OER activities started in August 2014 with the establishment of an OER unit under the Vice Chancellor's office. NOUN in collaboration with UNESCO and COL had engaged in capacity building in this area. NOUN, being an ODL institution, currently has e-courseware comprised of approximately 2,000 course material items, of which 33 have been converted to OER so far. NOUN has an OER policy approved by the university's senate in June 2016. NOUN's licence type is CC BY-SA.

NOUN is providing a good blend of academic professionals, continuing education extension and training programmes through the ODL system. Its OER is an ODL Model characterised by up front development of self-study educational resources that have to be paid for over time through use with larger student cohorts (typically in the hundreds per annum) than for conventional face-to-face classes. Based on this study, the researcher conceptualize Open Educational Resources as (Independent variable) and quality educational resources for teaching and learning as (dependent variable), access to quality knowledge repositories for learners, teachers and researchers as (dependent variable) and Open Educational Resources cost effectiveness as (dependent variable) and distance learning education as (dependent variable)

### Conceptual framework of the study

<b>Open Educational Resources (Independent Variable)</b>	<i>Quality Educational Resources for Teaching and Learning (Dependent variable)</i>
	<i>Access to quality knowledge repositories for learners, teachers and researchers (Dependent Variable)</i>
	<i>Cost Effectiveness of OER (Dependent variable)</i>

**Table 2.1: Distance Learning Education and Open Educational Resources Model**  
 Source: The Author (2018)

### 3. METHODOLOGY

The research design adopted for this study was the survey design because the study involved the use of a representative sample of 252 drawn from a population of 580 students in school of Nursing Lagos Study Centre National Open University of Nigeria. Conclusions were drawn based on the analysis of the available data. The stratified simple random sampling, techniques were used to select a representative sample of the students for the study.

#### Instrumentation

The instrument for data collection was a questionnaire constructed by the researcher and titled, "Open and distance learning Access and balanced development questionnaire" (ODLABDQ) for students. It comprised two sections. Section one sought personal data such as sex, age, years of experience and qualification of the respondents, while section two consisted of questions based on the other variables such as educational qualification, manpower development and productivity. A 4 – point likert type scale was used from Strongly Agree (SA) to Agree (A), Disagree (D) and Strongly Disagree (SA). The respondents were required to express their degree of agreement or disagreement with the items by marking one of the four options.

The instrument was given to experts on test and measurement and colleagues who vetted the

#### Research Question One

Does Open Educational Resources has capacity to provide quality educational resources for teaching and learning in National Open University Nigeria?

**Table 4.1: Pearson 'r' on Open Educational Resources and Quality Teaching and Learning in NOUN**

Variables	Mean	DF	r	r-Crit	Level of Significance	Decision
Open Educational Resources	79.7	250	1.0	0.139	0.05	Significant
Teaching & Learning in NOUN	172.3					

Table 4.1 showed that the r-calculated of 1.00 is higher than the r-critical value of 0.139 at 0.05 level of significant revealed that Open Educational

instrument and it was found correct for both face and content validity.

The researcher conducted a reliability study in three centres with 30 students who were not included in the selected sample to ascertain its reliability. The reliability coefficient of 0.86 was obtained. This was high enough to consider the instrument reliable. The instrument was administered on the respondents. Questionnaire were filled and collected on the spot to avoid attrition. Out of 252 copies of instrument administered, 250 copies were correctly filled and returned. Thus, giving 99.2% return rate.

Administration of the instrument took two weeks.

All positively worded items in the instrument were scored 4 points for Strongly Agree (SA), 3 points for Agree (A), 2 points for Disagree (SD) and 1 point for Strongly Disagree (SD). The scoring method was reserved for all negatively worded items. The data collected were analyzed using Pearson product statistics.

### 4. RESULT AND DATA ANALYSIS

The total number of students who participated on this study was two hundred and fifty two students. But only one two hundred and fifty students returned the questionnaire which were found useful for analysis. Results of the statistical analysis of the data are presented in the following tables:

Resources has capacity to provide quality educational resources for teaching and learning in National Open University Nigeria. Findings from this study is in

agreement with UNESCO (2002) declaration that Open Educational Resources have been designed to provide quality educational resources for use in teaching and learning among distance learning

institute and 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.

### Research Question Two

Is there any significant relationship between distance learning education and OER ability to enhance access to quality knowledge repositories for learners, teachers and researchers in National Open University Nigeria?

**Table 4.2: Pearson 'r' on Open Educational Resources and Access to Quality Knowledge Repositories NOUN**

Variables	Mean	DF	r	r-Crit	Level of Significance	Decision
Open Educational Resources	79.7	250	0.98	0.139	0.05	Significant
Access to quality Knowledge Repositories	174.9					

Table 4.2 showed that the r-calculated of 0.98 is higher than the r-critical value of 0.139 at 0.05 level of significant, thus Open educational resources would enhance access to quality knowledge repositories for learners, teachers and researchers in National Open University Nigeria. Finding above is consistent with the proposition of COL (2017) that Open Educational Resources (OER) would help in the provision of quality alternatives for teaching and learning; stimulate increased equal access to quality educational resources; reduce the cost of textbooks;

### Research Question Three

Will the integration of OER in distance learning education expand access to higher education and training provision in a cost effective manner?

**Table 4.3: Pearson 'r' on Open Educational Resources and Access to Quality Knowledge Repositories NOUN**

Variables	Mean	DF	r	r-Crit	Level of Significance	Decision
Open Educational Resources	79.7	250	0.88	0.139	0.05	Significant
Cost Effectiveness of OER	172.7					

Table 4.3 showed that the r-calculated of 0.88 is higher than the r-critical value of 0.139 at 0.05 level of significant, therefore the integration of OER in distance learning education will expand access to higher education and training provision in a cost effective manner. Finding result supported COL (2017) assertion that the development of Open Educational Resources is a potential answer to distance learning education challenges, as it provides governments, institutions, organisations and individuals with access to some of the best materials available globally, allowing them to adapt the materials to fit local contexts and reduce the costs associated with materials and course development.

### 5. CONCLUSION AND RECOMMENDATION

This research has contributed immensely to the knowledge on distance learning education and Open

and help enhance access to quality knowledge repositories for learners, teachers and researchers. OER also offer additional opportunities to supplement face-to-face learning and the ODL system, and they can complement the content students receive from their lectures. They can help academics to contextualize global practices and can promote a healthy academic culture of knowledge sharing and openness amongst academics; thus, lecturers can be sharers rather than hoarders of knowledge.

Educational Resources in National Open University of Nigeria. Based on the findings derived from this study it can be concluded that Open Educational Resources has capacity to provide quality educational resources for teaching and learning in National Open University Nigeria, that Open educational resources would enhance access to quality knowledge repositories for learners, teachers and researchers in National Open University Nigeria and that the integration of OER in distance learning education will expand access to higher education and training provision in a cost effective manner. There is need for reengineering and integration of open educational resources in National Open University of Nigeria (NOUN) with learning management system software. Furthermore, Individuals developing quality OER shall be appropriately acknowledged, and institutions

shall be persuaded to institute their own mechanisms for rewarding and acknowledging champions supporting OER integration into teaching and learning. Finally, Training programmes on copyright and OER shall be supported through appropriate schemes and institutions shall conduct such programmes on a regular basis.

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