# Lecturers' Awareness and Readiness towards the Adoption of Open Educational Resources for Teaching in Tertiary Institutions in Niger

## State, Nigeria

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#### Abstract

This study was carried out to investigate lecturers' awareness and readiness towards the adoption of Open Educational Resources (OER) for teaching in tertiary institutions in Niger State, Nigeria. Descriptive survey research design was employed and lecturers in tertiary institutions in Niger State were used as research sample. Four research questions guided the study and a 20-item questionnaire was used as instrument for data collection. The questionnaire was validated by educational technology experts. Pilot test was carried out and reliability coefficients of 0.90 and 0.87 were respectively obtained for the two sections of the questionnaire. Data collected from the administration of the research instruments were analyzed using descriptive statistics of Mean and Standard Deviation. A decision rule was set, in which a mean score of 3.0 and above was considered Agreed, while a mean score below 3.0 were considered Disagreed. Findings revealed that lecturers have high awareness of OER with grand mean score of 4.02. Also, lecturers' response indicated readiness to adopt Open Education Resources with a grand mean score of 3.94. Based on these findings, it was recommended that school administrators should encourage lecturers to adopt and use OER in teaching and learning setting by providing enabling environment.

**Key Words:** Open Educational Resources, Awareness, Readiness, Adoption, Gender, Tertiary Institutions.

#### **1. INTRODUCTION**

The role and importance of education as an instrument of development and growth in our society cannot be overlooked as it affects the national development. Investment in education sector can be regarded as a business with greatest profits. In this twenty-first century, there have been a lot of interests on how computer and internet as part of technological advancement can be integrated fully into educational sector to improve the efficacy of education at all levels, especially in higher institutions in developing country like Nigeria (Jaganath, Girish, Savitha, Sushma, &Veemakumari, 2013).

This era is characterized by the rapid growth of spreading information with the use of technological tools. This technological age does not depend on agriculture as of the primitive people but depend much on information which has drastically reshapes our society to a greater extent. Renu and Sameer (2002) are of the view that information has brought a challenging issues between developed, developing and under-develop countries, thereby producing a society driven by information technology.

Information and Communication Technology can be used as a great tool for sustainable development and empowering people for global competitiveness so also is the use of ICT and its tools, which have experienced tremendous growth in the recent past in various disciplines due to its vast effect on all facets of human endeavours (Brakel & Chisenga, 2003). The high demand placed on education by our society can be effectively responded to through the use of technological tools in all educational sector in Nigeria. With the advancement in technology, digital resources such as; prints, audio, video and software among others can be used, re-used, adapted, copied and can be shared for free, since they are freely provided (Mulder, 2008). The advancement of Information and Communication Technology (ICT) and the Internet has been the driving force behind new mode of teaching and learning which has transformed the entire academics settings and altered the educational equation in a fundamental way (Aduwa-Ogiegbaen, 2013).

The price of textbooks and rising value of training at many institutions locally and internationally makes many lecturers not to have interest or the funds to shop for more textbooks. Lecturers could not put together proper lecture materials due to unavailability, inaccessibility and unaffordability of present day academic sources such as textbooks, software program, images, videos open educational resources

among others. Open Educational Resources (OER) are approaches to cater for this problem and increase educational right of entry and fairness for teachers and students across the globe. It could lessen the cost of colleges and higher institutions, and the quality of methodology by way of ensuring that OER, which includes open textbooks, are freely obtainable for postsecondary courses and that OER-based degree pathways are broadly reachable in local and international higher institution (Atkin, Brown & Hammond, 2007).

Open Educational Resources (OER) are online academic materials which might be unfastened and freely to lay hands on, they are appropriate not only for higher institution only but also for all levels consisting of primary and secondary education. OER may be reused and repurposed to accommodate different desires and may be available in any medium, print, audio, video, digital. One key distinction between OER and other forms of educational resources is that OER has an open license, which permits edition and reuse while not having to request the copyright holder (UNESCO). One of the main aims and objectives of UNESCO is to create awareness of OER, so that lecturers from different discipline may know the importance of OER in teaching and learning process.

Awareness is the ability to perceive, to feel or the state of being conscious of something. Lecturers' awareness of OER will help them to locate the necessary free materials that are available for them to use. Though many lecturers in the higher institutions of learning may be aware of the existence of OER, but what is their perception about the use of OER.

Adoption is the process of embracing what has been in the existence (materials in the public domain) and make use of it for educational purpose. Adoption of OER may prove to be a solution for addressing major challenges of Higher education like; high cost, huge infrastructure, quality of teachers, huge teacher's deficit etc. especially in developing countries. Adoption of OER by learning institutions is changing the landscape of education everywhere and hence, provides a strategic opportunity to dramatically improve both the accessibility and the quality of education worldwide.

Gender is an idea and an analytical device used to explain and recognize the family members and variations between men and women in society. Gender is socially and culturally constructed differences among males and females. Therefore, the manner gender works varies from place to place and time to time. Onasanya, Fakomogbon, Shehu and Soetan (2010) argued that there was no correspondence in the male and female usage of ICTs for acquisition of knowledge. Gender refers to the socially constructed characteristics of men and women, such as; role, norm, relationship of and between groups of men and women.

Tertiary institution, which is also referred to post-secondary training in Nigeria is the training following a hit final touch of secondary education. Folarin (2016) defined tertiary education as an institution of higher learning that train specific disciplines in the capability of higher learning. The Nigeria's intention of higher institution is channeled towards higher education through high degree manpower education, self-reliance, national application and worldwide understanding. Federal Republic of Nigeria (FRN, 2009), in pursuit of this aim, higher institution is stratified into stages which encompass Universities, Polytechnics, Monotechnics, Colleges of Education, among others (Amaghionyeodiwe & Osinubi, 2006). Also higher institution comprises of academic staff, non-academic staff and students of both gender. Presently, textbooks are few and they are not current and the cost of buying new ones are high. There are abundant open course materials that exist online for free in all field of study, but lecturers in developing country like Nigeria have not been using it, could it be that lecturers in higher institution in Nigeria are not aware and informed? If they are aware of it, are they ready to adopt OER's materials?

#### 2. RESEARCH QUESTIONS

The study provided answers to the following research questions:

(1) Are lecturers aware of the existence of Open Educational Resources for teaching in Niger State?

(2) Are lecturers in tertiary institutions in Niger State ready to adopt open educational resources for teaching?

(3) Does gender influence lecturers' awareness of Open Educational Resources for teaching in tertiary institutions in Niger State?

(4) Does gender influence lecturers' readiness towards adoption of open educational resources?

#### **3. RESEARCH HYPOTHESES**

The following null hypotheses were tested in this study:

Ho<sub>1</sub>: There is no significant difference between male and female lecturers' awareness level of the existence of Open Educational Resources for teaching.

Ho<sub>2</sub>: There is no significant difference between male and female lecturers' readiness to adopt Open Educational Resources for teaching.

## 4. METHODOLOGY

The research design that is adopted for this study is a descriptive research design. The methodology involved the use of questionnaire to elicit needed responses from lecturers on their awareness and readiness towards the adoption of open educational resources for teaching.

The population for this study comprises all lecturers from tertiary institutions in Niger State. There are six tertiary institutions in Niger state. The target population for this study will comprise 197 education lecturers in four higher institutions of learning in Niger State. A multi-stage sampling technique was employed in selecting respondents for this study. In the first stage, the purposive sampling procedure was used to select four tertiary institutions of learning in Niger State, which are all owned by the state and the federal government because education courses are offered in these institutions. Sample selected cut across both the male and female lecturers in the selected tertiary institutions of learning.

Thereafter, 136 education lecturers were sampled based on their availability, representing 69% of the population. Nine (9) out of the 136 questionnaires that were retrieved were discarded by the researcher because they are not valid. The remaining127 respondents' data were analyzed, which represent 64% of the total population. Education lecturers were selected because, it is difficult to sample lecturers from all academic disciplines and considering the fact that the only faculty that is mostly common to all institutions in Niger State is faculty of education.

The research instrument that was used in this study to collect needed data is questionnaire and it was designed by the researcher. The questionnaire is titled "Lectures Awareness, Perception and Readiness to Adoption of Open Educational Resources Questionnaire (LAPRAQ)". The questionnaire was divided into three sections; section A, which consists of demographic information about the respondents. Section B, consists of ten items to assess Lecturers' level of Awareness of Open Educational Resources, and Section C, consists of ten items on lecturers' readiness to adopts Open Educational Resources for teaching using five-point rating scale.

The questionnaire was validated by three lecturers, all from the Department of Educational Technology, Federal University of Technology Minna. Their suggestions were used to modify and improve the items. To determine the internal consistency among the items of the questionnaire, a pilot test was carried out using 10 respondents from college of education Minna. The administration was done once and a reliability coefficient of 0.90 and 0.87 from the variable awareness and readiness respectively was obtained using Cronbach Alpha formula. Based on the coefficient obtained, the questionnaire was considered reliable.

The data collected was analyzed using descriptive. The descriptive statistics was used to provide answers to the research questions using mean and standard deviation. A five-point rating scale of Strongly Agree (SA, 5 points), Agree (A, 4 points), Undecided (U, 3 points), Disagree (D, 2 points) and Strongly Disagree (SD, 1 point) was used in weighing responses to items in the questionnaire. In section B of the questionnaire, the mean response below 3.0 was adjudged as not aware, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged not ready, while mean response of 3.0 and above was adjudged ready. The Statistical Package for Social Science (SPSS Version 23) was used for the analysis.

### 5. RESULTS

In this section, Table 1-6 are presented with their interpretations tailored towards

providing answers to the research questions raised to guide this study.

Table 1: Mean and standard deviation of lecturers' response on awareness of open educational resources.

S/N	Item	Ν	$\overline{x}$	Std. Dev	Decision
	I am aware that				
1	Open Educational Resources (OERs) is in existence.	127	4.23	0.80	Agree
2	OERs are readily available for use, reuse and research.	127	4.20	0.92	Agree
3	OERs provide quality free materials for teaching.	127	4.02	1.07	Agree
4	OERs can be used for teaching.	127	4.08	1.03	Agree
5	OER could be used to compliment normal class teaching	127	3.94	1.10	Agree
6	OERs can be freely shared.	127	3.79	1.04	Agree
7	OER can provides feedbacks to teaching and learning activities	127	4.02	0.89	Agree
8	OERs could foster collaboration and innovation among lecturers.	127	4.16	0.90	Agree
9	OERs encourage globalization of curriculum.	127	3.84	1.10	Agree
10	Adoption of OER can advance openness and sharing of intellectual property.	127	3.89	0.85	Agree
	Grand Mean		4.02		Agree

Decision mean = 3.0

Table 1 shows the Mean and Standard Deviation response of lecturers' awareness of open educational resources. The table shows the calculated mean score of 4.23 with Standard Deviation of 0.80 for item one, mean of 4.20 with Standard Deviation of 0.92 for item two, mean of 4.02 with Standard Deviation of 1.07 for item three, mean of 4.08 with Standard Deviation of 1.03 for item four, mean of 3.94 with Standard Deviation of 1.10 for item five, mean of 3.79 with Standard Deviation of 1.04 for item six, mean of 4.02 with Standard Deviation of 0.89 for item seven, mean of 4.16 with Standard Deviation of 0.90 for item eight, mean of 3.84 with Standard Deviation of 1.10 for item nine and mean of 3.89 with Standard Deviation of 0.85 for item ten. The table reveals further that, the grand mean score of responses to the 10 items is 4.02 which was greater than the decision mean score of 3.0. This implies that lecturers in

tertiary institutions in Niger State are aware of the existence of open educational resources.

Table 2: Mean and standard deviation of lecturers' response on readiness to adopt open educational resources for teaching.

	open educational resources for teaching.				
S/N	Item	Ν	$\frac{1}{x}$	Std. Dev	Decision
1	I am ready to use OER's in text, audio or video format for my teaching.	127	3.99	0.97	Agree
2	I am ready to adopt OER's for teaching to fulfil global academic requirement.	127	3.91	0.84	Agree
3	I am ready to use knowledge of ICT for accessing OER's materials.	127	4.18	0.76	Agree
4	I am ready to learn about effectiveness and efficiency of OER's for my teaching.	127	3.96	0.81	Agree
5	I am ready to share educational resources for others to use.	127	3.98	0.80	Agree
6	I am ready to use OER's because they are available at reduced cost.	127	3.85	0.93	Agree
7	I am ready to use OER's because it can be reused without copyright.	127	3.76	0.75	Agree
8	I am ready to use OER portal related to my discipline.	127	3.80	0.92	Agree
9	I am ready to interact with other OER users.	127	4.05	0.83	Agree
10	I am ready to use OER's to enhance my teaching pedagogy.	127	3.96	0.86	Agree
	Grand Mean		3.94		Agree

Decision mean = 3.0

Table 2 shows the Mean and Standard Deviation response of lecturers' readiness to adopt open educational resources for teaching. The table shows the calculated mean score of 3.99 with Standard Deviation of 0.97 for item one, mean of 3.91 with Standard Deviation of 0.84 for item two, mean of 4.18 with Standard Deviation of 0.76 for item three, mean of 3.96 with Standard Deviation of 0.81 for item four, mean of 3.98 with Standard Deviation of 0.80 for item five, mean of 3.85 with Standard Deviation of 0.93 for item six, mean of 3.76 with Standard Deviation of 0.75 for item seven, mean of 3.80 with Standard Deviation of 0.92 for item eight, mean of 4.05 with Standard Deviation of 0.83 for item nine and mean of 3.96 with Standard Deviation of 0.86 for item ten. The table reveals further that, the grand mean score of responses to the 10 items is 3.94 which was greater than the decision mean score of 3.0

implies that lecturers' in tertiary institutions in Niger State are ready to adopt open educational resources for teaching.

*Table 3: Mean and standard deviation response on gender of lecturers' awareness of open educational resources.* 

Gender	Ν	$\overline{x}$	Std. Deviation
Male	92	79.52	13.96
Female	35	79.09	9.91
Total	127		

Table 3 shows the mean and standard deviation of male and female lecturers mean awareness score towards existence of open educational resource. The result indicated that the mean and standard deviation of the two groups differ with a mean score of 79.52 with standard deviation of 13.96 for male lecturers and mean score of 79.09 with standard deviation of 9.91 for female lecturers.

Table 4: Mean and standard deviation response on gender of lecturers' readiness to adopt open educational resources for teaching.

Gender	Ν	$\frac{1}{x}$	Std. Deviation
Male	92	80.24	10.02
Female	35	73.31	13.20
Total	127		

Table 4 shows the mean and standard deviation of male and female lecturers mean readiness score to adopt open educational resource for teaching. The result indicated that the mean and standard deviation of the two groups differ with a mean score of 80.24 with standard deviation of 10.02 for male lecturers and mean score of 73.31 with standard deviation of 13.20 for female lecturers.

**5.1 Hypothesis 1:** There is no significant difference between male and female lecturers' awareness level of existence of open educational resources.

To test this hypothesis, sample t-test independent is applied on the male and female lecturers' response score regarding their awareness level of the existence of open educational resources as presented in Table 5.

resour	ces				
Ν	df	$\frac{1}{x}$	S.D	t-value	p-value
92		79.52	13.964		
	125			0.169 <sup>ns</sup>	0.866
35		79.09	9.910		
	N 92	92 125	$\begin{array}{c cc} N & df & \overline{x} \\ \hline 92 & 79.52 \\ 125 \end{array}$	N         df         x         S.D           92         79.52         13.964           125         125	Ndf $\overline{x}$ S.Dt-value9279.5213.9641250.169 <sup>ns</sup>

Table 5: t-test result of male and female lecturers' awareness of open educational resources

NS: Not Significant at 0.05 level

Table 5 presents the result of t-test analysis of lecturers' gender on awareness of OER. The mean score of the male and female are 79.52 and 79.09 respectively. The t-value of 0.169 was not significant at 0.05 alpha level, and the p-value of 0.866 is greater than 0.05. Therefore, hypothesis one was accepted. This indicates that there is no significant difference between male and female lecturers' awareness level on the existence of open educational resources. This implies that both male and female lecturers are aware of the existence of open educational resources.

**5.2 Hypothesis 2:** There is no significant difference between male and female lecturers' perception of open educational resources.

To test this hypothesis, sample t-test independent is applied on the male and female lecturers' response score regarding their readiness to adopt open educational resources for teaching as presented in Table 6.

Gender	Ν	df	$\frac{-}{x}$	S.D	t-value	p-value
Male	92		80.24	10.015		
		125			3.178	0.002
Female	35		73.31	13.195		

 Table 6: t-test result of male and female lecturers' readiness to adopt open educational resources for teaching

S: Significant at 0.05 level

Table 6 presents the result of t-test analysis of lecturers' gender on perception of OER. The mean score of the male and female are 80.24 and 73.31 respectively. The t-value of 3.178 was significant at 0.05 alpha level, and the p-value of 0.002 is less than 0.05, therefore, hypothesis three was rejected. This indicates that there is significant

difference between male and female lecturers' readiness to adopt open educational resources for teaching. This implies that both male and female lecturers have different attitude towards the adoption of open educational resources for teaching.

#### 6. DISCUSSION OF FINDINGS

Finding of this study on the level of awareness on the existence of open educational resources by lecturers in tertiary institutions in Niger State, Nigeria indicated that lecturers are aware of the existence of open educational resources. This finding is in line with the earlier findings of Harishankar (2015), and Hart, Yuraisha, and Elizabeth (2015), who found out that lecturers are aware of the existence of open educational resources. This study contradicts the earlier finding of Prasad and Usagawa (2014), who found out that lecturers are not aware of the existence of open educational resources.

Hypothesis one finds out if there is significant difference between male and female lecturers' awareness level of existence of open educational resources. The result shows that gender has no influence on lecturers' level of awareness of the existence of open educational resources with the mean of 79.52 for male and 79.09 for female and the p-value of 0.866 which is not significant at 0.05 alpha level. This finding is in line with the earlier findings of Harishankar (2015), and Hart, Yuraisha, and Elizabeth (2015), who found out that lecturers are aware of the existence of open educational resources. The lecturers' awareness of open educational resources was due to their attendance of seminars, conferences and workshops. Also their awareness was due to the fact that, they have smart phone in which they use to surf internet to broaden their knowledge in their area of discipline which has helped them to come across open educational resource materials.

Finding of this study on lecturers' readiness to adopt open educational resources for teaching in tertiary institutions revealed that lecturers are ready to adopt and use open educational resources for their teaching with the grand mean of 3.94 which is greater than the decision mean of 3.0. This finding is not in agreement with Harishankar (2015), who found out that lecturers are ready to embrace open educational resources for teaching. This present finding is in agreement with Cox and Trotter (2017), who found out that lecturers are ready to adopt and use open educational resources.

Hypothesis three finds out if there is significant difference between male and female lecturers' readiness to adopt open educational resources for teaching. The result shows that gender has influence on lecturers' readiness to adopt open educational resources for teaching. The lecturers are ready to adopt open educational resources for their teaching because it will give them wide range of information about a particular concept from different authors. Also OER's material can be repurposed and be edited to suit the purpose they want to use it for.

#### 7. CONCLUSION

Findings of this study has revealed that lecturers in tertiary institutions in Niger State are aware of the existence of open educational resources. Although there is gender difference towards the usage and adoption of open educational resources for teaching. For optimum teaching and global interaction point with other lecturers, open educational resources should be used by lecturers to supplement their teaching pedagogy, lecturers can encourage students to use open educational resources, so that they can get extra information aside from the normal class materials given to them by their lecturers. The use of open educational resources when it is well tailored would in no doubt improve the teaching and learning process.

#### 8. RECOMMENDATIONS

Based on the findings that emanated from this study, the following recommendation were made:

- Lecturers in tertiary institution should be encouraged to adopt open educational resources and use it for their teaching. This will enhance their teaching methods and provide them with supplementary materials for teaching.
- 2. Tertiary institutions should provide stable power supply, Information and Communication Technology facilities for lecturers which will aid them to have easy access to open educational resources materials.

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