Open Educational Resources' Adaptability and Institutional Supports for Lecturers of Open and Distance Education Universities in Nigeria

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ABSTRACT

The use of Open Educational Resources (OER) in distance education helps in improving the quality of distance education through free sharing of ideas. In Nigeria, there are two modes of distance education – single and dual. The single mode institution operates only open and distance mode while the dual mode institutions operate both the conventional face-to-face and distance modes. But it is observed that the adaption of OER by lecturers and institutional supports for active participation seems to be lacking. This study, therefore, examined the institutional supports and the use of OER among lecturers in the institutions by stating two hypotheses. Survey research design was used for the study with population of 5,315 academic staff in Nigeria Distance Universities as at the time of study; out of which 12.98% making 690 academic staff were sampled. Questionnaire was used to collect data. The hypotheses were tested using independent sample t-test at 0.05 level of significance. The findings revealed that academic staff in single mode institutions receive higher incentives that promote OER than the academics in the dual mode; the academic staff mostly adapt OER for academic purpose; while most academics use OER unknowingly. The quality of the use of OER in distance education requires institutional

support.

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Introduction

Open Educational Resources (OER) movement originated from the 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 emerge in the late 20th century (Wiley, 2006). The progression of OER was in three stages. First, was making quality knowledge available to all through learning content in form of full courses, collections and journals. The second stage was to provide tools to support the development, use, reuse and delivery of the learning content. Finally, how the content created can be conserved for quality which included intellectual property licenses to promote open publishing of materials, design principles of best practices, and localisation of content. Downess (2006) describes the 4As of OER as: Accessibility, Appropriate, Accredited and Affordable. With Creative Commons (CC) licenses, learners can find

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and incorporate free materials for reports and presentations; educators can customize textbooks and lesson plans; universities can distribute video lectures to a global audience; and publishers can adapt materials and develop services for an enhanced learning experience. The OER movement has enormous potential to yield much wider access to global education, but only if a critical mass of educational institutions and communities embrace openness. 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 materials (Hylen , 2008),.

Commonwealth of learning (2011) observed that academic staff in higher institutions is the vital agents in ensuring the quality of teaching and learning. To achieve this, teachers face many challenges in terms of time constraints in preparing curriculum, access to high quality relevant teaching/learning materials, changing teaching learning environment, need to update ICT skills, high students' expectation among others. Technical, economic, social and legal challenges hinder higher educational institutions in the use of OER (Organisation for Economic Cooperation and Development , 2001).

It is, therefore, suggested that academic staff in higher education institutions are to possess requisite knowledge and skills in the use of OER. Higher education institutions can play critical role in supporting their teaching staff in the creation of effective teaching and learning environments and produce opportunity for professional development.

Many universities are taking the benefits of the use of OER. Hylen (2008) reported that over 150 universities in China participated in China Open Resources for Education initiative while 11 top universities in France have formed the Paris Tech Open Courseware (OCW) project as a means of enhancing teaching and learning in educational institutions. There is a spread of the use of OER across the globe.

There are variations in the reports of researchers on the awareness and usage of OER especially those conducted in the same year. The studies of Rolf, and Ipaye and Ipaye (2012) showed a low percentage of awareness while the studies of Okonkwo and Reed (2012) showed a high percentage of awareness. The variation may have arisen due to different sample and sample sizes. However, it should be a concern mostly for Nigerian researchers since Ipaye and Okonkwo carried out their researches in Nigeria with different results. This calls for further researches.

The use of electronic journals and books as presented by Agber and Agwu (2013) is an indication of the use of OER. What is observed is that some people use OER without knowing that they are participating in OER. An increase in awareness and usage of OER is evident in the findings of Hart, Chetty & Archer (2015) who found that 73.5% of academics in higher institutions are aware of OER with comprehensive understanding of what

constitute OER as regard resources that are freely accessed, reused, modified and shared; licensed openly or as public domain; free of cost to access; use for commercial purposes if so licensed; and free of cost to develop. But a decline was recorded in more recent studies.

The study carried out by Kisanga (2016) on determinants of teachers' attitudes towards e-learning in Tanzania higher learning institutions revealed that only 53% of the teachers had positive attitude towards the use of OER. The positive attitude was attributed to their computer experiences particularly at their place of work. The study of Chong, Wahab, Lee and Pek-Hoon Er (2016) showed that 38.4% are aware of OER, 31.9% use OER and only 14.5% contribute to OERs. Also, Shigete, Koizumi, Sakai, Tsuji, Inaba and Hiraoka (2017) survey on awareness, offering, and adoption of OERs and MOOCs in Japan, 57.2% OER awareness was recorded in institutions that are four years and the level of adoption was 13.6%. It was found that the rate of offering and adopting OERs were quite low.

Mckerlich, Ives and McGreal (2013) study on measuring the use on creation of open educational resources in higher education with a sample of 109 found that only 45% were users of OER and the types of OER used included scholarly journal access, video, images, textbooks, audio and only 29% staff were involved in creating OER in tutorials, quiz, audio, video, images, group of lessons, textbooks, scenarios case studies, software, game, animation, maps. The factor to increase OER as found in the research include academic quality; time to find, review, select; knowledge about OER; desire to reduce costs for students; hardware/ software to facilitate usage; environmental concerns; support from administration; course team support and recognition.

Commonwealth of Learning has listed ten most potential factors why people need to adapt OER. These are cultural elements and contexts that can facilitate better comprehension; study advice; activities which trainees may undertake during the training or as follow up; examples drawn from the country's national experiences and the local environment; self-tests; summaries; assessment material; links to local resources; case studies; and additional media elements such as an audio tape or a web site. Adaptation could also be done according to needs (stakeholders, pedagogic goals etc.) and in line with the basic steps of OER re-use. Paulsen (2005) linked this to localisation in e-Learning and pointed out that *planning for localization should start before a core course is designed.*

In Nigeria, Open and distance education is being embraced in the educational system. Nigeria has two modes of distance universities – Single and dual thereby has only one single open and distance university, and eight dual distance universities. The Open and Distance University is considered single because it is licensed to operate only at a distance and it is open in terms of its flexibility in access and mode of study. The eight dual distance

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universities are part of the main universities licensed to provide university education through the conventional face-to-face and at a distance. With these modes, the distance centres in the dual mode universities have opportunity to share resources met for the face-to-face contact. However, the use of OER enhances the success of open and distance learning being it single or dual. But it is observed that the adaptation of OER by lecturers and institutional supports for active participation in OER had not been encouraging. It is on this note that this study examined readiness and institutional supports for OER among lecturers of distance education universities in Nigeria with consideration to the mode of delivery instructions and lecturers gender.

Objectives
The following objectives guided the study:
1. To identify areas of institutional supports available to academic staff for the use of OERs.
2. To analyse the purposes for which academic staff in distance education universities in Nigeria adapt OER.

Hypotheses
1.   There is no significant difference in the institutional supports available to academic staff in the single and dual mode distance universities for the use of OERs.
2.   There is no significant difference in the purposes for which academic staff in single and dual distance education universities in Nigeria adapt OER.

Methodology
Research Design
        Survey research design was adopted for the study. The survey research employs applications of scientific method by critically analysing and examining the source materials, by analysing and interpreting data, and by arriving at generalization and prediction.

Population, Sample and Sampling Procedures
        The study was carried out among distance education universities in Nigeria. Five thousand three hundred and fifteen (5,315) academic staff (lecturers) of the five accredited distance education universities in the country as at the time of study formed the population. The dual distance universities that were awaiting accreditation were excepted from the study. Out of the five universities, one was single mode open and distance education university which was accredited to operate only open and distance learning; while the remaining four run dual mode distance education. The

universities in the dual modeare accredited to run both face-to-face and distance university education. Therefore, the universities in the dual mode share both human and non-human resources between the face-to-face and the distance learning centres.

Sample size was 690 making 13% of the total population. To select the sample,the academic staffs in the universities were stratified into existing faculties, departments, staff cadre and genderto enable adequate coverage across programmes of study in the universitiesas represented in Figure 1. A minimum of 1% representation was sampled from each Faculty, Department, Staff Cadre with gender balance.
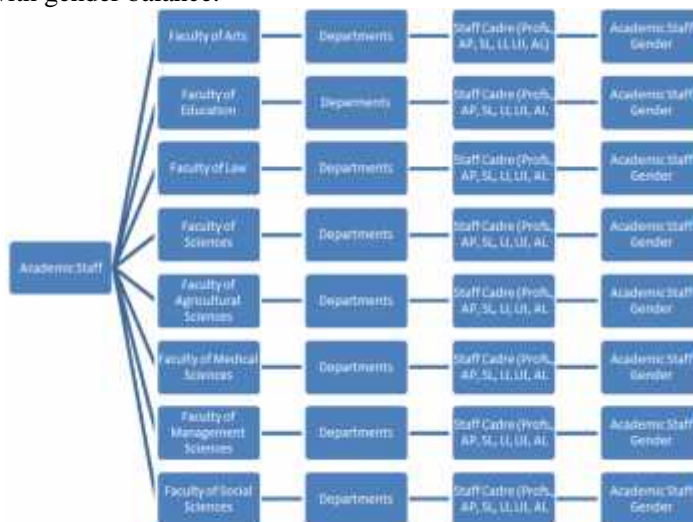

Figure I: Venn Diagram for Academic Staff Stratified Sample

The demographic data of the population and sample used are as shown in Table 1.

Table 1: Institutional Distribution of Population and Sample

Name of Universities	Mode	Academic staff population*	Sample size	Percentage of sample of population
University of Ibadan, Ibadan	Dual	1,700	150	8.82
ModdiboAdama University of Technology, Yola	Dual	600	100	16.67
Obafemi Awolowo	Dual	1,593	135	8.47

University, Ile-Ife				
National Open University of Nigeria, Lagos	Single	370	72	19.46
University of Lagos, Lagos	Dual	1,052	233	22.15
Total		5, 315	690	12.98

*Note: *Academic staff population for each of the universities were as collated as at April, 2016*

Instrumentation

One questionnaire titled, Open Education Resource Readiness and Institutional Support Questionnaire (OERRISQ) was developed by the researchers to capture all aspects of the study. Section A requested for the background information about the academic staff and their institutions in form of gender, discipline, academic status and mode of delivery distance education. Section B was on institutional support to ascertain the type of institutional support provided by each institution. To this end, four Likert scale responses of strongly agree, agree, disagree and strongly disagree were provided. The last section, C was checklist in Yes/No format which enabled the respondents to express their purposes of adapting OERs. The instrument was given to open education resource experts in National Open University of Nigeria for construct validity. With reference to the objectives of the study, the resource experts observed the questionnaire items to ensure that the items measured the intended construct. The suggestions made by the experts were integrated. To test the reliability of the instrument, split-half reliability method was used. The questionnaire was administered to 35 academic staff from University of Lagos, and these were not part of the actual study. The data collected were split into two equal part with odd and even numbers for analysis. Section B was analysed using Cronbach Alpha which gave Reliability Coefficient (r) of 0.78. Cronbach Alpha was used because the section has four degrees of Liker scale. In Section C, the data were analysed using Kuder Richardson-20 which gave Reliability Coefficient (r) of 0.69. Kuder Richardson-20 was found more appropriate to analyse data on Yes/No categories. The result showed that the instrument was reliable and fit for use.

Location of the Study and Data Collection

The data gathering was conducted in five ODL universities in Nigeria. They are: Modibbo Adama University of Technology, Yola; National Open University of Nigeria, Abuja; Obafemi Awolowo University, Ile-Ife; University of Ibadan, Ibadan and University of Lagos, Lagos. One of

these universities operates distance education as single mode while four are dual mode universities. Researchers physically visited each of these universities to administer the instruments. Data collection took three months because the lecturers were busy to give attention to the completion of the questionnaire. By the end of three months, the completed questionnaires were 690 and were subjected to scoring and analysis.

Scoring of Instruments

The filled in questionnaires were scored according to the nature of responses for each of the sub-scale. Section B on institutional support was scored thus: Strongly Agree = 4, Agree = 3, Disagree = 2 and Strongly Disagree =1. Section B had 11 items therefore, 44 was maximum mark obtainable and a minimum mark of 11. Section C which tested usability of OERs was scored as Yes = 1 and No = 0. Section C had 10 items, therefore, 10 was maximum mark and 0 minimum mark.

Data Analysis

Data collected from the study were analysed based on the hypotheses raised. The hypotheses were tested at 0.05 level of significance using independent sample t-test.

Results

Hypothesis 1: There is no significant difference in the institutional supports available to academic staff in the single and dual mode distance universities for the use of OERs.

Table 2: Results of t-test of ODL Institutional Support for OER by ODL Mode of Delivery

Mode of Delivery of Distance Education	N	Mean	Std. Devn.	Std. Error	t	df	P
Single	72	34.444	5.288	.623			
					3.469	688	.001*
Dual	618	31.361	7.321	.294			

*=Significant at P<0.05

The mean institutional supports provided by single mode ODL university was 34.444 while that of dual mode universities was 31.361 as shown Table 2. It is discovered that more institutional supports were received by academic staff in single mode university than those in dual

mode.   The table also shows that the difference in institutional supports between single and dual mode universities on OER was significant (t(688)=3.469; P<.05). It is, therefore, concluded that there is significant difference in provision of institutional supports for OER between single and dual mode distance education universities in Nigeria.

Hypothesis 2:   There is no significant difference in the purposes for which academic staff in single and dual distance education universities in Nigeria adapt OER.

Table 3: t-test of Adaptability of OER by ODL Mode of Delivery

Mode of Delivery of Distance Education	N	Mean	Std. Dev.	Std. Error	t	df	P
Single	72	7.67	3.604	.425			
					1.520	688	.029*
Dual	618	6.02	3.011	.121			

*=Significant at P<0.05

The results in Table 3 reveal that mean adaptability of OER by single mode distance learning universities was 7.67 as against that of dual mode with a mean of 6.02. It implies that academic staff from single mode universities had higher adaptation for using OER than their dual mode counterparts. The results also show that the difference in adaptation of OER between lecturers from single and dual mode universities in Nigeria was significant since t-value of 1.520 at degree of freedom of 688 with a P-value 0.029 which was less than 0.05. Therefore, there is significant difference in open education resources adaptability between single and dual mode distance education universities in Nigeria.

Discussion

From the findings, there is awareness of OER among the academic staff in distance universities in Nigeria. This support previous studies carried out by Ipayeand Ipaye, and Okonkwo (2012). However, with difference in the level of institutional support and usage. It could be said that Management of single mode institutions gave higher institutional support and incentives to academic staff to promote OER than the dual mode counterparts because, thedual mode distance universities share resources

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with their distance learning centres; also, the students in the dual mode distance universities are likely to be having contacts with the regular students in the face-to-face mode. On the other hand, the single mode university has students that are widely spread across the nation. Therefore, in looking for how the students can adequately be enhanced in learning, may be the reason why the management of the single mode institution is encouraging the academic staff on the use of OERs. This further shows that there is high level of awareness on the use of OERs in academics. This supports Okonkwo and Reed (2012), Chetty and Archer (2015), whose findings showed academics in higher institutions are aware of the use of OERs.

The academic staff in the single mode distance university was found to be adapting OERs in academic work more than their counterparts in the dual mode distance universities. Though the study revealed that the adaptation is mostly for preparing for conferences/ seminars/workshops, meeting cross-border requirements, supporting specific pedagogical needs, standardising course curriculum and updating ICT ability. This corroborate Mckerlich, Ives and McGreal (2013) and Agber and Agwu (2013) who found that the type of OER used were scholarly journal, video, images, textbooks, electronic books, electronic journals and audio.

The mode of teaching and learning may have resulted to the more adaptation of OERs by academic staff in the single mode. In the dual mode, students are given time when they must compulsorily be in campus for face-to-face contact which may be two weeks or more. Whereas for the single mode distance learners, there is no such. Rather emphasis is on the quality of the course materials which are written by the academic staff. Therefore, it could be said that the process of gathering materials that will enable the single mode academic staff prepare quality learning materials may have made them to have more interest in the use of OERs. More so that the materials could sometimes earn some points for their promotion especially at the lower level of academics.

Conclusion

Adequate use of OERs enhances global integration and sharing of knowledge and ideas that could help improve the quality of teaching and learning. From the findings in the study, it could be inferred that most academic staff are using OERs without knowing what they are. Some are aware of OER, but it seems that most still do not know how to access and integrate the use. It is also noted that apart from the usage, the academics should also contribute either by remix and use or through creation.

Recommendations

Based on the findings, the following are recommendations.

1. Creation of OERs by the academic staff should be recognised in their promotion to serve as an incentive in their participation and usage.
2. All academics in higher institutions should be supported to use OERs irrespective of the mode of study since it adds value to teaching and learning in the universities.
3. More OER driving facilities (internet facilities, electricity, and computers) should be provided for dual mode ODL universities to enable lecturers to be more involved in OER adaptation.
4. The use of OERs have come to stay in higher education. Therefore, the use and integration of OERs should be considered by educational planners when planning educational activities especially in open and distance universities.

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