Pre-service Teachers' Assessment of Open Educational Resources for Learning and Research in Universities in Kwara State

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Abstract

Open pedagogy or Open Educational Resources (OER) aims to democratize knowledge. Thereby, providing free access to users to become knowledge co-creators and learn by exploring educational resources according to their own interests. Having a platform to explore is not as important as having the required resources to explore the platform. Aside from this, evidence in the literature showed that students in developed countries are avoiding the use of OER despite the availability of required resources to use OER. The question is what will be the situation among developing countries undergraduates who have access to limited resources to utilise OER? This can only be imagined. Thus, this study examined pre-service teachers' assessment of OER for learning and research in universities in Kwara State. Two main research questions were answered descriptively using frequency, percentage, mean and rank ordering. A two-stage sampling technique was employed in selecting 313 pre-service teachers across two universities in Kwara state. A validated researcher-designed questionnaire with a reliability value of 0.83 was employed in collecting data in this study. The outcome of this study indicated that pre-service teachers have access to minimum required resources to access OER and they positively assessed the use of OER for learning and research. In line with this, this study concluded

that OER provides avenue for knowledge democratization. This study thus, recommends that pre-service teachers need to be motivated to keep using OER for learning and research purpose, as this will serve as an enabler in building a greater knowledge-based society.

Introduction

Across the world, priorities have shifted to providing a common education agenda as entrenched in the Sustainable Development Goal 4 (SDG4) which is to ensure equitable and inclusive quality education and lifelong learning for all by 2030. It is expected that by the end of 2030, the educational gap would have been bridged, inequalities in education would have reduced drastically, and remote learning would have become accessible to every student. In achieving these objectives, it is evident that SDG4 is primarily hinged on been driven by Information and Communication Technology (ICT) majorly. In this regard, ICT can be described as a collection of technological resources that facilitate ease of information access, acquisition, and dissemination.

With the permeation of ICT in virtually all educational endeavours, democratisation of knowledge and information becomes implementable. The early information democratization started with the Open Course Ware (OCW) initiative of Massachusetts Institutes of Technology (MIT) in 2001 who made all her courses available for use by anyone at no cost via the Internet (Agbu, *et al.,* 2016). This form of knowledge democratization is termed Open Education Resources (OER) by the United Nations Educational and Scientific and Cultural Organisation (UNESCO), because it underlined the enormous potential to propagate its 'Education for All' ambition. Other term ascribed to this knowledge democratization is open pedagogy. Either OER or open pedagogy, what is most important is the creation of avenues for informal classroom where learners can be trusted to co-create and

learn by exploring according to their own interests, instead of being bored, demeaned, and alienated (Krelja, 2016).

There is no doubt that the traditional approach to information sourcing and research has shifted through the evolvement of ICT and OER. Both play an essential role in acquiring research materials in the digital era. ICT now complements, enrich and transform education for the better. OER is simply described as the educational resources or learning materials that are available online at zero cost to everybody. The Organization for Economic Cooperation and Development (OECD) described OER as digital learning resources offered online freely and openly to knowledge seekers: teachers, educators, students, and independent learners in order to be used, shared, combined, adapted, and expanded in teaching, learning and research (Orr, et al., 2015). In another description, Fitzgerald (2007) described OER as educational materials that are licensed in a manner that will provide users with rights to use them in different ways at no cost.

Machado, *et al.,* (2016) asserted that OER refers to digitalized learning materials offered freely to educators, educational institutions and self-educated students who can use and reuse them to learn and research. Thus, making OER one of the enabling elements of educational innovation. Mortera, et al., (2013) claimed that the use of OERs in learning institutions offer various benefits. These include cost, educational process enrichment, technology appropriation competencies development, educational quality improvement and efficiency, reduction of time needed to source for learning material, and a host of others. OERs are also tools that can boost learning and research. The positive impact of OER on learning and researching is interactive exploration and student collaboration (Bonilla, *et al.,* 2010). The use of OER as a didactic expository strategy presently has a greater acceptance among students in regards to comprehensive reading and information sourcing for their project (Pérez, 2017). This situation coincides with the results from Mortera *et al.* (2013) investigation where 76 % of teachers agreed to using OER to support their teaching.

In another study by Chib, and Wardoyo (2018), the researchers asserted that OER is increasingly playing a pivotal role in distance learning systems in many parts of the world. Distance learning being characterised with flexible learning opportunities, allowing minimization of constraints in terms of access, time and place, pace, and method of study. This means that distance learning, facilitated by the OER available offers enhanced access to individuals who are constrained from attending traditional institutions. Open educational resources (OER) can be (re) used, revised, remixed, redistributed, and retained (Wiley, 2014). This sharing tenet is facilitated by the legal use of open licenses that work with copyright to give users certain automatic rights.

In this current study, the argument is that the impact of OER on educational opportunities is evident. However, If the impact of OER is measured across an entire sample of students, then it is necessary for researchers to consider other available opportunities prior to implementation of OER. Past research reveals some insights as to what other avenues do students access to source for research resources. In a survey conducted on over 22,000 Florida students enrolled in public universities and colleges found that close to 66.5% of students reported not using OER at some point in their research exploration (Grimaldi et al., 2019). While this statistic is concerning, the data are limited in that they do not indicate what the access rates are in any given classroom. Just because a student avoided using OER once, does not mean they will repeat the behaviour for all of their other learning endeavours. And the case is equally vice versa. Another concern of this study was that if students in developing countries with lots of resources are avoiding the use of OER, what will be the situation among developing countries undergraduates who have access to limited resources to utilise OER? This can only be imagined. Thus, the main purpose of this study was to examine pre-service teachers' assessment of OER for learning and research in universities in Kwara State.

Research Questions
In line with the purpose of this study, the major research questions were that:
1. Do pre-service teachers have the required resources to access to OER for learning and research?
2. What is the assessment of pre-service teachers on the use of OER for learning and research?

Methodology
This study adopted a quantitative research design of a survey type, while targeting pre-service teachers in universities in Kwara State. Two-stage sample techniques was employed in selecting the sample size. First stage included a stratified sampling technique to select 2 public universities in Kwara State. The school was selected on the basis of the federal and state ownership; and the second stage employed a simple random sampling technique to select 313final year pre-service teachers for the study. The research instrument for the study was a researcher-designed questionnaire with 3 sections. Section A of the instrument solicited for the demographic data of the respondents; Section B was interested in respondents' access to resources in accessing OER for learning and research; and Section C elicited information on respondents' assessment of pre-service teachers on the use of OER for learning and research. Sections B was rated on a Boolean scale of Accessible and Not Accessible, while Section C was rated on a modified Likert Mode Scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) with weighted value of 4 to 1 in terms of scoring.

In ascertaining the reliability coefficient of the instrument, Cronbach Alpha Coefficient was used to determine the internal consistency reliability of the instrument revealing a value of 0.82. The data collected were analysed using descriptive and inferential statistics with the use of Statistical Package for Social Sciences (SPSS) software version 23.0. Frequency distribution and mean were used to answer the research questions. With considerations for the ethical concerns of participants in this study, the researchers sought consent of the respondents and subsequently informed them about the study

procedure and the importance of the study. The respondents were not compelled to respond to the instrument. All the respondents were given a sense of autonomy, and anonymity, confidentiality and privacy of the respondents were maintained and considered. Data collected were treated with utmost confidentiality and anonymity.

Results
Administration of Instrument and Demographic Information

Table 1: Presentation of Demographic Data Based on School Ownership.

Ownership	Frequency	Administered Percentage	Returned Frequency
Federal	203	64.9	199
State	110	35.1	108
Total	**313**	**100**	**307 (98.1)**

Table 1 revealed the proportion of respondents that participated in the study according to their school. A total of 313 questionnaires were administered, only 307 were returned valid, amounting to 98.1% response rate. Indicatively, most of the pre-service teachers were from federal-owned university (64.9%) compare to those form state-owned university (35.1%) Indicating that more federal-owned pre-service teachers participated in the study.

Research Question One: Do pre-service teachers have the required resources to access to OER for learning and research?

Table 2: Accessibility to Resources to Access OER for learning and Research

sources	Accessible		Not Accessible	
	Frequency	Percentage	Frequency	Percentage
Personal Computer	199	64.8	108	35.2
Digital Mobile Devices	307	100%	0	0.0
Internet Access (Personal/ Institution al Wi-Fi Services)	269	87.6	38	12.4
Institution al email service	301	98.0	6	2.0
open creative commons websites	205	66.8	102	33.2
Cumulative Total	**1281**	**83.5**	**254**	**16.5**

In examining the pre-service teachers access to minimum required resources to access OER, statistical frequency and percentage was employed. As shown in Table 2, all the participants had access to digital mobile devices. The table also showed that majority of the participants had access to institutional email services (98.0%); internet access (87.6%); access to open creative commons websites (66.8%); and personal computer (64.8%). In conclusion, a cumulative total of 83.5% indicated that pre-service teachers have access to required resources to access to OER for learning and research. These resources include digital mobile devices, institutional email services, Internet access, access to open creative commons websites, and personal computer.

Research Question Two: What is the assessment of pre-service teachers on the use of OER for learning and research?

Table 2: Pre-service Teachers' Assessment of OER Use for learning and Research

S/N	Item	Mean	Rank Ordering
1.	Using OER for learning helps in generating learning resources that are physically unavailable.	3.91	1st
2.	The use of OER for learning helps me in easily generating current and diverse information for my research	3.52	5th
3.	With OER, getting resources for my research is easier than consulting hardcopies of books.	3.77	3rd
4.	Using OER provides free and low-cost research and learning resources for my study	3.69	4th
5.	OER use provides ease of resource sharing and collaboration with my colleagues.	3.84	2nd
Grand Mean		**3.75**	

Table 3 revealed pre-service teachers' assessment of the use of OER for learning and research. Table 3 indicated that all the items have a mean score higher than the benchmark of 2.50. Indicatively, pre-

service teachers claimed that OER: helps in generating learning resources that are physically unavailable; provides ease of resource sharing and collaboration with colleagues; getting resources for research is easier than consulting hardcopies of books; provides free and low-cost research and learning resources for their study; and helps them in easily generating current and diverse information for their research. Cumulatively, the grand mean of **3.75>2.50** indicated that pre-service teachers have a positive assessment of the use of OER for learning and research.

Discussion

This study examined pre-service teachers' assessment of OER for learning and research in universities in Kwara State. The outcome of this study depicted that pre-service teachers have access to minimum required resources to access OER for learning and research. These resources include digital mobile devices, institutional email services, Internet access, access to open creative commons websites, and personal computer. This is in line with the study of Machado, *et al.,* (2016), who claimed that the availability of OER to students do not mean they have access to it, talk more of exploring OER gainfully for their learning. As regards this, the researchers concluded that OER is a collection of digitalized learning materials offered freely to self-educated students who can use and reuse them to learn and research provided they have access to the required resources to access them.

Also, this study found that pre-service teachers have a positive assessment of the use of OER for learning and research. The benefit highlighted by pre-service teachers in using OER include the generation of learning and research resources that are physically unavailable; ease of resource sharing and collaboration with their colleagues; ease of getting resources for research than consulting hardcopies of books; provision of free and low-cost research and learning resources for their study; and easy generation of current and diverse information for their research. As regards this outcome, the study of Mortera, et al., (2013) claimed that the use of OERs in learning institutions offer various benefits. These include cost, educational process enrichment,

technology appropriation competencies development, educational quality improvement and efficiency, reduction of time needed to source for learning material, and a host of others, thereby, serving as a tool for boosting learning and research.

Conclusion

Based on the findings of this study, it can be concluded that the OER provides avenue for knowledge democratization thereby embracing open pedagogy. With OER, both educators and learners can become knowledge co-creators, have access to expanded resources that are customarily unavailable, distribute and share resources with no or little cost, and augment physically available resources to their own interests. Importantly, there is no doubt that the traditional approach to information sourcing and research has shifted. Thus, the future of free information sourcing has started. OER need to be explored maximally among students, especially pre-service teachers, since this is a lifetime opportunity to explore resources at almost zero cost to everybody.

Recommendation

In line with the conclusion of this study, this study recommends that pre-service teachers need to be motivated to keep using OER for learning and research purpose as this will serve as an enabler in building a greater knowledge-based society. School administrators and managers should provide resources and policies that will encourage the full utilisation of OER for learning and research in tertiary institutions, as this will interpret to greater academic achievement and equally ease the achievement of Nigeria national educational goals.

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