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## Undergraduates' Attitude towards the Utilization of Open Educational Resources for Learning

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### Abstract

This study investigated Undergraduates' Attitude towards the utilization of OER among Undergraduates and the influence of gender and area of specialization on their attitude towards the use. The study adopted a descriptive method of the quantitative research. 3 research questions were developed and answered. 398 respondents were randomly sampled from 3 purposively selected area of specializations. Frequency counts, percentage, rank order and mean were used to answer research questions 1 to 3. The findings of the study were: Undergraduates have a positive attitude towards utilization of OER for learning; There was difference between male and female undergraduates' attitude towards the utilization of OER for learning in favor of male undergraduates; and There were no significance differences among undergraduates based on Area of Specialization. The study concluded that students have a positive attitude towards use of OER for learning. The research recommends that institutions should endeavor to create their own OERs where students can access anytime and anywhere.

### Introduction

In this 21st century, the need to be educated has become a top priority and this has led to the increase in the number of researches being carried out. Hence, the ability to use information and Communication technology is becoming increasingly important in every aspect of life. Sepehrdoust and Khodae, (2013) defined Information and Communication Technology (ICT) as a communication equipment and software services required to organize, study, strategize, and provide support to manage information systems based on computer software as well as hardware. Similarly, ICTs are defined as technologies used for collecting, storing, editing and dissemination of information in various forms (Davis, Preston, & Sahin, 2009; Hawthorne & Sealey, 2019; Issa, Daramola, Aladesusi, & Udoh, 2017). The Organization for Economic Co-operation and Development (OECD) (2007), defined OER as a digitized material offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning, and research. OER includes learning content, software tools to develop, use, and distribute content, and implementation resources such as open licenses.

The use of OER is not confined to eLearning contexts or distance education alone. OER can be used online or in traditional classrooms (Commonwealth of Learning, 2013). There is no single paradigm associated with OER, nor are there any preconceived approaches to learning that limit the generalizability of OER (Commonwealth of Learning, 2013). On the other hand, individual OER can be specifically designed to support a focused learning theory. In addition, Open Educational Resources (OER) is important learning materials with the potential to facilitate the expansion of learning worldwide. The flexibility, both technological and legal, afforded by openly licensed content is an important precondition for supporting the educational use of content. Open standards support the deployment of learning objects as OER on a wide variety of different devices, whether mobile, on the desktop or in print.

The attitude to information is gradually shifting from the printed documents to electronic resources and thus, it has been the prerogative to know the details of the availabilities and organization of e-resources like online journals and databases, electronic theses and dissertations (ETDs), government publications, online newspapers and so on. Attitude could be positive or negative. Attitude towards a particular phenomenon can enhance or mar human approach to such phenomenon (Swain & Panda, 2009). Students' attitudinal change toward the internet and its educational packages are enough stimuli for a research of this kind. One of these educational hotcakes provided by internet is OER. OER include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques used to support access to knowledge (Narendra & Sudhakar, 2010). Undergraduates' attitude towards any e-based resources all depends on their level of digital literacy as lack of or inadequate computer skills would limit their participation in the use of such innovation

(McGrill, 2013). Some undergraduates found it difficult with courses that require the use of technology or having to use technology to make research (Ardies, DeMaeyer, & Gijbels, 2013). Ahmad (2015) revealed that there is no significant difference between male and female based on their utilization of electronic information resources for learning. As gender may or may not play a role in the adoption of OER for learning, area of specialization is another unit that may determine the utilization and attitude towards use of OERs.

Undergraduates' area of specialization has a lot to do with their adoption of e-resources for learning. For example: undergraduates who are studying courses that make use of ICTs more may be more used to using e-resources than those who rarely uses ICT for their activities. Tunkun, Nordin, and Bello, (2013) revealed that area of specialization has a significant influence on both perceived and objective knowledge in favor of ICT related courses than others. This means students who are engaged in courses like computer studies, computer engineering, educational technology and many more are more likely to have a better perception and knowledge on the use of ICT resources as they make use of these resources more than others who are engaged in courses that make use of ICT less compared to the previous mentioned students.

Based on the reviewed literature available to the researcher, a quite lot of researches that have been conducted on Open Educational Resources in areas like its benefits, adoption, challenges and overall achievements to faculties, instructors and students. Thus, to better expose and enlighten OER users on the benefits and its flexible licenses that does not only protect the curators of OER but also its users. For this reason, the need for this study arise in order examine undergraduates' attitude toward utilization of Open Educational Resources for leaning.

### **Statement of the Problem**

New developments in information and communication technology highlighted the shortcomings and challenges of the traditional education community, as well as those of more flexible providers such as open universities. Such developments, including accessible repositories, Internet access, wireless networks, and mobile devices, have the potential to increase access and flexibility in education by rendering it ubiquitous. Open Educational Resources has so far formed an integral part of Educational system and has also improved the outreach of these Educational Resources to any user that has access to Information and Communication Technology tools such as a laptop, mobile phones, tablets and so on. However, review on OER literature have shown a relative high focus on institution and educators' perspective and adoption of OER more (Bradley, 2020; Burch & Mohammed, 2019; Cayvaz, Akcay, & Kapici, 2020; Commonwealth of Learning, 2011; Dittmar, & Eilks, 2019; Panke & Seufert, 2013; Zakharov, Strobel, & Diefes-Dux, 2020).

Researches on students' use of OER have been minimal. This is in line with Akomolafe and Olajire, (2014) where it was observed that despite all the uprising in the understanding of OER among developed nations, its use among developing nation such as Nigeria have recorded low utilization among students. It is also in line with findings from Hu, Li, Li, & Huang, (2015) which revealed that not much have been researched on students' use of open educational resources. As most literature on OER have been focused on general benefits, faculty adoption and teachers' perception towards it. Al Abri & Dabragh, (2018) also revealed a minimal adoption of Open Educational resources among students. This may be due to the area of study as it was conducted in Virginia in the United State of America. Overall, from the studies that are available to the researcher on the use of Open Educational Resources, conclusions can be drawn that OER in Africa is new and not common as most of the reviewed literatures are foreign authors. The ones that are available have focused more on faculty and educators' adoption of OER for teaching. This study therefore, examined the Undergraduate attitude towards the utilization of Open Educational Resources for learning.

### **Purpose of the Study**

The main purpose of this study was to examine Undergraduates' Attitude towards the Utilization of Open Educational Resources for Learning. Precisely, this study:

1. Investigated undergraduates' attitude towards the utilization of OER for learning
2. Examined the differences in gender of undergraduates on the attitude towards the utilization of OER for learning.
3. Examined the influence of undergraduates' area of specialization on undergraduates' attitude towards the utilization of OER for learning.

## Research Questions

The following research questions were formulated and answered in this study:

1. What is the attitude of undergraduates towards the utilization of OER for learning?
2. What are the differences in undergraduates' attitude towards the utilization of OER for learning based on gender?
3. What is the influence of undergraduates' area of specialization on their attitude towards utilization of OER for learning?

## Method

This research was a descriptive method of the quantitative research. Descriptive method would best suit this study as a large sample can be selected from the total population to describe a characteristic of that population. Questionnaire was used to gather information on attitude on the utilization of OER in universities in Kwara State which is the focus of this study. The population for this study covered all the undergraduates in Kwara state. There are six (6) Universities in the State and from the six universities, three were randomly selected. The target population was made of all undergraduate students from the three selected universities. Three faculties namely faculty of Natural Science, faculty of Management Sciences and faculty of Human and Social Sciences was selected purposively as these are the three common faculties among the three universities. Distribution of samples per university was done using proportionate sampling technique using Isreal model. 398 Samples were randomly drawn across the selected faculties. Data was collected using a researcher designed questionnaire titled "Undergraduates Utilization of Open Educational Resources for Learning in Universities in Kwara State (UOERL). It is divided into two parts, part A elicited for demographic information from the respondents, part B seeks to get information based on undergraduates' attitude towards the use of Open Educational Resources using a four scale of Strongly agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) to answer questions on attitude.

The questionnaire was subjected to both face and content validity to check the arrangement of items and also questionnaire items if they are in-line with the major purposes of the research by three lecturers from the Department of Educational Technology after the they deemed it fit to be validated. Their advice and suggestions which includes; merging of some items together, reconstruction of some items, removal of few items that are not in line with the purpose and a few more others were all used to modify the questionnaire to produce a final draft. The questionnaire was tested for reliability on forty (40) randomly selected students from Department of Educational Technology in the University of Ilorin, Ilorin using independent sampling technique as it allows for selection of sample from the same population to be used for the study for pilot testing. Educational technology department from the faculty of education was selected as it is not one of targeted faculties. The data gathered from the pilot study was analyzed to check for internal consistency of reliability and the Cronbach alpha value was 0.70 on attitude towards the Utilization of OERs. This indicated that the research instrument was highly reliable.

The researchers drafted a letter of Introduction from the Head of Department of Educational Technology, University of Ilorin, Ilorin. The letter was taken to the selected universities. The researchers visited the faculties chosen for the study to administer copies of the questionnaire to the students having sought for permission from the various authorities involved. Once the questionnaires have been distributed and they have been filled, they were collected back immediately and further analyzed. The researchers ensured strict confidentiality and anonymity with the information retrieved from the respondents, also the respondents were made fully aware of what the research is all about and was not be forced to fill the questionnaire. Information gathered was used for the purpose of this research only. The data gathered from the sampled population was analyzed using descriptive statistics (frequency counts, percentage and mean) to provide answers to research questions 1, 2 and 3.

## Results and Discussion

Table 1 shows that 398 respondents were sampled but 385 responses were adequately filled and returned with a return rate of 97%. This was thus used for the analysis.

Table 1. Distribution of Respondents Based on Return rate

Estimated Sample	Authentic Sample	%
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398	385	97%
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Table 2 shows that (47.53%) of the respondent were male and (52.47%) were female. This simply indicates that more female participated in the study than male.

Table 2. Distribution of Respondents according to Gender

<b>Gender</b>	<b>F</b>	<b>%</b>
Male	183	47.53
Female	202	52.47
<b>Total</b>	<b>385</b>	<b>100</b>

Results from Table 3 indicate an almost even distribution of questionnaire based on area of specialization. Management science has the highest percentage of 34.5 and it is closely followed by Humanities and Social Science with 33.0% and Natural Sciences is not far behind with percentage of 32.5.

Table 3. Distribution of Respondents based on Area of Specialization

<b>Area of Specialization</b>	<b>F</b>	<b>%</b>
Natural Science	125	32.5
Management Science	133	34.5
Humanities and Social Science	127	33.0
<b>Total</b>	<b>385</b>	<b>100</b>

#### **Research Question One: *What is the attitude of undergraduates towards the use of OER for learning?***

Table 4 shows mean of undergraduates' attitudes towards the utilization of OER for learning. Item 4 and item 5 has the highest mean of 3.11 each which affirms that OER contents are reliable and using OER contents makes learning very easy respectively. Item 1 follows with a mean of 3.09 and it affirms that OER enables effective ways of sourcing for educational materials. Item 9 has the lowest mean score of 2.33 which is lower than the benchmark mean score of 2.50. The grand mean score of undergraduates' attitudes towards utilization of OER for learning is 2.88.

Table 4. Results of Undergraduates' Attitude towards the Utilization of OER for learning

<b>S/N</b>	<b>Items</b>	<b><math>\bar{X}</math></b>	<b>Rank Order</b>
1.	OER enables effective ways of sourcing for educational materials	3.09	3 <sup>rd</sup>
2.	The use of OER suits my reading style	3.05	6 <sup>th</sup>
3.	Using the OER makes learning easier	3.06	5 <sup>th</sup>
4.	OER contents are be reliable	3.11	1 <sup>st</sup>
5.	Using OER makes learning very easy for me	3.11	1 <sup>st</sup>
6.	OER contents assist me in carrying out my research as they provide wide range of relevant literatures to pick from	3.08	4 <sup>th</sup>
7.	The use of OER allows me to manage my time well surfing the internet	2.93	7 <sup>th</sup>
8.	OER database allows for filter that narrows my search to specific variables	2.83	8 <sup>th</sup>
9.	It is quicker to use physical books and materials from the library than accessing OER contents	2.33	11 <sup>th</sup>
10.	OER use has improved my academic performance	2.58	9 <sup>th</sup>
11.	The use of OER enables me to save cost of buying hard copy materials	2.55	10 <sup>th</sup>
	<b>Grand Mean (<math>\bar{X}</math>)</b>	<b>2.88</b>	

#### **Research Question Two: *What are the differences in undergraduates' attitude towards the utilization of OER for learning based on gender?***

The difference between male and females in their attitude on utilization of OER was investigated and the result indicated that male students have more attitudes on the use of OER more than their female counterparts (see Table 5).

Table 5. Difference in Attitude based on Gender

<b>Gender</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>Mean Difference</b>
Male	183	2.98	0.18

Female	202	2.80
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**Research Question Three: *What is the influence of undergraduates' area of specialization on their attitude towards utilization of OER for learning?***

The influence of undergraduates' area of specialization on their attitude towards utilization of OER for learning was investigated and the result indicated that area of specialization does not influence undergraduate students' attitude towards utilization of OER for learning (see Table 6).

Table 6. Difference in Attitude based on Area of Specialization

Area of Specialization	N	$\bar{X}$	Mean Difference
Natural Sciences	125	2.90	
Management Sciences	133	2.88	0.02
Humanities and Social Sciences	127	2.92	

This study investigated undergraduates' attitude towards the use of Open Educational Resources for learning. Undergraduates' attitude towards the utilization of OER for learning was investigated. This seeks to check whether undergraduates have a positive or negative attitude towards use of OER for learning. From the data analyzed, it was revealed that undergraduates have a positive attitude towards the utilization of OER. This is seen in the grand mean score of 2.88. This conforms with Swain and Panda (2009) who opined that the benefits of e-resources have helped improve the attitude of users as it gives its user varied option that best suit each user. This also conforms to Ljubojevic, Vaskovic, Stankovic, and Vaskovic, (2014), who opined that students are motivated to learn when they enroll in courses that make use of technology. This simply means that undergraduates would welcome the use of E-resources due to its numerous benefits. Koenig (2020) established that students who took multiple community college courses that used only free or low-cost OER materials earned more credits over time than their peers who took classes that used traditional course materials such as textbooks, according to a new study. Onaifo (2016) also reveal that although participants frequently used OER, their overall knowledge of the resources was limited and participants had a positive attitude toward OER, and benefited from using the resources in multiple ways.

The differences between male and female undergraduates on their attitude towards the utilization of OER for learning were determined. From the analyzed data, it was revealed that there was difference in gender of undergraduates in respects to their attitude towards utilization of OER for learning. Hence, this finding is in-line with the study of Ahmad, (2015) who revealed that there is no significant difference between male and female users of e-resources for learning. It was revealed in the study that male and female users have a 50/50 percentage of use of e-resources. Also, Jurado and Pettersson (2020) revealed that attitude of the lecturers is of critical importance for the acceptance of OER. The results are consistent with the assumption that many lecturers can find plenty of useful free course material once they are made aware of OER and have methods to disseminate it to their students. By self-monitoring their own learning processes, students become meta-cognitively and behaviorally active in their own learning, so they are able navigate unfamiliar environments (Bonk & Lee, 2017).

The influence of area of specialization on attitude of undergraduates towards utilization of OER for learning was assessed. It results indicated that there were no significance differences among undergraduates in attitude towards utilization of OER for learning. This finding does not conform to the finding of Dukic and Striskovic, (2015) where it was revealed that area of specialization is one the predictors of the use of e-resources. This may have occurred due to the differences in geographical locations of the studies. Siminyu (2017) established that personal agency exercised through Communities of Open Educational Resources Practice enabled learners to take advantage of the contextual enablers and circumvent barriers to adoption. Extrinsic motivators for engagement included assessment requirements, project requirements, and out-of-class interests. Others were: learner awareness of, involvement with, and frequent use of Open Educational Resources, engagement in Communities of Practice, teachers' influence, and social capital. In addition, Lin (2019) stated that advantages of using OER include textbook cost savings, access to dynamic and plentiful OER materials, that OER enabling mobile learning, and that OER foster the development of self-directed skills and copyright guidelines.

## Conclusion

Even with the average level of utilization, it was revealed that undergraduates have a positive attitude towards the utilization of Open Educational Resources for learning. From the study, it was revealed that there was

difference between male and female undergraduates' attitude towards the utilization of open educational resources for learning and finally, it was revealed that there was no significance difference among undergraduates in their attitude towards Utilization of Open Educational Resources for learning based on Area of Specialization.

Based on the findings of this study, the following recommendations were made:

1. Undergraduates should be encouraged by their lecturers to use Open Educational Resources because of the numerous benefits it possesses towards learning and research purposes;
2. Institutions should endeavor to expose their students to paid Open Resources Sites through faculties or departments to improve its level of Utilization; and
3. Institutions could also create their own repository where conducted researches within the institution can be uploaded by various departments. Students and another user would benefit from it.

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