

AWARENESS OF OPEN EDUCATIONAL RESOURCES (OER) AND UTILIZATION BY POSTGRADUATE STUDENTS OF THE NATIONAL OPEN UNIVERSITY OF NIGERIA IN THE SOUTH-SOUTH REGION

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Abstract

This study examined the utilisation of open educational resources (OER) among postgraduate students of the National Open University of Nigeria in South-South Nigeria. In order to achieve this objective, three research questions were raised. Descriptive survey research was employed. From a population of 2,119 postgraduate students, a sample of 318 was drawn using a stratified random sampling technique. The questionnaire titled "Utilisation of Open Educational Resources (OER) by Postgraduate Students of the National Open University of Nigeria in South-South Nigeria (UOERPS) was the instrument used for data collection. The Cronbach's alpha reliability coefficient was employed to determine the instrument's consistency, and its test yielded an overall reliability coefficient of 0.72. Frequencies, statistical mean, and standard deviation were used to answer the research questions with a criterion mean of 2.50. While inferential statistics were used for the hypotheses. The finding revealed that postgraduate students are moderately aware of open educational resources. The OER used by the students are learning modules, video streaming, lecture materials online, open courseware, e-books, syllabi, open-access electronic thesis (OAET), open textbooks, open-access journals, courseware, videos, and YouTube. They often use open educational resources. There is a need for university library management to encourage initiatives aimed at raising awareness, such as online seminars and the retraining of postgraduate students on the skills needed for OER. Efforts should be made by Librarians to promote the usage of OER among universities and libraries.

Keywords: Awareness, Utilization of OER, National Open University of Nigeria, Open Educational Resources, Awareness of OER.

Introduction

The relevance of open educational resources (OER) has increased as a direct result of developments in technology. Open educational resource is also known as open

courseware and open teaching/learning resources. Open educational resources make it possible for students, researchers, and academics to recycle content and share it. The advantages of OER are recognized by academics working in a wide variety of fields (Inegbedion & Opataye, 2018). The Open Educational Resources movement came out of the culture of open knowledge, free sharing, and peer cooperation in the 20th century. The Massachusetts Institute of Technology's (MIT) Open Courseware (OCW) project is noted for fostering a global movement toward the usage of OER (Wiley, 2007). The MIT Open Courseware (OCW) programme distributes practically all of MIT's course materials online. Independent learners can apply the information to confront challenges like sustainable development, climate change, and cancer eradication. OCW is available globally, and it improves teachers' courses and curriculum, making schools more effective (MIT Open Courseware, 2001). The Creative Commons licence and other terms govern MIT Open Courseware and its content. To conclude, instructional knowledge may be copied, distributed, and shared, while content may be modified during mixing. Open educational resources are digital materials that educators, students, and self-learners can access for teaching, learning, and research (OECD, 2007).

Open and distant learning is a type of formal education that connects students, resources, and teachers via communicative, interactive networks. Open learning encourages educational activities and experiences while eliminating or lowering constraints and privileges. It changes or improves the interactions between lecturers and students (McKenzie *et al.*, 2012). Open and distance education are becoming increasingly popular in Nigeria's educational system. Nigeria currently has one single open and Distance University and eight dual open and distance universities. Dual-mode institutions' distance centres can share resources for face-to-face engagement (Ekweme & Ilo, 2019). According to Okebukola (2010), despite wealthier nations' understanding of OER, poor countries aren't using it. Students are uninformed about OER, access is limited, and there are impediments to embracing it. This study aimed to determine the awareness level of the students' OER as well as the extent of its utilisation.

Research Questions

To guide the study, the following research questions were posed:

1. What is the awareness level of postgraduate students about open educational resources at the National Open University of Nigeria in the South-South Region?
2. What is the OER used by postgraduate students?
3. What is the level of usage of open educational resources by postgraduate students?

Hypothesis

The null hypothesis was formulated to guide the study at 0.05 alpha level.

Awareness has no significant influence on the usage of open educational resources by postgraduate students in South-South Nigeria.

Reviews of Related Literature

At all levels of education, a greater awareness of the changes in teaching and learning brought about by open educational practises was emphasised (Button, 2021). Akpojotor (2016) defined awareness as "knowledge of something that exists or understanding of a situation or issue at the present time based on information or experience." It is also defined as being aware of a situation, fact, consciousness, realisation, grasp, and acknowledgement of caring for and having an educated interest in a certain situation or development. Postgraduate students' use of open courseware has been studied by Anthony *et al.* (2018) at the University of Port Harcourt in Choba, Nigeria. The findings indicated that OER awareness and the skills necessary to access web-based resources are currently at a relatively low level.

An "open-access journal" is a publication that is freely accessible online without regard to financial, legal, or technical constraints. Anyone with an Internet-connected computer can view scientific research published in open-access journals. Online scientific articles with open licences can be freely shared (Hilton *et al.*, 2016). The Open Alternative Textbook Initiative sought to alleviate the high cost of commercial textbooks. Anyone can view lecture recordings once they are made public. According to Fernandez *et al.* (2011), YouTube contains both amateur and professional information. Itasanmi (2020) conducted research on the awareness and usage of open teaching/learning resources among students who were enrolled in open and remote learning programmes in south-western Nigeria. According to the findings of the study, students frequently utilise open educational resources (OER). The findings of the study indicated that students made use of open educational resources (OER) in order to complete projects and to augment what they learnt in the classroom. They relied mostly on open educational materials, also known as OER, in order to learn at their own speed and in their own time. In addition, open educational resources, often known as OER, are typically utilised as supplemental content for the courses that are being taught. Because they are accessible to the general public and do not cost anything, OER was shown to be just as relevant as, if not more relevant than, traditional educational materials.

Obuh (2013) conducted research among LIS teachers in Southern Nigeria to get their thoughts on open access to academic papers. The survey was taken by senior and junior instructors in Library Schools in Nigeria, and the descriptive analysis revealed that a significant number of unrestricted resources were utilised. It appears that junior

lecturers use open-access publications more frequently than senior lecturers, but it was discovered that both groups of lecturers exhibit a similar positive attitude towards open-access publications. This was discovered to account for a significant portion of their proclivity to use open-access publications.

Jurado and Pettersson (2020) investigated lecturers' and students' views towards the use of open courseware in Latin American nations such as Cuba, Guatemala, Peru, and Brazil. The authors discovered that lecturers with a more favourable attitude towards OER had their students use OER more frequently in their studies. However, they found that instructors' mindsets are crucial for OER adoption and that OER expertise should be a focus of staff development in order to make higher education available to more people. King (2017) evaluated the utilisation of OER capabilities by postgraduate students as part of the adaptation research conducted at the University of Cape Town. According to the author, students have the potential to serve as quality-enhancement agents; however, the modes of quality-enhancement to which students are best suited (curation, metadata, and copyright clearance) are not always familiar to lecturers, who, as they should, place a high priority on the quality of their instruction. In addition, regardless of their level of expertise in the relevant fields, participants in the adaptation project frequently showed resistance to engaging in instructional activities. Nyamwembe *et al.* (2018) explored the relationship between students' awareness of open educational resources and their use of them for academic work at Kenyan private universities. The study showed a positive relationship between use and the awareness index, indicating that the relationship is statistically significant. They did agree, however, that increasing students' awareness of OER should result in more OER adoption.

Methodology

The study adopted the descriptive survey method. The study cut across 2,119 postgraduate (PGD, Post Graduate Diploma, and Masters) students in the open and distance programme from the National Open University of Nigeria (NOUN) in the six (6) States of the South-south region of Nigeria. The sample size for the study is 318. A stratified random sampling technique was used to select 15% of the overall population as the sample size for the study. Descriptive statistics such as frequencies and mean as well as inferential statistics (Pearson Product Moment correlation coefficient) were used to analyse the research question and hypothesis. See Table 1 for the population and sample size for the study.

Table 1: Population and Sample Size Distribution of the Study

S/N	Study Centres	Population			Sample Size		
		PGD	Masters	Total	PGD	Masters	Total
1.	Asaba Study Centre, Asaba	147	215	362	22	32	54
2.	Benin Study Centre, Benin City	136	184	320	20	28	48
3.	Calabar Study Centre, Calabar	59	97	156	9	14	23
4.	Port Harcourt Study Centre	326	419	745	49	63	112
5.	Uyo Study Centre, Uyo	140	184	324	21	28	49
6.	Yenagoa Study Centre, Yenagoa	106	106	212	16	16	32
	TOTAL	914	1,205	2,119	137	181	318

Results/Findings *Demographic Distribution of the Respondents*

Table 1: Demographics of the Respondents

S/N	Items	Frequency	Percentage (%)
<i>Gender</i>			
1.	Male	162	53.8
2.	Female	139	46.2
	Total	301	100
<i>Age ranges</i>			
1.	25-35	72	23.9
2.	36-40	120	39.9
3.	41 and above	109	36.2
	Total	301	100
<i>Study Centre of Respondents</i>			
1.	Asaba	52	17.3
2.	Benin	48	15.9
3.	Calabar	23	7.6
4.	Port Harcourt	104	34.6
5.	Uyo	45	15.0
6.	Yenogua	29	9.6
	Total	301	100
<i>Faculty of the Respondents</i>			
1.	Agriculture	10	3.3
2.	Arts	18	6.0

3.	Education	82	27.2
4.	Health Science	22	7.3
5.	Management	91	30.2
6.	Science	36	12.0
7.	Social Science	42	14.0
	Total	301	100

The survey results indicate that a significant proportion of the participants (53.8%) identified as male, suggests a higher propensity for men to engage in distance programmes compared to women. Also, the age distribution of the respondents revealed that 76.1% of the respondents are above 35 years of age, which suggests that these students are considered to be in their middle age onward, perhaps with some form of occupation engagement that made them opt for open and distance learning. Moreover, the Port Harcourt study centre had most of the respondents (34.6%) while Yenogua had the least (9.6%); this sparse distribution could be attributed to a number of factors not considered in this study. The study primarily comprised participants from the Management Science faculty, followed by individuals from the Education, while Agriculture had the lowest representation.

Research question one: What is the awareness level of postgraduate students about open educational resources at the National Open University of Nigeria in the South-South Region?

Table 2: Postgraduate Students' Awareness of OERs

Statements	EA	MA	SA	SW	NA	Mean	Std.
I possess knowledge regarding the concept of open teaching and learning resources.	136	107	38	13	7	4.17	0.97
OER) encompass a wide range of educational materials that are designed to facilitate teaching, learning, and research across various mediums.	109	109	61	13	9	3.98	1.01
OER is free or in the public domain.	86	85	60	36	34	3.51	1.32

Students anywhere in the world can access Open Educational Resources (OER)	139	88	56	10	8	4.13	1.00
OER are an augmentation of class materials	94	108	57	19	23	3.77	1.18
OER is a way to make sure every student has access to course materials, with cost taken out of the equation	118	93	53	13	24	3.98	1.21
OER is 'free of copyright content'	70	88	55	31	57	3.28	1.42
Creative Commons or GNU licenses specify how OER can be used, reused, altered, and redistributed.	94	92	51	25	39	3.59	1.35
OER includes syllabi, lesson plans, videos, software, tests, teaching methodologies, group activities, writing prompts, textbooks, modules, experiments, simulations, and course designs.	125	101	49	19	7	4.06	1.06
Open courseware facilitate access to course materials for learners within their respective institutions, thereby granting them the opportunity to utilise resources that would typically be financially inaccessible.	126	92	52	18	13	4.00	1.11
OER is mostly created by reputable authors in their field or hosted by higher education institutions	118	104	45	22	12	3.98	1.09
A resource cannot be called an Open Educational Resource if it is not free or publicly licensed (OER)	110	75	55	41	20	3.71	1.27
OER provide students with the opportunity to engage with teachers' content before, during, and after your course	99	98	54	23	27	3.73	1.21
OER are free for anyone in the world to access, whether they have a college affiliation or not	99	84	40	40	38	3.55	1.39

Aggregate Mean		3.81	.79
Criterion Mean		3.00	

EA = Extremely aware; MA= Moderately aware; SW= Somewhat aware; NA= Not at all aware

Table 2 shows that since the aggregate mean of 3.81 (Std. =.79) is higher than the criterion mean of 3.00, it can be concluded that the postgraduate students have a moderate level of awareness regarding OER.

Research Question Two: What is the OER used by postgraduate students?

Table 3: Open Educational Resources Used by Postgraduate Students

Open Educational Resources	Yes		No		Total	
	No.	%	No.	%	No.	%
Learning Modules	251	83.4	50	16.6	301	100.0
Video Streaming	251	83.4	50	16.6	301	100.0
Lecture materials Online	246	81.7	55	18.3	301	100.0
Open Courseware	243	80.7	58	19.3	301	100.0
e-book	242	80.4	59	19.6	301	100.0
Syllabic	228	75.7	73	24.3	301	100.0
Open-access Electronic Thesis(OAET)	195	64.8	106	35.2	301	100.0
Open Textbooks	175	58.1	126	41.9	301	100.0
Open-access Journals	168	55.8	133	44.2	301	100.0
Course Videos/ Youtube	160	53.2	141	46.8	301	100.0

Table 3 shows OERs used by postgraduate students. 251(83.4%) of them agreed that they use learning modules and video streaming, 246(81.7%) of them use lecture materials online, 243(80.7%) of them use open courseware, 242(80.4%) use e-books, 228(75.7%) use syllabi, 195(64.8%) use Open-access Electronic Thesis (OAET), 175(58.1%) use open textbooks, 168(55.8%) use open-access journals and 160(55.8%) use course videos/ YouTube. It can be concluded that the types of OER mostly used by postgraduate students in South-South Nigeria are learning modules and video streaming. The least utilised type of OER is course videos on YouTube.

Research Question 3: What is the level of usage of open educational resources by postgraduate students?

Table 4: Postgraduate Students' Usage of OERs

Statements	A	O	S	R	N	Mean	Std.
I take OER selectively from elsewhere, and incorporate or adapt them into my own courses	81	72	104	22	22	3.56	1.17
I download OER materials to complete my homework on time	113	93	61	17	17	3.89	1.14
I use OER to keep updated.	136	90	46	12	14	4.05	1.13
update my research knowledge	119	76	68	17	21	3.85	1.21
Using search engines for Open Educational Resources Platform	101	79	79	22	20	3.73	1.19
Others use OER to learn	92	88	72	23	26	3.65	1.23
I can use OER easily due to its reusability	109	88	63	15	26	3.79	1.23
I use OER as they are available at a reduced cost	129	67	65	19	21	3.88	1.23
I reuse the content of OER without altering its original format	109	76	67	29	20	3.75	1.23
I retain the copies of content of OER for personal archives or reference	106	94	55	23	23	3.79	1.22
I revise the content of OER to be modified or altered to suit specific needs	85	80	76	34	26	3.54	1.25
I adapt the content of OER with other similar content to create something new	78	93	78	24	28	3.56	1.22
I share the content of OER with anyone else in its original or altered format	79	80	82	27	33	3.48	1.27
OER supplements my studies.	108	91	70	12	20	3.85	1.15

Aggregate Mean						3.74	.95
Criterion mean							3.00

A = Always; O=Often; S=Sometimes; R=Rarely; N=Never

With an aggregate mean of 3.74 (Std. =.95), which is higher than the criterion mean of 3.00, as shown in Table 4, it can be said that students frequently use free OERs. This suggests that postgraduate students in South-South Nigeria use open teaching/learning resources at a high rate.

Testing of the Hypothesis

Awareness has no significant influence on the usage of open educational resources by postgraduate students in South-South Nigeria.

Table 5: Influence of Postgraduate Students' Awareness on Usage of OER

		Awareness of Open Educational Resources	Usage of Open Educational Resources
Awareness of Open Educational Resources	Pearson Correlation	1	.518
	Sig. (2-tailed)		.000
	N	301	301
Usage of Open Educational Resources	Pearson Correlation	.518	1
	Sig. (2-tailed)	.000	
	N	301	301

The Pearson correlation value r (0.518) indicates a 52% influence, according to Table 5, students' awareness had a moderate impact on their use of OERs. Given that the significant value (sig. 2-tailed) is 0.000 (less than 0.05), it can be said that awareness significantly affects postgraduate students in South-South Nigeria's use of open courseware. The null hypothesis is therefore rejected, suggesting that a rise or fall in awareness of OERs may lead to an equivalent rise or fall in the use of the resources by postgraduate students at the National Open University of Nigeria.

Discussion of the Findings

The findings revealed that postgraduate students are moderately aware of open courseware. As a result, an increase or reduction in knowledge of the resources may result in a commensurate increase or decrease in the usage of the resources by postgraduate students. This finding corroborates Itasanmi's (2020), who noted that a considerable positive association between OER awareness and OER usage among postgraduate students. This finding also supports that of Nyamwembe *et al.* (2018), who investigated the relationship between students' awareness of free educational materials and their usage of them for academic work at private Kenyan universities in Africa. This is also in conformity with a more recent study by Itasanmi (2020), which showed that students in open and distance learning in south-western Nigeria had an average degree of OER awareness. The implication of these findings is that postgraduate students, irrespective of institutions and location, have knowledge of open courseware.

The findings also revealed that the OER used by postgraduate students in South-South Nigeria are learning modules and video streaming, lecture materials online, open courseware, e-books, syllabi, Open-access Electronic Thesis (OAET), open textbooks, open-access journals, and course videos on YouTube. This finding supports that of Stein *et al.* (2017), who noted that 83 percent of students purchased textbooks as suggested by their teachers or solely on the basis of a recommendation. Other examples used by students as reported by different authors are Open textbooks (Hilton *et al.*, 2016), lecture videos on YouTube, and Open-access Electronic Theses and Dissertations (OAETD) (Sivakumaren & Thangavel, 2021). This result suggests that postgraduate students in South-South Nigeria use learning modules, video streaming, lecture materials online, open courseware, e-books, syllabi, Open-access Electronic Thesis (OAET), textbooks, journals, and course videos on YouTube.

Another finding revealed that students frequently use OER. This indicates that postgraduate students in South-South Nigeria make extensive use of the courseware. This finding backs up Itasanmi's (2020) study on open courseware awareness and uses among students in distance programme from south-western Nigeria. According to the findings, the resources are widely accessed by students. On the contrary, Anthony *et al.* (2018) investigated the use of OERs and the academic achievement of postgraduate students in Nigeria. According to the findings, OER knowledge and the requisite abilities for web-based content are still quite low. This variation may be that as of 2017 and 2018, the use of OER by students was not well popularised.

Students' awareness has an average influence on the use of the courseware implying that awareness has a considerable influence on the use of open educational resources by postgraduate students in South-South Nigeria. As a result, an increase or reduction in awareness of OER may result in a commensurate increase or decrease in

the usage of the resources by the postgraduate students. This finding also supports that of Nyamwembe *et al.* (2018), who investigated the relationship between students' awareness of open courseware and their usage of them for academic work at private Kenyan universities in Africa. The study discovered that utilisation and awareness index have a positive relationship, indicating that the relationship is statistically significant. The present study additionally corroborates the findings of Itasanmi (2020), whose research examined the levels of OER knowledge and utilisation among students engaged in open and remote learning in the south-western region of Nigeria.

Conclusion

The study concluded that postgraduate students possess a moderate degree of awareness with respect to OER. The predominant forms of OER utilised by them are learning modules and video streaming. The high adoption rate of OER and their level of awareness of it may result in a commensurate increase or decrease in their utilisation of OER. There is no doubt that postgraduate students are aware of and use OER, learning modules and video streaming, lecture materials online, open courseware, e-books, syllabi, Open-access electronic theses (OAET), open textbooks, open-access journals, and course videos on YouTube.

Recommendations

1. There is a need for enhancement in the utilisation of textbooks, open-access journals, and educational videos on platforms such as YouTube, as these resources play a significant role as OER in facilitating the educational endeavours of postgraduate students.
2. A need for training and retraining postgraduate students through workshops, conferences, and user education on the skills needed for OER to enable them to have continuous positive attitudes towards OER. A user (student) who has had a good experience obtaining useful information from the OER in an efficient way is likely to return and tell others about it. This will also further encourage users (students) to have good knowledge of the resources.

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