

**Attitudes towards the usage of open educational resources by postgraduate students at the  
National Open University of Nigeria (NOUN), south-south Nigeria**

**Smart Eromosele Ambrose**

National Open University of Nigeria,  
Benin Study Centre, Benin City, Edo State, Nigeria

[esterogy@gmail.com](mailto:esterogy@gmail.com)  
[sambrose@noun.edu.ng](mailto:sambrose@noun.edu.ng)  
+2348055426760

**Prof. Blessings A. Akporhonor (Mrs)**

Department of Library and Information Science,  
Delta State University, Abraka, Delta State, Nigeria

[bakporhonor@yahoo.com](mailto:bakporhonor@yahoo.com)  
+2348035058247

**NJEZE Miracle Eka**

National Open University of Nigeria (NOUN),  
Abeokuta Study Centre, Ogun State, Nigeria

[Abeokutamnjeze@noun.edu.ng](mailto:Abeokutamnjeze@noun.edu.ng)  
+2348035921524

**Abstract**

*This study examined the attitudes towards the usage of OER by postgraduate students in National Open University of Nigeria (NOUN), south-south, Nigeria. Thus was achieved using three hypotheses generated to guide the study. The study adopted the descriptive survey design type on a population of 2,119 postgraduate students. Using stratified random sampling techniques, 15% of the population (318) was used for the sample for the study. Questionnaire was used to elicit data from the respondents, and upon administration, a 95% response rate was achieved. The data was analysed using descriptive statistics (for the demographics) and inferential statistics (for the hypotheses). The findings revealed that the postgraduate students have a positive attitude towards the use of OER. The OER mostly used by postgraduate students includes learning modules and video streaming, lecture materials online, open courseware, e-book, syllabi, Open Access Electronic Thesis (OAET), open textbooks, open access journals and course videos/ YouTube. There was a gender difference among postgraduate students towards the use of OER but there was no significant difference in the utilization of OER by postgraduate students' by faculties. The study also found that attitude has a significant influence on the usage of OER by postgraduate students. Based on the findings, the study concluded that to stimulate the use of OER among postgraduate students, their awareness and attitude would have to be positively triggered.*

**Keywords:** Attitude, National Open University of Nigeria, Open educational resources, Open and distance learners, Nigeria

## **Introduction**

The need to be educated has become a top priority in the twenty-first century, contributing to an increase in the number of studies being conducted. As a result, the ability to use Information and Communication Technology (ICT) is becoming increasingly important in all aspects of life. The advent and adoption of ICT in education, as well as the open access initiative have all strengthened the growth of Open Education Resources (OER) The Organization for Economic Cooperation and Development (OECD) (2007) defined OER as "information resources in digitized forms that can be offered freely and openly for use and reuse by academia, students, and self-learners for teaching, learning, and research". The fundamental rationale underlying OER is that it is free and open for the distribution of educational materials to assist teaching, learning, and research activities. Since they give individuals the ability to use, reuse, process, edit, and share information on any topic of interest, lecturers, researchers, students, and scholars find them stimulating. OER's global accessibility has facilitated educational institutions' access to research data on a global scale. This is due to the potential benefits of OER, which have been welcomed by academics from a variety of disciplines.

These resources if properly utilized will be beneficial to students, especially those in postgraduate programs, by offering excellent opportunities to access academic literature that is out of the reach of libraries due to regional and financial constraints. Consequently, these resources are often used by individuals and educational institutions to enhance learning and advance the course of research endeavors which is often the crux of postgraduate programmes. Also, to be effective in their academic pursuit, postgraduate students must learn and practice the skills required to explore freely available open educational resources. Hence, interest in the way knowledge and information have originated, identified, created, communicated, and shared within global society has increased drastically, which is the principle behind OER (Inegbedion & Opataye, 2018). While some postgraduate students pursue their courses full-time, others chose to pursue them on part-time (otherwise refer to as open and distance learning students). One method of providing training

to the latter; is through open and distance learning, which can be easily accomplished by employing materials from OER for both the curriculum and other components of effective learning. These students therefore use these resources for their academic pursuit regardless of their location. However, use of OER is not an independent phenomenon, but one influenced by other variables, worthy of scholarly attention.

There are a number of factors that may influence postgraduate students' use of OER in open and distance learning. Among these elements is, attitude, and (usage abilities). With the expansion of OER, and the recognition of its educational value by academic institutions and educators, it becomes crucial to assess their attitude by postgraduate students especially in higher educational institutions of the Global South. Attitude may be either positive or negative. An individual's attitude toward a certain event can either improve or degrade the human response to that phenomenon (Swain & Panda, 2009). Students' changing attitudes about the internet and its educational programs are sufficient triggers for this type of study. OER is one of these internet-based educational hotcakes. OER include whole courses, course materials, modules, textbooks, streaming videos, exams, software, and any other tools, resources, or methodologies used to promote knowledge access (Premo, 2018).

With the transition from print to electronic resources, it becomes crucial to ascertain information users' attitude towards OER. This is because attitude can either increase or reduce human response towards a phenomenon. It is a state of readiness that is organized by experience and has an impact on people's response to an object or event (Aiyebilehin, et al., 2017) as well as people's state of mind or toward a value reflected in their thought and actions (Asmui et al., 2012). Thus, students possess either a positive or negative attitude towards OER (Swain & Panda, 2009) which influences their thought and action (usage) towards these resources. Consequently, positive attitude towards OER by these students could influence their tendency to use them. However, with positive attitude, actual usage will also be determined by the students' ability to use, which makes skills an essential factor in determining the use of OER.

. This has further strengthened the need to periodically assess how postgraduate students especially the open and distance learners, are 'skill-ready' to optimize the available OER for their academic progress. OER may provide a solution to the fundamental difficulties in tertiary education such as high cost of educational resources; however, certain factors could hinder the use

of OER even among postgraduate students who are engaged in rigorous academic activities. In the light of this, the objective of this study is to investigate postgraduate students' attitudes on the usage of OER among National Open University of Nigeria postgraduate students in south-south Nigeria.

The specific objectives of the study are to:

- i. determine postgraduate students' extent of usage of open educational resources
- ii. ascertain if attitude influences the postgraduate students' usage of OER;
- iii. find out if postgraduate students' gender influences their use of open educational resources; and
- iv. ascertain if the faculties of postgraduate students influence their use of open educational resources.

Based on the specific objectives of the study, the following null hypotheses were generated to guide the study, tested at a 0.5 level of significance:

**Ho1:** Attitude has no significant influence on the postgraduate students' usage of OER by postgraduate students in South-South Nigeria

**Ho2:** There is no significant difference in the use of open educational resources by gender among South-South Nigerian postgraduate students.

**Ho3:** There is no significant difference between the faculties of postgraduate students in South-South Nigeria and their usage of open educational resources.

## **Review of Related Literature**

This section is a review of previous literature in line with the objectives of the study.

### **2.1 *Attitude and Usage of Open Educational Resources***

According to Issa et al. (2020), an individual's favorable or unfavorable attitude predicts how they will behave in a specific situation. It is suggested that these attitudes are formed on the basis of beliefs about behavioral costs and benefits, and that once these beliefs about outcomes are

evaluated, they transform into attitudes affecting intentions to act. Perception can be used to explain attitude in almost all the literature. Perception which is a psychological concept aimed at explaining the understanding of issues, can be used to explain attitude. Perception influences an individual's actions and behavior toward an object. Perception has been reported to be influenced by one's prior knowledge (Jurado & Pettersson, 2020). As such, people's perception towards a new technology or phenomena, could reflect on their attitude. Kanojia and Verma (2021) investigated researcher attitudes and how they accessed open educational resources at the Central University Libraries in North India. The information was acquired from the researchers of the Central University Libraries of North India using a well-structured technique. Survey method was utilized by the researcher to collect data. The researcher received 150 questionnaires from the researchers out of a total of 180 issued to them. The researchers surveyed were revealed to have a helpful attitude, were aware of open educational resources, and could easily access these sources, according to the study. The findings show the possibilities for sharing information about open access journals and are intended to guide future study into how authors' attitudes and techniques differ across different contexts or research cultures. Kumar and Raja (2019) investigated students' awareness and attitudes regarding open educational resource use at private and government colleges in Sivagangai District in their study of higher education students' knowledge and attitudes toward open educational resources. The descriptive analysis found a positive relationship between higher education students' awareness and attitudes toward open educational materials.

Ngumi (2012) investigated postgraduate students' attitudes toward open and distance learning at Egerton University in Kenya, as well as the hurdles to obtaining literature. According to the author, students have a negative attitude toward open and online education, which complicates academicians' transfer from conventional sources of literature to the use of current technologies. Gaps in access to literature were also explored, as well as their impact on the quality of these learners' learning and research outputs. Ayeni (2017) evaluated master's degree students' attitudes and use of open access journals at two universities in Nigeria's. The study adopted descriptive survey design for a population comprising of Masters Students from two universities. Multi-stage random sampling technique was used to arrive at a sample size of 249 students from whom responses were elicited using a structured questionnaire. The analysis of retrieved data showed that open access resources were utilized by the respondents for academic and non-

academic purposes. While the regression analysis revealed that a significant positive relationship exists between positive perception revealed in attitudes, relative advantage, perception of compatibility which all reinforces positive attitude and the students' use of open access journals. In like manner, negative perception which forms negative attitude had a significant negative correlation with the use of these resources. By inference, the perception of students which forms the core of their attitude determines the utilization of open education resources of postgraduate students.

Hussainet al. (2013) investigated faculty attitudes toward and use of OER at Dhaka University in Bangladesh. A quantitative study with 200 professors was conducted. Google Drive was used to build and host an online structured questionnaire with one open box for comments and ideas about open educational resources. For research and lecture preparation, the majority of the 133 study participants (66.5%) employed both subscription-based and open educational resources. Only 21% of 201 respondents read only open educational resources, whereas 7.5 percent read only subscription-based media. The use of online publications by academics at the University of Dhaka is growing. Nearly 70% of faculty members employed subscription-based and open educational materials in their research and teaching, demonstrating that they trust open resources and make considerable use of electronic resources. This trust which reflects their attitude towards OER was the propellant for their usage of the resources. The implication is that when people have positive attitude towards OER, it has a positive significant influence on its usage.

## **2.2 Students' Gender on the Usage of Open Educational Resources**

In the past, gender disparities were observed in computer use and attitudes towards open educational resources. There is evidence of gender disparities in the use of the Internet for social activities such as online learning, video streaming, and communication, but there are no gender differences in the use of OER for academic work (Price, 2006). Issa et al. (2020) investigate the perspectives of postgraduate students on the use of open educational resources for learning, with 67.82% of respondents being female and 32.18% being male. The gender distribution among responders was 32.18% male and 67.82% female. Women were most likely the majority of those who took part in the poll. It was observed how gender influences student usage of OER. Based on the data analysis, it was revealed that there was a considerable difference in OER consumption

between male and female learners. It revealed that male postgraduates use open educational resources (OERs) more frequently than female undergraduates. Mills and Mustapha (2015) stated this. In research on the knowledge and use of open educational resources, it was discovered that there is a gender bias in the use of OER. This is because male children are more likely than female children to attend school since they are expected to help their moms at home. Because of this advantage, it's conceivable that young males were more likely than females to utilize OER.

### **2.3 Students Faculties on the Usage of Open Educational Resources**

According to the most recent data, the majority of faculty members are either unaware of OER or know very little about them, despite their growing popularity (Allen & Seaman, 2018). Several further studies have asked competent but uninterested academics why they do not use OER in their lectures to get insight into their thought processes. Everyone in academia is concerned about the possible repercussions of embracing OER. Faculty members who have not yet adopted OER may be unwilling to do so owing to quality concerns, reluctance to relinquish creative control, and possible damage to their professional image. However, according to research conducted by Papin-Ramcharan and Dawe (2006) at the University of the West Indies in Trinidad and Tobago, just 8% (6/79) of the university's faculty of engineering were familiar with OER. No respondent has ever contributed a research article to an open educational resource (OER). This indicates that faculty members are acquainted with OER yet unwilling to submit their own work. As demonstrated by Martin & Kimmons (2020), Faculty Members' Lived Experiences with Choosing Open Educational Resources

According to Hodonu et al, (2022), those who are acquainted with OER are more likely to major in management and social science. Perhaps this is the result of their consistent and extensive involvement in scientific activities. Lawal (2002) emphasized, however, that several previous studies have explored postgraduate students' attitudes towards OER and their inclination to utilize them. Using data from nine academic disciplines in the United States and Canada, Lawal revealed that the sciences and arts indicated the highest level of engagement with OER, followed by management, social science, and biological scientists.

Nagashima and Hrach, (2021) carried out a study and found out that the motives for releasing OER differ from those for utilizing or repurposing OER generated by others. Opportunities to work

across sectors, institutions, and topic areas, as well as a rise in digital literacy, encouraged those who generated OER to continue doing so. OECD (2007) case studies reveal four major types of faculty reasons for adopting OER. The first set of incentives stems from a desire to assist others or improve the community. Within this line of thought are the notions that sharing is advantageous because it encourages additional innovation, provides personal satisfaction from knowing that one's materials are available and used globally, and is enjoyable because it fosters collaboration among peers and enables one to give back to the community

## Research Method

The study adopted the descriptive survey method. This is considered suitable based on the nature of the research problem, in line with Creswell (2014). The study cut across 2,119 postgraduate (PGD-Post Graduate Diploma and Masters) students who are open and distance learners from the National Open University of Nigeria (NOUN) in the six (6) State of the South-south region of Nigeria. Stratified random sampling technique was used to select 15% of the overall population as the sample size of the study. With such population, Taherdoost (2017) gave a benchmark of 10% to be generally adequate as sample size. Thus, the 15% adopted for this study yielded a sample size of 318 postgraduate students as seen in the Table 1 below.

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
	<b>TOTAL</b>	<b>914</b>	<b>1,205</b>	<b>2,119</b>	<b>137</b>	<b>181</b>	<b>318</b>

***Table 1: Population and Sample Size Distribution of the Study***

The study used self-developed questionnaire as tool for data elicitation. The questionnaire was distributed in 318 copies, and 301 (95%) of those copies were returned. Given that the typical and acceptable response rate for most studies is 60% (Fincham, 2008), the study's response rate of 95%



is deemed sufficient. The retrieved copies were analysed using descriptive statistics and inferential statistics of Pearson Product Moment correlation co-efficient to test hypotheses.

### 3 Presentation of Results

The results from the analysis of data are presented below:

#### 4.1 Demographic Distribution of the Respondents

Majority of the respondents (53.8%) were male which means that men are more likely to undergo open and distance education than women. Also, the age distribution of the respondents revealed that 76.1% of the respondents are above 35 years of age which suggest that these students are considered to be in their middle age onward, perhaps with some form of occupation engagements which made them opt for open and distance learning. Moreover, 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. Majority of those who participated in the study were from Management science faculty, followed by those from Education, with the least been from Faculty of Agriculture.

Table 2

S/N	Items	Frequency	Percentage (%)
<b><i>Gender</i></b>			
1.	Male	162	53.8
2.	Female	139	46.2
	Total	301	100
<b><i>Age ranges</i></b>			
1.	25-35	72	23.9
2.	36-40	120	39.9
3.	41 and above	109	36.2
	Total	301	100
<b><i>Faculty of the Respondents</i></b>			
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

**Table 2: Demographics of the Respondents**

#### **4.2 Results Based on the Hypotheses of the Study**

This section reports the results of four (4) null hypotheses for this research work and they were tested at 0.05 level of significance.

**Ho1:** Attitude has no significant influence on the usage of OER by postgraduate students in South-South Nigeria

**Table 3: Influence of Postgraduate Students' Attitude on Usage of OER**

		Attitude of PG Students towards Usage of Open Educational Resources	Usage of Open Educational Resources
Attitude of PG Students towards Usage of Open Educational Resources	Pearson Correlation	1	.413
	Sig. (2-tailed)		.000
	N	301	301
Usage of Open Educational Resources	Pearson Correlation	.413	1
	Sig. (2-tailed)	.000	
	N	301	301

From Table 3, the Pearson correlation coefficient  $r$  (0.413) implies 41% influence. Therefore, there is a low influence of the students' attitude on usage of OER. Since the significant value (Sig.2-tailed) is 0.000 (which is less than 0.05), it can be concluded that attitude has low significant influence on the usage of OER by the postgraduate students in South-South Nigeria. The null hypothesis is therefore rejected implying that an increase/decrease in attitude may lead to a corresponding increase/decrease usage of open educational resources by the postgraduate students of National Open University of Nigeria.

**Ho2:** There is no significant difference in the use of open educational resources by gender among South-South Nigerian postgraduate students.

**Table 4: T-test Statistics Showing Gender Differences in Postgraduate Students Usage of Open Educational Resources**

Gender	N	Mean	Sd	Df	Cal. T value	Sig.	MD	95% CI	
								Upper Bound	Lower Bound
Male	162	3.83	0.96	299	1.706	.089	0.19	0.40	-0.03
Female	139	3.64	0.93						

**N= 301, MD= Mean Difference, CI = Confidence Interval, P> 0.05 Level of Significance**

As shown in Table 4, the computed t-value of 1.706 was found not to be significant at df = 299, P. 0.05 level. Therefore, the null hypothesis which states that there is no significant difference between the genders of the postgraduate students in South-South Nigeria in their usage of open educational resources was accepted. The conclusion was drawn that both male and female postgraduate students use open educational resources. Furthermore, the male students with a mean value of 3.83, Sd= 0.96, has a mean 0.19 over their female counterparts that has a mean value of 3.64, Sd = 0.93 the mean difference (MD) of 0.19,  $P > 0.05$  alpha level that lies between the upper limits bound and lower limits bound was not found to be statistically significant at the 95% confidence interval (CI). The conclusion is drawn the effect size of 0.19 which was in favour of the male postgraduate students did not indicate that they use open educational resources more or less than their female counterparts involved the study

**H<sub>03</sub>:** There is no significant difference between the faculties of postgraduate students in South-South Nigeria and their usage of open educational resources.

**Table 5: Summary of ANOVA table Showing Faculties and Usage of Open Educational Resources**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.737	6	1.623	1.823	.094
Within Groups	261.692	294	.890		
Total	271.429	300			

From Table 5, there was no statistically significant difference among the groups (faculties) as determined by one-way ANOVA ( $F(6,294) = 41.823, p = .09$ ). The null hypothesis is therefore accepted. It can be concluded that there is no significant difference among the faculties of postgraduate students in South-South Nigeria and their usage of open educational resources. For the fact that the result of the test is not significant, there was no need for a Post Hoc (Scheffe Test for Multiple Comparisons) analysis. This means that irrespective of the faculties of the students, their usage of open educational resources is the same

### **Discussion of the Findings**

The finding revealed that students frequently use open educational resources. This indicates that postgraduate students in South-South Nigeria make extensive use of open educational resources. This finding backs up Itasanmi's (2020) research on open educational resources (OER) knowledge and use among students enrolled in open and remote learning programs in south-western Nigeria. According to the findings, open educational resources (OER) are widely accessed by students. This is also in line with Upneja (2020) investigated the role of librarians and libraries in the development of open educational resources in the context of the Indian education system. Findings indicated that a sizable proportion of library professionals believe that patrons benefit from having access to high-quality learning materials via OER use. On the contrary Nwana et al. (2017) and Anthony et al. (2018) investigated the use of open educational resources and the academic achievement of postgraduate students in Nigeria. According to the findings, OER knowledge and requisite abilities for web-based content are still quite low. This variation may be that as at 2017 and 2018, the use of OER by students was not well popularized.

The study found out that postgraduate students' attitudes on the use of OER have an influence on their usage, though to a little measure. This suggests that attitude has an impact on postgraduate students use of free educational resources. This finding is consistent with the finding of Kumar and Raja (2019) that there is a positive relationship between higher education students' attitudes toward open educational materials on usage. Ngumi (2012), on the other hand, evaluated postgraduate students' views toward open and online learning at Egerton University in Kenya, as well as the barriers to getting literature. The study showed that students have a negative attitude toward open and online education, which makes academics' transition from traditional sources of literature to the use of modern technology more difficult. Thus, the disposition or attitude of these

students whether positive or negative will affect their intention to use OER. Often times, such attitude is affected by perceived benefits or challenges.

The study revealed that there was a difference in the gender of postgraduate's students with respect to their usage of OER for learning. This implies that, male gender, use OER more than the female gender. This finding is in-line with the study of Issa et al. (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 70/30 percentage of use of e-resources.

The study revealed that the use of open educational resources by postgraduate students' faculties in South-South Nigeria does not considerably differ from one another. A post-hoc (Scheffe Test for Multiple Comparisons) analysis was not required because the test result was not significant. This suggests that all students access the same open educational resources, regardless of their faculties.

## **Conclusion and Recommendations**

The study examined postgraduate attitudes towards the usage of Open Educational Resources among Open and Distance Learners. Postgraduate students are aware of open educational resources and have a positive attitude toward their use. Postgraduate students use 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/YouTube. In terms of using OER for learning, there was a gender difference among postgraduate students. The utilization of open educational resources by postgraduate students' faculties in South-South Nigeria is not different.

Based on the findings, the following recommendations were made:

1. Open universities should provide tools and systems that facilitate the use of these resources in order to stimulate positive attitude towards them...
2. Open universities should a gateway on their website to vast amount of OER with friendly and easy interface that postgraduate students can easily navigate.

## References

- Aiyebilehin, J. A., Ikenwe, E., & Okpetu, L. J. (2017). Survey of attitude towards ICTs and use of ICTs for service delivery by librarians in university libraries in Edo State. *Journal of Applied Information Science and Technology*, 10 (2), 42-48.
- Allen, J. (2005). Interdisciplinary differences in attitude towards deposit in institutional repositories. [eprints.rclis.org/bitstream/10760/6957/1/FULLTEXT.pdf](http://eprints.rclis.org/bitstream/10760/6957/1/FULLTEXT.pdf)
- Asmui, M, Hussin, A, & Paino.H. (2012).The importance of work environment facilities. *International Journal of Learning and Development*,2(1), 289-292.
- Ayeni, P. (2017). Perceptions and use of open access journals by Nigerian postgraduate students. *Journal of Information Science Theory and Practice*, 5(1), 26-46. Retrieved from <http://doi.org/10.1633/JISTaP.2017.5.1.3>.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). Erscheinungsort Nicht Ermittlbar: Sage Publications Ltd.
- Fincham, J. E. (2008). Response rates and responsiveness for surveys, standards, and the Journal. *American Journal of Pharmaceutical Education*, 72(2), 43. <https://doi.org/10.5688/aj720243>
- Hodonu-Wusu, J. O., Noorhidawati, A., & Abrizah, A. (2022b). The cautious faculty: Malaysian university researchers' awareness, experiences, and attitudes towards Open Peer Review. *Malaysian Journal of Library & Information Science*, 26(3), 57–76. <https://doi.org/10.22452/mjlis.vol26no3.3>  
<https://digitalcommons.unl.edu/libphilprac/5888>  
<https://www.researchgate.net/publication/335790901>.
- Hussain, I., Chandio, J. H. & Sindher, R. H. K. (2013). A study on attitude of university academia towards the use of open educational resources in higher education. *Pakistan Journal of Commerce and Social Sciences*, 7 (2), 367-380.
- Inegbedion, J.O, & Opataye, J. (2018) OER adaptability and institutional support for lecturers of Issa, A. I., Ibrahim, M. A., Onojah, A. O., & Onojah, A. A. (2020). Undergraduates' Attitude towards the Utilization of Open Educational Resources for Learning. *International Journal of Technology in Education and Science*, 4(3), 227–234.

- Jurado, R. G., & Pettersson, T. (2020). Students' attitudes to open educational resources (OERs). *International Journal of Social Sciences and Educational Studies*, 7(3).  
<https://doi.org/10.23918/ijsses.v7i3p9>
- Kanojia, N., & Verma, S. (2021). Exploring the researcher' perception and adoption technique of open access journals in Central University Libraries of North India: A survey library Philosophy and Practice (e-journal) paper 5888. Retrieved from
- Kumar, G. P., & Raja, M. (2019). A study on awareness and attitude towards open educational resources in higher education students, 2, 1-9. Retrieved from
- Kumar, G.P., Ochoa, M., & Edward, M. (2012). Considering information literacy skills and needs: Designing library instruction for the online learner. *Communication in Information Literacy*, 6, 91-106.
- Lawal, I. (2002). Scholarly communication: The use of non-use of E-print archives for the dissemination of scientific information. *Issues in science and technology librarianship* <http://www.istl.org/02-fall/article3.html>. 36. (4).
- Martin, T., & Kimmons, R. (2020). Faculty Members' Lived Experiences with Choosing Open Educational Resources. *Open Praxis*, 12(1), 131.  
<https://doi.org/10.5944/openpraxis.12.1.987>
- Mills, S., & Mustapha, A. S. (2015). *Gender Representation in Learning Materials: International Perspectives*. New York, NY: Routledge.
- Nagashima, T., & Hrach, S. (2021). Motivating factors among University faculty for adopting open educational resources: Incentives matter. *Journal of Interactive Media in Education*, 2021(1). <https://doi.org/10.5334/jime.678>
- Ngumi, O. (2012). Challenges of access to literature and attitude among postgraduate students in open and distance learning: A case of Egerton University Kenya. *Africa journal Online (AJOL)* 13(2) 213-215.
- open and distance education in Nigeria. *International Journal of Indonesian Education and Teaching*, 4(2). 1-12.
- Organisation for Economic Co-operation and Development (OECD). (2007). Giving knowledge for Free: The emergence of open educational resources.  
<http://www.oecd.org/dataoecd/35/7/38654317.pdf>

- Papin-Ramcharan, J. & Dawe, R.A. (2006). Open access publishing: A developing country view. First Monday, 11 (6). [http://firstmonday.org/issues/issue11\\_6/papin/index.html](http://firstmonday.org/issues/issue11_6/papin/index.html)
- Premo, R. (2018). Affordable Course Materials: Electronic Textbooks and Open Educational Resources. *Journal of Librarianship and Scholarly Communication*, 6(1).  
<https://doi.org/10.7710/2162-3309.2252>
- Prince, G., & Saravanan, P. (2015). A study on awareness and perception towards open access resources among the users in the higher educational institutions in Kanyakumari District. *International Journal of Next Generation Library and Technologies*, 1(3), 1-9.
- Swain, & Panda. (2009). Students' Attitudes to Open Educational Resources (OERs). *International Journal of Social Sciences and Educational Studies*, 7(3).  
<https://doi.org/10.23918/ijsses.v7i3p9>
- Taherdoost, H. (2017). Determining sample size; How to calculate survey sample size. *International Journal of economics and Management systems*.  
<http://www.iasas.org/iasas/journals/ijems>