

Perceived Usefulness and Use of Open Educational Resources among Postgraduate Students in Federal Universities in South-West, Nigeria

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Abstract

The study investigated postgraduate students at federal universities in southwest Nigeria perception and use of open educational resources (OER). To meet the research goal, one research question and one hypothesis were formulated. This study adopted descriptive survey design of the correlational type as its research design. 9,436 master's degree candidates from Federal Universities in South-West Nigeria make up the study's population. This study has a sample size of 377. The sample size determination table by Krejcie and Morgan (1970) was used to derive this. The quota sampling technique was used to collect the sample for this investigation. This was obtained by collecting 4% from each of the different faculties in the study universities. The results showed that there is a high level of perceived usefulness of open educational resources among postgraduate students in federal universities in South-West Nigeria. Additionally, there is a low negative relationship between perceived usefulness and use of OER by postgraduate students in south-west federal universities in Nigeria. As a result, university administration and libraries are urged to support the use of open educational resources by planning conferences, seminars, and workshops to raise awareness of their use, OER should also be added to the use of library curriculum and this should be a compulsory course for all students in order to promote positive awareness.

Keywords: Perceived usefulness, Open educational resources, Use of OER, Perception of OER, Open access resources

INTRODUCTION

In recent years, the landscape of higher education has been significantly influenced by the global movement towards Open Educational Resources (OER). These resources, encompassing a wide array of digital learning materials freely available for educational use, have emerged as a potential transformative force in advancing accessible and affordable education. While the

adoption of OER has gained momentum worldwide, there exists a gap in understanding the dynamics of OER utilization at the postgraduate level, particularly within the context of Federal Universities in South-West, Nigeria. Postgraduate education represents a crucial phase in academic and professional development, requiring advanced and specialized resources to meet the demands of rigorous research and intellectual inquiry and open educational resources seems to be very useful as it help to provide free access to numerous amount of information across borders.

The Ljubljana OER action plan (2017) averred that while advances in OER continues, the awareness of OER by stakeholder which include educators, teacher trainers, librarians, learners, parents, educational policy makers at both government and institutional level, educator and all professional groups, student organizations, educator and student unions, and additional civil society members, intergovernmental organizations and funding bodies has spread faster than its effective use to date. This means that despite the fact that stakeholders are aware of the existence and advantages of using OER, the awareness has not really translated to the use of OER till date. This might be because the users are not exactly satisfied with the quality of information, the repository quality and the quality of services they can get from using OER or they generally do not perceive OER has been useful.

Furthermore, Harsasi (2015) reported positively on use of OER by stating that open education resources is widely used in several areas especially in education in recent times. It was also disclosed that Open Educational Resources (OER) have drawn more attention due to its potential and promise to overcome educational barriers based on geography, economic status, and demographics, as well as to support individualized and lifelong learning. This was further bolstered by Syafrony (2019) who accentuated that the use of open educational resources (OER) by educators and students is growing annually, making OER more well-liked and contributing to the growing trend of open learning resources. Many developing countries face various problems in education, therefore OER is seen as one solution to improve the quality of education, reduce costs and increase access to educational resources. Olufunke and Adegun (2014) however observed that though developed nations now understand the usage of OER, developing nations are still not putting expected use of these online resources because students seem not to be aware of the availability of OER and so the level of assessing OER is minimal. This was corroborated by Issa et al., (2020) who revealed that the use of OER by undergraduates is on the average.

In the same vein, Ivwighrehweta and Ambrose (2020) and Itasanmi (2020) however have a different opinion as they revealed that the usage of OER by open and distance learning students was high. This revelation however begs the question of whether or not the usage of OER is high, average or low in developing countries based on the different categories of OER users. Regular undergraduate students are believed to be utilizing OER moderately or lowly in Nigeria despite their awareness of the benefits of OER. (Akomolafe & Adegun, 2014; Nwana, et al., 2017) while the usage is high with distance learning students. This sentiments may be as a result of users' perception about the usefulness of OER.

According to Ohk et al. (2015), the idea of excellent performance through the employment of a certain system constitutes perceived usefulness. They pointed out that when consumers find a system simple to operate, perceived usefulness might be attained. According to Usoro et al. (2014), perceived usefulness is an individual belief that a technology will make their work better.

However, according to Lwoga (2014), perceived usefulness refers to how much students think that utilizing technology will enhance their academic achievement. Perceived usefulness is a deciding element in the acceptance, integration, and ongoing use of technology in teaching and learning activities, according to a number of research (Mollet 2013; Masele, 2014). Perceived usefulness therefore denotes users intention to use or their believe about their likelihood to use OER which can is related to the frequency of use, amount of use, enjoyment of using, willingness to use, self-reportage of use and expected future consumption of OER.

Open educational resources is very beneficial as it helps to break the barrier to access to information especially in developing countries like Nigeria. Though the awareness as spread in some part of the country especially to educators is impressive, the adoption and utilization is still very low. Many researchers have studied the challenges that might be associated to the adoption and usage of OER but none has focused on users' perceived usefulness of OER. It is on this note that the study aims to investigate perceived usefulness and postgraduate students use of open educational resources in federal universities in south-west Nigeria.

Statement of the Problem

The integration of Open Educational Resources (OER) has become increasingly prevalent in higher education, offering a wealth of digital learning materials freely accessible to students. However, despite the global momentum towards OER adoption especially in developed nations, the case is slightly different in developing countries as many are yet to adopt this innovation despite efforts to create awareness of the benefits accrued to using OER. This is evident from the researchers' interaction with librarians working at these federal universities in South-West, Nigeria as they decry the low utilization of the open resources made available to their users. This low patronage maybe due to a number of factors part of which maybe the users' perception to OER. In light of these issues, this research aims to systematically investigate the perceived usefulness and use of OER among postgraduate students in Federal Universities in South-West, Nigeria.

Purpose of the Study

The main purpose of this study is to examine perceived usefulness and use of open educational resources among postgraduate students' in federal universities in South-West Nigeria. The specific purposes are to:

- i. to find out the level of perceived usefulness of open educational resources to postgraduate students in federal universities in South-West Nigeria;
- i. investigate the relationship between perceived usefulness and postgraduate students use of open educational resources in federal universities in South-West Nigeria; and

Research Questions

The following research questions were raised in this study:

1. What is the level of perceived usefulness of open educational resources to postgraduate students?

Hypothesis

The following null hypothesis was formulated for this study

1. There is no significant relationship between the perceived usefulness and use of OER by postgraduate students in south-west federal universities

REVIEW OF LITERATURE

Perceived Usefulness of Open Educational Resources (OER)

Perceived usefulness of OER denotes users' intention to use or their belief about their likelihood to use OER which can be related to the frequency of use, amount of use, enjoyment of using, willingness to use, self-reportage of use and expected future consumption of OER. Howard and Whitmore (2020) offered two-page samples of four textbooks, two OER textbooks and two commercial textbooks, to rank in order of preference of quality. Students showed a strong preference for one commercial textbook but did not distinguish between the two OER textbooks and the other commercial textbook. Views of the quality of OER textbooks marginally increased and those of commercial textbooks slightly declined when prices were disclosed. This signifies that the cost implication of textbooks to OER makes OER a more preferred choice for users. Still, the meta-analysis of Hilton (2020) maintains the finding that the vast majority of students and instructors that have used both OER and traditional textbooks believed OER are of equal or superior quality. In a similar vein, Venegas-Muggli and Westerman (2019) found that students who had access to OERs performed better academically than those who only used traditional textbooks.

One of the main elements influencing learners' intention and behavior to engage in open educational resources (OER) is their perception of the resources' usefulness (Wong et al., 2016). Many researches on the perceived usefulness of open educational resources (OER) by learners have been carried out in recent years. (Cheung, 2017, 2018, 2019). They discussed the situation of Hong Kong university students, who are generally prepared for OER to a sufficient degree. (Li & Wong, 2014). Many characteristics were found to influence how students perceived the usefulness of open educational resources. For instance, students typically view open educational resources (OER) as being more beneficial for completing assignments, projects, and course textbook supplements than for getting ready for tests and exams. Additionally, they frequently view online dictionaries, open ebooks, and open courseware as being more beneficial than other OER categories.

The perception of learners about OER has frequently been linked to the usefulness of OER (Otto et al., 2021). When Harsasi (2015) examined how university students viewed the value of open educational resources (OER) being incorporated into online courses, she found that many of them had positive things to say about how using OER improved their technological skills and helped them better understand the material being taught in class. In their research methods classes, Lin and Tang (2017) investigated how college students felt about the use of open educational resources (OER) to lessen their fear of statistics. It was discovered that the implementation helps students learn and use research and problem-solving techniques in their classes. Additional pertinent studies include those by Cooney (2016), Gurung (2017a, 2017b), Jhangiani et al. (2018),

and Ocean et al. (2019), where university students' positive perceptions of OER's usefulness were noted, suggesting that OER can help them learn more effectively.

The goal of Lantrip and Ray's (2021) study was to find out what motivates faculty members to use open educational resources (OER) and what barriers stand in the way of Oregon universities' ability to offer more OER. They discovered that in order for faculty to adopt OER, they require continuous support systems, such as training on OER technology and best practices for education. They also saw that teachers thought their work was benefiting students in ways including better access to educational resources, savings for students, and increased involvement. The writers of Akter and Mahbub (2020) examined the drawbacks of using OER written by Bangladeshi academics. According to their survey, almost half of academics and scholars concurred that they have a bad attitude towards open educational resources (OER), and the other half did not appear to be hopeful about using OERs that their universities offer. However, Luo et al. (2020) shared a neutral view as they reported in their study on *The Power of Open: Benefits, Barriers, and Strategies for Integration of Open Educational Resources* that OER is generally perceived by faculty and students as being equivalent to traditional learning resources in terms of quality and that it does not negatively impact student learning.

Use of Open Educational Resources (OER)

Antenas et al. (2014) in their research on *Opening teaching landscapes: the importance of Quality Assurance in the delivery of OERs* reported that majority of the participants who are academics had some experience of using OER especially with text-led resources which is mostly used. Video and multimedia resources also have considerable usage by the participants with few use of animated resources. The respondents also stated that it takes time to research, analyze, prove, evaluate, choose and decide on the right resources to adapt and use. In the same vein Itasanmi, (2020) posited that OER usage among students is high. According to the students, learning becomes more engaging and exciting when they use open educational resources, which also enhances the quality of their learning process. They indicated that OER is used in doing their assignments, and highly used to complement what they learn in class. Generally, they attested to the fact that OER enable them to learn at their own pace and convenience. It also helps them prepare for classes, and mainly serves as supplementary materials to their course modules. They rated OERs having equal or higher relevance due to its free and easily accessible nature.

More recently, Baas et al. (2019) carried out a research on *Teachers' Adoption of OERs* and reported that most teachers mentioned that the technical capacity to adapt OER is a concern, which is partly related to their limited awareness. Some teachers mentioned that they would encounter pedagogical issues when integrating OER in their curriculum. Comparably, the OPAL (2011 as cited in Martin and Kimmons, 2020) found that there are five primary obstacles that people must overcome in order to adopt OER: absence of technology means for resource sharing and adaptation; lack of institutional support; lack of user skills and time; lack of quality or fitness of the resources; and personal issues such as lack of trust and time. Arunkumar and Kannan (2020) conducted a study at Alagappa University to look into PG students' awareness of and usage of open education resources (OER). The study found that OER usage was on the average. With the goal of providing students with free textbooks for the duration of their degree programs, some colleges have changed their curricula to exclusively use open educational resources (OER) (Burke,

2019). As a result, hundreds or perhaps thousands of OER textbooks designed specifically for college students have been produced.

There was a substantial difference in the students' performance between the pre- and post-test scores, which confirms Afolabi's (2017) finding that students who are exposed to the usage of free educational resources have a positive attitude about its use. In the same vein, Venegas-Muggli and Westerman, (2019) revealed an improved academic performance from students that are exposed to the use of open educational resources than those who relied on traditional textbooks alone.

On perceived usage of OER, Tang et al. (2020) researched and found that 24 of the 68 participants wrote about the ease of using OER in teaching, they elated with the use of OER especially in terms of low cost, open licenses, and accessibility. First, participants brought up the fact that open educational resources (OER) were readily available and cost-free, particularly for those from school districts with tight budgets. Second, participants mentioned that OER's open licensing made it simple for them to alter the materials. Third, users mentioned that a lot of open-education repositories (like OERCommons) were simple to use as a central hub with a range of useful content from various platforms, saving time spent hopping between them.

According to Robinson's (2015) study, there has been a detrimental impact on the adoption of open educational resources (OER). Out of the seven courses that were examined, students who used OER in business and psychology courses scored lower than those who used traditional textbooks. 345 students in a computer science course that developed an OER-supported blog project by introducing two significant OER components into their classes participated in a large-scale study on student perceptions (Gil et al., 2013). Out of the 345 students, 150 (43%) said that an OER-supported blog was superior to a blog without OER assistance; yet, 15% of the students preferred blogs that did not use OER (Gil et al., 2013). 79% of 126 respondents in a different poll of 1,830 students said they were generally satisfied with how OER was incorporated into the curriculum, while 17% said they were unsure and 4% said they were unhappy with the OER's quality (Pitt et al. 2013).

Relationship between perceived usefulness and use of OER

It was revealed by TLS and Kusumah (2022) who studied students' satisfaction and performance in the open educational resources (OER): integrated online calculus course and uncovered that all students agreed that the lectures becomes more interactive with the use of OER as compared to the normal traditional classroom. Most of the students revealed that they enjoy using different applications and these makes them perform well during online activities.

The study of Hamid et al. (2016) examined whether or not there was a relationship between predictor variables (perceived usefulness and perceived ease-of-use) and the criterion variable, namely continuance intention in using e-government applications. The results showed that there is a positive and significant influence of the predictor variable on the criterion. However, this study did not explicitly explain the type of the said application, thus it could not be concluded that this influence applies to all types of e-government applications. Junjie's (2017) research findings also demonstrated that perceived usefulness has a major impact on students' intentions to continue with

massive open online courses. In this study the perceived usefulness variable is represented through indicators of knowledge outcome and performance proficiency. In connection with research on the use of an e-learning system, Ashrafi et al. (2020) tried to examine factors that influence student's continuance intention in using the Learning Management System (LMS). In his study, Ashrafi developed a research model based on a combination of several concepts, namely TAM, ECM, Social Influence, and Perceived Enjoyment. This research involved respondents from students in Tehran city. The results of the research are quite surprising that it is evident that perceived usefulness variable is proven to be the main determinant of continuance intention.

Similarly, during the COVID-19 epidemic, Cheung et al. (2023) conducted a study on university students' perceived usefulness of open educational resources (OER) in connection to the shift to online learning. Participants included two student groups, one doing face-to-face instruction and the other via distance learning. They responded to two surveys: one in 2019 (before the epidemic) had 912 responses, and the other in 2021 (during the pandemic) received 1,018 responses. The findings indicate that, on the whole, both student groups thought OER was more helpful during the pandemic. They also disclosed that open access textbooks and open online courses were the particular categories of open educational resources (OER) that were thought to be comparatively more beneficial. While remote learning students thought OER was better for enhancing course materials, face-to-face students had a greater level of perceived usefulness for OER preparation for tests and exams. They both concerned about the limitations of OER, especially on accuracy and comprehensiveness.

METHODOLOGY

This study employed the correlational type descriptive survey design. Because there are many students at the selected universities, the survey design which works well for investigations with big populations—was adopted for this investigation. 9,436 master's degree candidates from Federal Universities in South-West Nigeria made up the population. Quota sampling was the method used to choose the research work's sample. The sample size for this study was 377, this was determined by collecting 4% from each of the several faculties in the institutions under investigation. The sample size determination table by Krejcie and Morgan (1970) was used to derive this. They pointed out that a sample size of 373 is suitable for a population of 10,000, and so a sample size of 377 is considered suitable for a population of 9,436 which is less than the population estimate for Krejcie and Morgan. 377 copies of the questionnaire were distributed and 330 (88%) of those were returned. Since most studies require a response rate of 60% to be regarded acceptable, the study's response rate of 88% is deemed appropriate. Fincham (2008), who said that researchers should aim for response rates of roughly 60% for the majority of their studies, supports this. The survey was gathered, coded, and examined. For the analysis, SPSS, or the statistical tool for the social sciences, was utilized.

DISCUSSION OF FINDINGS

Table 1: Gender of the Respondents

Gender	Frequency	Percentage (%)
Male	186	56.4
Female	144	43.6
Total	330	100.0

From Table 1, it can be seen that there are 186 (56.4%) males and 144 (43.6%) females. This means that there are more male postgraduate students in federal universities in South-West, Nigeria, than their female counterparts who participated in the study.

Research Question 1: What is the level of perceived usefulness of open educational resources to postgraduate students in federal universities in South-West Nigeria?

Table 2: Level of Perceived Usefulness of Open Educational Resources

	OER services	VH	H	L	VL	\bar{X}	SD
1	OER can be used at anytime	221	99	9	1	3.64	0.55
2	OER can be used when needed	218	100	12	0	3.62	0.56
3	The use of OER is enjoyable	208	101	18	3	3.56	0.64
4	OER has self-reportage of usage	139	131	54	6	3.22	0.78
5	Watching videos on OER make learning understandable	192	119	17	2	3.52	0.63
6	Course content on OER are more valuable and well organized	183	135	10	2	3.51	0.59
7	OER allows access to numerous amount of information freely	197	123	7	3	3.56	0.59
8	I get access to current/recent resources on OER	192	118	17	3	3.51	0.64
9	OER saves me from spending more on textbooks	219	103	6	2	3.63	0.55
10	Knowledge can be shared with the world through OER	220	102	7	1	3.64	0.54
Aggregate Mean						3.54	0.49
Criterion Mean						2.50	

Table 2 shows that with an aggregate mean of 3.54 (Std. = 0.49), which is greater than the criterion mean of 2.50, it can be concluded that there is a high level of perceived usefulness of open educational resources among postgraduate students in federal universities in South-West Nigeria.

Testing of the Hypotheses

There is no significant relationship between the perceived usefulness and use of OER by postgraduate students in south-west federal universities in Nigeria.

Table 3 : Relationship between Perceived Usefulness and Use of OER

		Level of Perceived Usefulness of OER	Extent of Usage of OER
Level of Perceived Usefulness of OER	Pearson Correlation	1	-.177**
	Sig. (2-tailed)		.001
	N	330	330
Extent of Usage of OER	Pearson Correlation	-.177**	1
	Sig. (2-tailed)	.001	
	N	330	330

From Table 3, the Pearson correlation coefficient r is $-.177$, which implies 18% degree of relationship. Therefore, there is a low negative relationship between perceived usefulness and use of OER. Since the significant value (Sig.2-tailed) is 0.001 (which is less than 0.05), it can be concluded that there is a significant relationship between perceived usefulness and use of OER by postgraduate students in south-west federal universities in Nigeria. The null hypothesis is therefore rejected, implying that an increase in the perceived usefulness may lead to a decrease in the use of OER and vice versa.

Discussion of Findings

Level of Perceived Usefulness of Open Educational Resources

The study found that there is a high level of perceived usefulness of open educational resources among postgraduate students in federal universities in South-West Nigeria. This is in line with findings of Hilton (2020) who maintains that the vast majority of students and instructors that have used both OER and traditional textbooks believed OER are of equal or superior quality. In a similar vein, Venegas-Muggli and Westerman (2019) found that students who used open educational resources (OERs) outperformed those who only used traditional textbooks in their academic work. Also, Luo et al. (2020) shared a neutral view as they reported in their study on The Power of Open: Benefits, Barriers, and Strategies for Integration of Open Educational Resources that OER is generally perceived by faculty and students as being equivalent to traditional learning resources in terms of quality and that it does not negatively impact student learning. It therefore means that OER are equally reliable and useful like the traditional textbooks and may even have some qualities that makes them better than the traditional books.

Relationship between Perceived Usefulness and Use of OER

The study revealed that there is a low negative relationship between perceived usefulness and use of OER. Hence there is a significant relationship between perceived usefulness and use of OER by postgraduate students in south-west federal universities in Nigeria. Therefore, an increase in the perceived usefulness may lead to a decrease in the use of OER and vice versa. This negates the findings of TLS and Kusumah (2022) who studied students' satisfaction and performance in

the open educational resources (OER): integrated online calculus course and uncovered that all students agreed that the lectures becomes more interactive with the use of OER as compared to the normal traditional classroom. Similarly, the study negates the findings of Cheung et al. (2023) who investigated university students' perceptions of the usefulness of open educational resources (OER) in connection to the shift to online learning during the COVID-19 pandemic and reported that OER was generally seen as being more helpful during the pandemic by both groups of students. The difference in the findings can be attributed to the point that previous studies focused on just one type of OER while this study tried to find out users perception about several OERs.

Conclusion

Consequently, based on the analysis of the data, it can be concluded that there is a high level of perceived usefulness of open educational resources among postgraduate students in federal universities in South-West Nigeria, despite that, it was also reported that there is a low negative relationship between perceived usefulness and use of OER by postgraduate students in south-west federal universities in Nigeria.

Recommendations

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

- i) In order to promote the usage of open educational resources university management are encouraged to organize workshops, seminars and conferences to promote awareness on the various types of OERs and to encourage the use of OERs. This steps will get the students acquainted to the benefits that can derive from using OER.
- ii) University library should play a vital role in promoting the use of OER through their orientation activities, classroom instruction and the inclusion of OER as a topic while teaching the use of library. This will get them accustomed to the various OER platforms available and will stir their interest towards the adoption of OER.

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