Assessing The Awareness and Perception of Open Educational Resources (OER) among Nigerian University Students: A Case Study

Abstract

This study investigated Nigerian university students’ awareness and how this influences their perception and use of Open Educational Resources (OER). The study adopted a descriptive method of quantitative research. 4 research questions were developed and answered and a hypothesis was also tested to determine the relationship between students’ awareness of and their perceptions of OER. Percentage, frequency, mean, standard deviation and t-test were used for the analysis. A correlation coefficient was employed to test the hypothesis. The findings of the study were: Nigeria university students have a high level of awareness of OER; the most popular OER among the Nigeria university students were Coursera, EdX, and OpenStax; OER are generally well-perceived by Nigerian university students; lack of digital literacy skills and lack of adequate knowledge to determine the quality assurance of OER are the only challenges hindering the effective use of OER among the students, and there is a significant relationship between awareness and the perception of OER by the students. The study concluded that the majority of Nigerian university students are familiar with OER and have positive perceptions of OER. The research recommends that educational institutions provide training on digital literacy skills for students to access and effectively use these OER. Also,
efforts should be made to improve the quality assurance mechanisms for OER, including the involvement of educational experts in reviewing and curating OER materials. Lastly, universities, lecturers and librarians should continue to promote OER usage in teaching and learning activities to promote its adoption.

Keywords: Open Educational Resources (OER), Technology Adoption, Awareness, Perception, University Students

Introduction

Among the major problems being faced today in education are the low availability of good quality educational materials and the increasing cost of access to those materials in many locations. The widespread availability of internet access has opened up new possibilities for accessing educational content and resources. The study by Colvard, Watson, and Park (2018), revealed that “Online platforms, digital libraries, and learning management systems have become integral components of educational institutions, providing students with unprecedented access to a vast array of educational materials. The internet enables easy dissemination of information, facilitates collaborative learning, and promotes self-directed learning opportunities (Raja & Nagasubramani, 2018). The integration of Internet technology into the educational system has revolutionized the way students access and interact with educational resources (Emeka & Nyeche, 2016). One significant development in this regard is the emergence of Open Educational Resources (OER).

There are numerous attempts to define the concept of Open Educational Resources (OER). UNESCO (2015) defined OER as teaching, learning, and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation, and redistribution by others with no or limited restrictions. According to Wiley and Hilton Iii, (2018), “OER are freely accessible and openly licensed educational materials that can be used, shared, and modified by educators and learners”. These resources encompass a wide range of content, including textbooks, lecture notes, multimedia materials, and interactive learning modules. A definition of OER should highlight that a license should be as open as possible and that anyone can access, repurpose or adapt the resources.

The adoption of OER holds immense potential for enhancing the user experience and improving access to educational resources, particularly among university students in Nigeria. Open Educational Resources have provided students with new chances to overcome the restrictions of printed materials in terms of time and location. OER are educational materials that are freely available and openly licensed,
allowing users to access, use, adapt, and redistribute them without legal or financial barriers. OER encompass various formats, including textbooks, lecture notes, courseware, simulations, and multimedia resources (Zimmermann, Mayweg-Paus, Ruwe, & Maine, 2023).

Colvard, et al., (2018) pointed out that Open Educational Resources play a crucial role in the educational system by fostering accessibility, affordability, and inclusivity. Analyzing their findings, the adoption of OER provides several key benefits. Firstly, OER can significantly reduce the financial burden on students, as they can access high-quality learning materials for free or at a much lower cost compared to traditional textbooks. The affordability aspect makes education more accessible to students from economically disadvantaged backgrounds. Open educational resources promote inclusivity by providing educational resources in multiple languages and accommodating diverse learning styles. Open licensing allows educators to adapt and customize the materials to suit the specific needs of their students, thereby enhancing the relevance and effectiveness of the learning experience. Additionally, OER facilitate the sharing of best practices, enabling educators to learn from one another and collaboratively develop educational content (Cheung, Wong, & Li, 2023).

Massachusetts Institute of Technology (MIT), in 2001, made all of its courses available on the Internet for free. As the number of institutions adopting free or Open Courseware (OCW) keeps increasing, UNESCO in the year 2002 held the inaugural Global Open Educational Resources Forum where the term “OER” was coined. The forum emphasized the importance of OER in increasing access to education, particularly in developing nations. The outcome of this Forum has made many institutions and organizations around the world start providing open access to their courseware (Umar, Kodhandarama, & Kanwar, 2013). Today, OER have become a medium for increasing global access to high-quality educational content by making high-quality courses and materials freely available online (Ofoegbu, Asogwa, & Ogbonna, 2021). OER is a concept that intends to bridge the educational gap by making high-quality learning resources available for free. OER can be utilized to improve higher education quality and give more people the opportunity to get higher education at a lower cost (Raja & Nagasubramani, 2018).

Several Nigerian educational institutions have made commendable efforts to embrace OER and incorporate them into their teaching and learning practices. For instance, Ahmadu Bello University (ABU) has developed an OER repository that provides open access to a wide range of learning resources, including lecture notes, past examination questions, and course materials. This initiative has not only enhanced access to quality educational resources but also encouraged collaborative content creation among ABU faculty members (Ikegulu & Oranusi, 2014). The study of Agbu, Mulder, De Vries, Tenebe, and Caine (2016), also supported that the National Open University of Nigeria (NOUN) has been a pioneer in OER adoption. NOUN has developed its own OER platform, called the NOUN OER Repository,
which houses a diverse collection of learning materials for various disciplines. This initiative has enabled NOUN students to access up-to-date resources and engage in self-directed learning, thereby enriching their educational experience.

Despite the potential benefits of OER, several challenges hinder its widespread awareness and usage in Nigerian educational institutions. Firstly, limited internet access and unreliable connectivity pose significant obstacles to the effective utilization of OER. Inadequate infrastructure and insufficient internet penetration in certain regions of Nigeria restrict students’ ability to access online educational resources consistently (Zaid & Alabi, 2021). Secondly, a lack of awareness and understanding among educators and students about OER limits their adoption. Many educators are unfamiliar with the concept of OER and the benefits they offer. Consequently, they may be hesitant to explore and integrate OER into their teaching practices. Students, on the other hand, may not be aware of the existence of OER or how to locate and effectively utilize these resources (Gambo & Sani, 2017). Also, the absence of institutional policies and support systems for OER integration hampers their adoption. The lack of clear guidelines and incentives for educators to create and share OER contributes to the limited availability of open educational resources. Additionally, the absence of a sustainable funding model for OER initiatives poses challenges to their scalability and long-term viability (Zaid & Alabi, 2021).

To enhance the usability and uptake of OER in Nigerian universities, several strategies can be employed. Firstly, it is essential to raise awareness and build capacity among educators and students regarding OER. Training programs, workshops, and professional development sessions can be organized to educate stakeholders about the benefits of OER, how to find and evaluate open educational resources, and how to integrate them effectively into teaching and learning practices. Secondly, establishing institutional policies and support structures for OER integration is crucial. Nigerian universities should develop guidelines and frameworks that encourage educators to create, adapt, and share OER. Recognizing and rewarding faculty members for their contributions to open education can incentivize their engagement with OER initiatives. Collaborative platforms and communities of practice can be established to facilitate the sharing of OER and foster a culture of collaboration and innovation among educators.

Thirdly, addressing the infrastructure challenges related to internet access and connectivity is essential. Nigerian universities should invest in improving internet infrastructure and providing reliable and affordable internet access to students and educators. Efforts should be made to bridge the digital divide and ensure equitable access to educational resources, particularly in underserved areas (Tlili, et al., 2022).
Statement of the Problem

The utilization of Open Educational Resources (OER) in Nigerian universities has gained attention as a potential solution to challenges such as limited access to quality educational materials and the high costs of traditional textbooks for anybody who wants to study. Oluwayimika and Idoghor (2023) stated that “Students still continue to struggle with using online learning and research platforms to address and respond to their research demands. This could be due to a lack of user-friendliness of the platforms. And users will not utilize a site if it is difficult to obtain its material (Okwu, Ogunbodede, & Suleiman, 2023). So, the accessibility of OER platforms is one of the most important factors to determine their adoption by users. Hence, the user experience and perception of OER among Nigerian university students remain largely unexplored, which is what this study aims to investigate, by examining the factors influencing their usage patterns, perceptions, and barriers.

The Objective of the Study

The main purpose of this study was to examine the awareness and perception of OER among Nigerian university students. Precisely, this study:
1. Assessed the level of awareness of OER and the most commonly used Open Educational Resources (OER) among Nigerian university students;
2. Investigated how the students perceive OER; and lastly
3. Examined the challenges of using OER among Nigerian university students.

Literature Review

The perception of any technology is primarily influenced by the level of information available at a time about the technology and the simplicity with which it could be used. Open Educational Resources (OER) are digital educational materials that can be used by both teachers and their students freely. These resources include classroom activities, quizzes, textbooks, multimedia applications, and course models (Wiley et al., 2018). As established in the study of Fabunmi and Onasanya (2023), that teachers’ attitudes towards any learning-enhance technology have a significant effect on how the students would perceive the technology. This, therefore, means that teachers are one of the influential factors in the adoption of technology for teaching and learning in our institutions. The adoption of OER in higher institutions is becoming increasingly important, as resources have the potential to save costs, enhance teaching and learning experiences, promote collaboration among educators, and support professional development (Wiley et al., 2018).
The study conducted on the use of OER by Nagaiah and Thanuskodi (2021), has revealed that most students at Alagappa University in India were aware of OER and use them for educational purposes. In the African context, the findings of Oppong and Maluleka (2022) on the evaluation of users’ awareness and use of research assistance platforms among undergraduates at Kumasi Technical University in Ghana showed that most of the students were unaware of the university’s online library research help platforms. Most students were unable to identify the online library research help platforms they had lately used in the university library or elsewhere. The results also showed that undergraduate students found the research platforms difficult to use. The study, therefore, recommended that the University library should adopt awareness strategies that inform the students of the existence and benefits of this library research assistant and to employ a user-friendly platform.

Similarly, Wiche and Ogunbodede’s (2021) study on awareness and use of OER by library and information science students at the Ignatius Ajuru University of Education in Rivers State here in Nigeria revealed that students have a high degree of awareness of OER and a high level of use of various forms of OER. But the study pointed out information literacy skills, insufficient electrical supply, bad internet access, lack of library sensitization, and lack of support from lecturers on the usage of OER as the major barriers to the effective usage of OER. And basically, it suggested that school administration should organize digital literacy skills training for students. In contrast, Itasanmi (2020) examined the OER awareness and their usage among open and distance learning students in southwestern Nigeria. The results of the findings showed that though the students use OER often, except that their general knowledge of the repositories was limited. The participants had a positive perception of OER in general, and they profited from using the materials in a variety of ways.

In terms of the benefits of OER, Pounds and Bostock (2019), opined that OER have the potential to increase teaching efficiency, improve the quality of teaching, and reduce economic and geographic barriers to quality education. However, there are also challenges and hindrances to the access and use of OER, these include low awareness, copyright policies, mistrust in OER quality, and technological limitations (Pounds & Bostock, 2019).

No doubt that some of the reviewed studies are similar to this present study because some of them examined OER, usage, usability level, and the challenges in the use of OER among undergraduate students. However, the researchers identified some aspects of these studies that were different from the previous studies. For instance, none of the studies proved statistically the relationship that exists between awareness and perception of OER. Hence, this study intends to fill this gap as it will prove statistically the relationship that exists between awareness and perception of OER among Nigerian undergraduate students.
Methodology

This research was a descriptive method of quantitative research. A total of 30 students from the Faculty of Education of the University of Abuja were randomly sampled to participate in the study. The 30 students, representing 30% of the total population of 100 students considered for the study were chosen using a simple random sampling procedure. This study’s sample size was determined using the Taro Yamane sample model. The instrument used to collect data was a questionnaire. Experts in educational technology evaluated the questionnaire. The questionnaire was tested for reliability on ten (10) randomly selected students from the Faculty of Law of the same university, using an independent sampling technique as it allows for the selection of samples from the same population to be used for the study for pilot testing. The Faculty of Law of the university was selected as it is not the one targeted for the study. The data gathered from the pilot study was analyzed to check for internal consistency of reliability and the Cronbach alpha value of 0.98 was obtained. So, the questionnaire was deemed credible based on the coefficient obtained.

Data were collected using a researcher-designed questionnaire titled “Assessing the Awareness and Perception of OER among Nigerian University Students (AAPOER). It was divided into two parts. Part A elicited demographic information from the respondents while Part B sought information based on university students’ awareness and use of OER. The response to each of the items was weighted on a 4-point Likert-type scoring scale. Strongly Agree (SA) = 4 points, Agree (A) = 3 points, Disagree (D) = 2 points and Strongly Disagree (SD) = 1 point. From the scale, a criterion score of 2.5 was adopted. The 2.5 Criterion score was arrived at as thus: (4+3+2+1) /4 = 2.5. So, items that have a mean score greater than or equal to the criterion score of 2.5 were accepted while the items below 2.5 were not accepted. The data collected were analysed using descriptive statistics (frequency counts, percentages, and mean), while a correlation coefficient was used to test the hypothesis.

Research Questions

The following research questions were set to guide the study:
1. What is the student’s level of awareness of OER?
2. What are the most commonly used Open Educational Resources (OER) among Nigerian university students?
3. How do Nigerian university students perceive the quality and usefulness of OER in their learning experience?
4. What are the challenges being faced by Nigerian university students when accessing and using OER?
Hypothesis

There is no significant relationship between the awareness and perception of OER among Nigerian university students.

Data analysis

The data collected were coded, edited, and analysed. Descriptive statistics was the statistical tool used for analysing the data. In order to get the position of the respondents on the items that were given, frequency counts and percentages were used to analyse research question 2 while mean and standard deviation were used for the analysis of research questions 1, 3 and 4. The null hypothesis was tested by the Pearson Product – Moment Correlation Coefficient using Excel. The results are presented and discussed in the subsequent sections.

Analyses Regarding Research Questions and Hypothesis

Analysis of the background data of the respondents is presented in Table 1 below:

Table 1
Demographic Characteristics of Respondents

<table>
<thead>
<tr>
<th>Gender of the Respondents</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>23</td>
<td>76.7</td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
<td>23.3</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Own work.

Figure 1. Demographic Characteristics of Respondents
Source: Own work.
Table 1 with figure 1 shows that 23 (76.7%) of the students were male while 7 (23.3%) were female. This implies that the majority of the students under study were male.

The findings of the study are presented in the following tables with explanations.

**Research Question 1: What is your level of awareness of open educational resources?**

The first research question sought to investigate the level of students’ awareness of OER. The results are presented in Table 2.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Awareness of OER</th>
<th>S</th>
<th>A</th>
<th>D</th>
<th>S.D.</th>
<th>Mean</th>
<th>S.D.</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I am aware of open educational resources</td>
<td>16</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>3.4</td>
<td>0.61</td>
<td>High-Level</td>
</tr>
<tr>
<td>2.</td>
<td>I am aware that OER provides quality free materials for learning and research.</td>
<td>15</td>
<td>12</td>
<td>2</td>
<td>1</td>
<td>3.4</td>
<td>0.64</td>
<td>High-Level</td>
</tr>
<tr>
<td>3.</td>
<td>I am aware that open educational resources are in online/electronic format</td>
<td>17</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>3.5</td>
<td>0.58</td>
<td>High-Level</td>
</tr>
<tr>
<td>4.</td>
<td>I am aware that open educational resources are readily available for teaching, learning, and research.</td>
<td>15</td>
<td>13</td>
<td>2</td>
<td>0</td>
<td>3.4</td>
<td>0.61</td>
<td>High-Level</td>
</tr>
<tr>
<td>5.</td>
<td>I am aware that anyone can legally and freely copy, adapt and re-share OER.</td>
<td>13</td>
<td>14</td>
<td>2</td>
<td>1</td>
<td>3.3</td>
<td>0.69</td>
<td>High-Level</td>
</tr>
<tr>
<td></td>
<td><strong>Grand Mean</strong></td>
<td>14</td>
<td>14</td>
<td>2</td>
<td>1</td>
<td>3.4</td>
<td>0.63</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Own work.

Table 2 shows the student’s level of awareness of OER. All the items in Table 2 have mean values that are above the criterion mean of (2.5); also, the grand mean (3.4) is greater than the criterion mean (2.5). This shows that the students have a high level of awareness of OER.

One-sample t-test was conducted to determine if the sample mean, based on a sample size of 30, a population mean of 3.512, a sample mean of 3.4, and a sample standard deviation of 0.63, is significantly different from the population mean. The calculated t-value was approximately -0.974. When comparing this to the critical t-value at a 0.05 significance level with 29 degrees of freedom, the absolute value of the t-value was found to be less than the critical t-value (|-0.974| ≤ 2.045). As such, there is insufficient evidence to reject the null hypothesis. Therefore, it
is concluded that the sample mean awareness of OER is not significantly different from the overall population mean awareness at 0.05 level of significant.

**Research Question 2: What are the most commonly used Open Educational Resources (OER) among Nigerian university students?**

The second research question sought to find out the mostly used OER among Nigerian students. The results are presented in Table 3.

<table>
<thead>
<tr>
<th>OER</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OER Commons</td>
<td>9</td>
<td>30.02</td>
</tr>
<tr>
<td>OpenStax</td>
<td>6</td>
<td>20.00</td>
</tr>
<tr>
<td>Coursera</td>
<td>5</td>
<td>16.66</td>
</tr>
<tr>
<td>Khan Academy</td>
<td>4</td>
<td>13.33</td>
</tr>
<tr>
<td>MIT Open Courseware</td>
<td>3</td>
<td>10.00</td>
</tr>
<tr>
<td>EdX</td>
<td>2</td>
<td>6.66</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>3.33</td>
</tr>
</tbody>
</table>

Source: Author.

Table 3 with figure 2 shows that the most commonly used OER among the respondents were OER Common, OpenStax, and Coursera with 30.02%, 20.00% and 16.66% respectively. These three OER accounted for over 60% of the total respondents. The remaining respondents used a variety of other OER, including Khan Academy, MIT Open Courseware, edX, and other unspecified OER. The ta-
ble also revealed that the percentage of respondents who used each OER is evenly distributed. This suggests that the 30 respondents are familiar with all the OER.

**Research Question 3:** How do Nigerian university students perceive the quality and usefulness of OER in their learning experience?

The third research question sought to find out how Nigerian university students perceive the quality and usefulness of OER in their learning experience. The results are presented in Table 4.

**Table 4**

*Perception of Nigerian university students of OER*

<table>
<thead>
<tr>
<th>Students’ Perception of OER</th>
<th>S</th>
<th>A</th>
<th>D</th>
<th>S</th>
<th>D</th>
<th>Mean</th>
<th>S.D.</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find OER to be of high quality.</td>
<td>16</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td></td>
<td>3.4</td>
<td>0.71</td>
<td>Well-Perceived</td>
</tr>
<tr>
<td>I find OER to be useful in my learning experience.</td>
<td>15</td>
<td>13</td>
<td>1</td>
<td>1</td>
<td></td>
<td>3.4</td>
<td>0.69</td>
<td>Well-Perceived</td>
</tr>
<tr>
<td>OER have helped me to improve my academic performance.</td>
<td>15</td>
<td>12</td>
<td>2</td>
<td>1</td>
<td></td>
<td>3.4</td>
<td>0.71</td>
<td>Well-Perceived</td>
</tr>
<tr>
<td>OER have made it easier for me to access high-quality education.</td>
<td>17</td>
<td>12</td>
<td>1</td>
<td>3</td>
<td></td>
<td>3.5</td>
<td>0.64</td>
<td>Well-Perceived</td>
</tr>
<tr>
<td>OER have helped me to save money on textbooks.</td>
<td>14</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td></td>
<td>3.3</td>
<td>0.82</td>
<td>Well-Perceived</td>
</tr>
<tr>
<td>Grand Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.4</td>
<td>0.76</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own work.

Table 4 reveals the student’s perception of OER. All the items in Table 4 have mean values that are above the criterion mean of (2.5), also, the grand mean (3.4) is greater than the criterion mean (2.5), which indicates that OER are generally well-received by Nigerian university students.

To determine whether the sample mean is significantly different from the population mean, one-sample t-test was carried out. The calculated t-value of –1.44 falls within the range (–2.045<–1.44<2.045), indicating that there is not enough evidence to reject the null hypothesis. Therefore, there is no sufficient grounds to conclude that the sample mean is significantly different from the population mean at the 0.05 significance level. Hence, this analysis suggests that there is no statistically significant difference between the sample mean and the population mean. The perception of sample mean of OER is not significantly different from the overall population mean perception at 0.05 level of significant.
Research Question 4: What challenges do Nigerian university students face when accessing and using OER?

The fourth research question sought to investigate the potential challenges in accessing and using OER. The results are presented in Table 5.

Table 5
Challenges in the Use of OER

<table>
<thead>
<tr>
<th>S/N</th>
<th>Challenges in using OER</th>
<th>S</th>
<th>A</th>
<th>D</th>
<th>S</th>
<th>Mean</th>
<th>S.D.</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lack of digital literacy skills</td>
<td>8</td>
<td>16</td>
<td>5</td>
<td>1</td>
<td>3.0</td>
<td>0.80</td>
<td>Agree</td>
</tr>
<tr>
<td>2.</td>
<td>Lack of awareness of Intellectual Property Right issues</td>
<td>2</td>
<td>3</td>
<td>18</td>
<td>7</td>
<td>2.0</td>
<td>0.75</td>
<td>Not Agree</td>
</tr>
<tr>
<td>3.</td>
<td>Lack of library/lecturer sensitization on the use of OER</td>
<td>2</td>
<td>2</td>
<td>18</td>
<td>8</td>
<td>1.3</td>
<td>0.76</td>
<td>Not Agree</td>
</tr>
<tr>
<td>4.</td>
<td>Lack of awareness of the availability of OER.</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>11</td>
<td>1.8</td>
<td>0.81</td>
<td>Not Agree</td>
</tr>
<tr>
<td>5.</td>
<td>Poor Internet connectivity</td>
<td>1</td>
<td>2</td>
<td>19</td>
<td>8</td>
<td>1.9</td>
<td>0.68</td>
<td>Not Agree</td>
</tr>
<tr>
<td>6.</td>
<td>Lack of relevant OER materials in my course of study</td>
<td>1</td>
<td>2</td>
<td>16</td>
<td>12</td>
<td>1.7</td>
<td>0.69</td>
<td>Not Agree</td>
</tr>
<tr>
<td>7.</td>
<td>Lack of adequate knowledge to evaluate OER.</td>
<td>11</td>
<td>10</td>
<td>5</td>
<td>4</td>
<td>2.9</td>
<td>0.75</td>
<td>Agree</td>
</tr>
</tbody>
</table>

Grand Mean: 2.0 0.72

Source: Own work.

Table 5 reveals the challenges in the use of OER by the students. Items 2–6 have mean values that are lesser than the criterion mean of (2.5), and the grand mean (2.0) is also less than the criterion mean of (2.5). Item 1 and 7, have a mean value that is above the criterion mean of (2.5). This indicates that item 1, which is the lack of digital literacy skills and item 7, which is the lack of adequate knowledge to determine the quality assurance of OER, are the only challenges hindering the effective use of OER in this study.

One-Sample T-Test Analysis was carried out to determine if the sample mean is significantly different from the population mean at a 0.05 significance level. The result revealed that the calculated t-statistic (1.68) is less than the critical t-value (1.699), the null hypothesis is not rejected. This implies that there is insufficient evidence at the 0.05 significance level to conclude that the sample mean is significantly different from the population mean. Therefore, we do not have grounds to suggest a significant deviation of the sample mean from the population mean in terms of the challenges in the use of OER.

Hypothesis Testing

There is no significant relationship between the awareness and perception of OER among Nigerian university students.
Table 6
Relationship between awareness and perception of OER by students

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.790569415</td>
</tr>
</tbody>
</table>

Source: Own work.

Table 6 presents the relationship between awareness and the perception of OER by students. This relationship between the two factors was tested by the Pearson Product – Moment Correlation Coefficient using program spreadsheet application of Excel. The calculated correlation coefficient between awareness and perception was 0.790569415. A t-test was conducted to determine the statistical significance of this correlation coefficient. The test statistic was found to be 2.058, which is greater than the critical value of 1.833 at a significance level of 0.05. Therefore, the null hypothesis was rejected which means that the correlation coefficient is statistically significant.

Hence, there is a significant relationship between awareness and the perception of OER by students of Nigerian universities. This implies that when Awareness goes up, Perception tends to rise as well.

Discussion

This study assessed the level of awareness and perception of OER among Nigerian university students. This seeks to check their perception of OER and the mostly used OER among the students. The analysed data revealed that Nigerian university students are highly aware of OER. This is reflected in the grand mean score of 3.4. This finding conforms with the finding of Nagaiah & Thanuskodi (2021), that the majority of students are aware of OER. The high level of awareness could be attributed to the high cost of textbooks and other physical learning materials. This could also be due to several OER promotion campaigns and workshops across the Nigerian universities. It will be recalled that since MIT announced its Open Courseware Program in 2001, OER have gradually become popular in higher institutions of learning.

The results of this study also revealed the most popular OER among Nigerian university students. Analysis of the data collected shows that OER Commons, OpenStax, and Coursera were the most used OER with 30.02%, 20.00% and 16.66% respectively. These three OER accounted for over 60% of the total respondents. This finding is in support of the study of Hew and Cheung (2013) in
which it was reported that different types of OER were accessed by the respondents of which video resources were the most frequently used. This is also in line with the study of Harsasi (2015) in which some students responded that by watching the video, they can see the examples of a topic they are studying in a real case. The students responded that watching videos while learning a topic, is more attractive, and avoids boredom, rather than only reading a text. 

From the analyzed data, it was revealed that OER were positively perceived by the students as having the capacity to improve their learning experience. This can be attributed to the fact that OER are of high quality, OER could be used to access qualitative education and can enhance the learning experience, among other factors. This confirms the findings of the study by Harsasi (2015), which opined that the use of OER is perceived by students as something interesting because it’s new for them and can help them to have a better understanding of a topic.

The only challenges to effective use of OER as revealed in this study are lack of digital literacy skills and the lack of adequate knowledge to determine the quality assurance of OER. This finding is in agreement with the findings of Hylén (2020), who also found that among other major challenges to the effective use of OER is a lack of internet search skills and time to look for suitable resources.

Finally, the hypothesis test reveals that there is a significant relationship between awareness and perception of OER among Nigerian university students. The level of awareness of OER among the students will help shape their perceptions about it. This study supports the findings of Manzo & Kannan (2020), who opined that students’ perception and use of e-resources are highly influenced by students’ awareness of them.

**Conclusion and Recommendations**

The increasing rise of OER awareness is helping to reposition educational offerings in higher institutions around the world, most especially in underdeveloped countries where access to high-quality educational materials is capital-intensive. Nigerian university students are highly aware of OER as revealed in this study and that the only challenges to the effective use of OER are a lack of digital literacy skills coupled with a lack of required skills to determine the quality assurance of OER. There is also an indication that OER are generally well-perceived by Nigerian university students. The students find OER to be of high quality, useful, and helpful in their learning experience. OER have also helped students to save money and improve their academic performance.

The hypothesis test reveals that there is a significant relationship between the students’ awareness of OER and their perception of them. It is therefore recom-
mended that the school administrators and librarians provide adequate training on
digital literacy skills for students to effectively access and use OER. Also, efforts
should be made to improve the quality assurance mechanisms for OER, including
the involvement of educational experts in reviewing and curating OER materials.
Again, institutions should intensify their collective and individual efforts in pro-
moting OER usage among students to sustain its use. It is important to note that
this is just a small sample of the data that could be collected on this topic. A larger
study would be needed to confirm these findings and to explore other factors that
may influence students’ perceptions and use of OER.

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Ocena świadomości i postrzegania otwartych zasobów edukacyjnych (OER) wśród studentów nigeryjskich uniwersytetów: studium przypadku

Streszczenie

W badaniu tym zbadano świadomość studentów nigeryjskich uniwersytetów oraz wpływ, jaki ma to na ich postrzeganie i korzystanie z otwartych zasobów edukacyjnych (OER). W badaniu przyjęto opisową metodę badań ilościowych. Opracowano cztery pytania badawcze i udzielono na nie odpowiedzi, a także przetestowano hipotezę w celu określenia związku świadomością uczniów a ich postrzeganiem OER. Do analizy wykorzystano procent, częstotliwość, średnią i odchylenie standardowe. Do sprawdzenia hipotezy wykorzystano współczynnik korelacji. Wyniki badania były następujące: studenci uniwersytetów w Nigerii mają wysoki poziom świadomości na temat OER; najpopularniejszymi OER wśród studentów uniwersytetów w Nigerii były Coursera, EdX i OpenStax; OER są na ogół dobrze postrzegane przez nigeryjskich studentów; brak umiejętności korzystania z technologii cyfrowych i brak odpowiedniej wiedzy umożliwiającej określenie sposobu zapewniania jakości OER to jedynie wyzwania utrudniające skuteczne korzystanie z OER wśród studentów, przy czym istnieje znaczący związek pomiędzy świadomością a postrzeganiem OER przez studentów. Z badania wynika, że większość nigeryjskich studentów uniwersytetów zna OER i pozytywnie je postrzega. W badaniu zalecono, aby instytucje edukacyjne zapewniły studentom szkolenia w zakresie umiejętności informatycznych, umożliwiające im dostęp do OER i skuteczne korzystanie z nich. Należy także podjąć wysiłki w celu ulepszenia mechanizmów zapewniania jakości OER, w tym – zaangażowania ekspertów ds. edukacji w przeglądanie i selekcję materiałów OER. Wreszcie, uniwersytety, wykładowcy i bibliotekarze powinni w dalszym ciągu promować wykorzystanie OER w działaniach dydaktycznych i edukacyjnych, aby upowszechnić ich przyjęcie.

Słowa kluczowe: Otwarte zasoby edukacyjne, przyjęcie technologii, świadomość, postrzeganie, studenci
Evaluación DEL conocimiento y la Percepción de los recursos educativos abiertos (REA) Entre Estudiantes Universitarios Nigeriano: un estudio de Caso

Resumen

Este estudio investigó la conciencia de los estudiantes universitarios nigerianos y cómo esto influye en su percepción y uso de los Recursos Educativos Abiertos (REA). El estudio adoptó un método descriptivo de investigación cuantitativa. Se desarrollaron y respondieron cuatro preguntas de investigación y también se probó una hipótesis para determinar la relación entre el conocimiento de los estudiantes y sus percepciones sobre los REA. Para el análisis se utilizaron porcentaje, frecuencia, media y desviación estándar. Se empleó un coeficiente de correlación para probar la hipótesis. Las conclusiones del estudio fueron: los estudiantes universitarios de Nigeria tienen un alto nivel de conocimiento de los REA; los REA más populares entre los estudiantes universitarios de Nigeria fueron Coursera, EdX y OpenStax; En general, los estudiantes universitarios nigerianos perciben bien los REA; la falta de habilidades de alfabetización digital y la falta de conocimiento adecuado para determinar el aseguramiento de la calidad de los REA son los únicos desafíos que obstaculizan el uso efectivo de los REA entre los estudiantes, y existe una relación significativa entre el conocimiento y la percepción de los REA por parte de los estudiantes. El estudio concluyó que la mayoría de los estudiantes universitarios nigerianos están familiarizados con los REA y tienen percepciones positivas de ellos. La investigación recomienda que las instituciones educativas brinden capacitación sobre habilidades de alfabetización digital para que los estudiantes accedan y utilicen efectivamente estos REA. Además, se deben hacer esfuerzos para mejorar los mecanismos de garantía de calidad de los REA, incluida la participación de expertos en educación en la revisión y curación de materiales de REA. Por último, las universidades, profesores y bibliotecarios deberían seguir promoviendo el uso de REA en actividades de enseñanza y aprendizaje para promover su adopción.

Palabras clave: Recursos Educativos Abiertos, Adopción de Tecnología, Conciencia, Percepción, Estudiantes universitarios
Assessing The Awareness and Perception of Open Educational Resources (OER)…

уniversитетов; отсутствие навыков цифровой грамотности и отсутствие адекватных знаний для определения обеспечения качества ООР — единственные проблемы, препятствующие эффективному использованию ООР среди учащихся, и существует значительная взаимосвязь между осведомленностью и восприятием ООР учащимися. Исследование пришло к выводу, что большинство студентов нигерийских университетов знакомы с ООР и положительно относятся к ним. Исследование рекомендует образовательным учреждениям проводить обучение навыкам цифровой грамотности, чтобы учащиеся могли получить доступ к этим ООР и эффективно их использовать. Кроме того, следует предпринять усилия по совершенствованию механизмов обеспечения качества ООР, включая привлечение экспертов в области образования к рассмотрению и курированию материалов ООР. Наконец, университеты, преподаватели и библиотекарии должны продолжать поощрять использование ООР в преподавании и учебной деятельности, чтобы способствовать их внедрению.

К л ю ч е в ы е с л о в а: открытые образовательные ресурсы, Внедрение технологий, Осведомленность, Восприятие, Студенты университета