

Awareness, Availability, Accessibility and Utilisation of Open Educational Resources (OERS) among National Open University of Nigeria Learners in Nigeria

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Abstract

Unrestricted access to lifelong learning, self-directed learning and continuous education is made possible by Open Educational Resources (OERs), the indispensable software that facilitates the creation, utilisation, reuse and delivery of educational materials. OERs are not being fully investigated by students at the National Open University of Nigeria (NOUN), according to reports. Thus, this study looked into how OERs were used, available, accessible and known among NOUN students in southwestern Nigeria.

The design of the descriptive survey was chosen. Every centre in Ekiti, Ondo, Osun, Oyo and Ogun was counted, and three of the four centres in Lagos were chosen at random. Two departments that consistently use open educational resources (OERs) were purposefully chosen in each of the four faculties—education, science, agriculture and the arts—that were chosen from each centre. From all the centres (Ekiti-140, Ondo-158, Osun-133, Oyo-137, Ogun-132, Lagos-181), a total of 881 students were chosen at random. Scales measuring OERs awareness, ($r=0.80$), accessibility ($r=0.81$), and utilisation ($r=0.83$) were the instruments used. At the 0.05 level of significance, the quantitative data were analysed using linear correlation and descriptive statistics.

The awareness of ($\bar{x}=2.85$) and access to ($\bar{x}=2.85$) the OERs were high against a 2.30 threshold. OERs utilisation was ($\bar{x}=2.30$). The OERs' awareness ($r=0.49$) and availability ($r=0.47$) correlated significantly with utilisation. Learners' awareness, availability and attitude influenced the utilisation of open educational resources in the National Open University of Nigeria.

Keywords: *National Open University of Nigeria, awareness, availability, accessibility, utilisation of Open Educational Resources.*

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Introduction

OERs is still an invaluable resource for granting people access to high-quality, reasonably priced education. As an Open Distance Learning (ODL) institution, NOUN aims to support lifelong learning and offer education to all. In August 2014, NOUN launched its OERs initiatives with the creation of an OERs unit housed in the Vice-Chancellor's office. The NOUN had participated in capacity building in this field in partnership with the Commonwealth of Learning (COL) and the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The e-courseware that NOUN, an ODL institution, currently offers includes about 2000 course material items, 33 of which have already been converted to open educational resources. In June 2016, the university senate approved NOUN's OERs policy. The open-source master (XML) template that serves as the foundation for the OERs courses includes machine-readable code, embedded metadata and open-source fonts. Following that, the OERs were made available in three formats on the NOUN website: ePUB, Open Document Text (ODT), and PDF under a Creative Commons-Attribution-Share-Alike licence (CC BY-SA) [NOUN (2014) cited in Eyisi and Omokhabi (2020)]. It thus became imperative to investigate the knowledge, attitude, awareness and utilisation of OERs among NOUN learners, especially since previous studies on OERs were mainly conducted among traditional students in dual-mode institutions, with little emphasis on the knowledge, awareness, attitude and utilisation of OERs of NOUN learners.

The primary aim of this study was to investigate the awareness, availability, accessibility and utilisation of OERs among learners enrolled at NOUN in the southwestern region of the country. It became necessary, therefore, to look into how NOUN learners know and perceive open educational resources (OERs). This is because prior research on OERs was primarily done among traditional students in dual-mode institutions with little focus on how NOUN learners perceive, know and utilise OERs. This study's main goal was to find out how well-informed, accessible and useful open educational resources (OERs) were among students enrolled at NOUN in the nation's southwest.

The research set out to accomplish the following specific goals: determine the awareness of open educational resources and their utilisation among NOUN learners; determine the relationship between open educational resource availability and its utilisation among NOUN learners; and ascertain if NOUN learners have access to open educational resources.

Research Question 1

Do NOUN students easily access OERs to support their learning?

Hypotheses

The study tested the following hypotheses:

H_{01} : There is no significant relationship between the awareness of OERs and their utilisation among NOUN learners.

H_{02} : There is no significant relationship between OERs' availability and their utilisation among NOUN learners.

Methodology

An ex-post-facto survey design was used for this investigation. Because it does not require the manipulation of variables, this specific design was selected because it is appropriate. Students from NOUN's six centres in Southwestern Nigeria made up the study sample. 16515 people from the eight departments—Ekiti (2628), Ondo (2971), Osun (2498), Oyo (2566), Ogun (2467) and Lagos (3385)—as well as the OERs unit staff, are included in the study population. There were 881 NOUN students in the sample for this research. The researchers employed a multi-stage sampling process to select the participants. In the first phase, NOUN was specifically selected by the researcher as the only single-mode distance learning institution that used Open Educational Resources (OERs) in its teaching and learning procedures. With the exception of Lagos State, where three of the four centres were randomly selected and the fourth centre was used to test the instruments' reliability, the researcher used a total enumeration sampling technique to include all of the state's centres in the second stage of the study. Using the stratified sampling technique, the researcher separated the NOUN students into their various faculties in the third stage. Additionally, the purposive sample technique was used to select the main operating faculties from each centre that had a high student enrolment out of the seven faculties that were there. These faculties included the faculties of education, science, agricultural science and arts. In the fourth stage, two departments that were present in all faculties were purposively selected for inclusion in the study. Moving on to the fifth stage, the researcher used Yaro Yemini's formula to calculate the appropriate sample size for the study. To calculate the appropriate sample size for the study:

$$\text{using the formula: } n = \frac{N}{1 + N(e)^2}$$

Where: N = Total Population
 I = Constant
 e = Error margin (0.05)

$$= \frac{16,515}{1 + 16515(0.05)^2}$$

$$= \frac{16,515}{42.2875}$$

$$n = 440.5$$

To make the sample size more representative, the figure above was multiplied by two, which is $440.5 \times 2 = 881$.

Instrumentation

For this investigation, the researcher created the Open Educational Resources Questionnaire (OERsQ), a self-structured questionnaire. Comprising four subscales, the questionnaire was intended to collect data on diverse facets associated with open educational resources. The questionnaire comprised the following subscales in addition to gathering the respondent's demographic and socioeconomic data: the OERs Awareness Scale, OERs Availability Scale, OERs Accessibility Scale and OERs Utilisation Scale.

Open Educational Resources Awareness Scale

The researcher created a tool to gauge a NOUN student's awareness of open educational resources (OERs). 15 closed-ended questions with a Likert four-point rating scale made up the instrument. Response options on the scale were SA, A, SD and D with corresponding weights of 4, 3, 2 and 1 on a one-to-one basis. Four ODL specialists from the Faculty of Education's Department of Adult Education and Department of Science and Technology Education were chosen in order to verify the validity of the instrument. Regarding the identified items' suitability for measuring awareness, they offered their professional opinions.

The final version of the item was created by removing five questions based on their feedback. At the Apapa Study Centre in Lagos State, a trial investigation was carried out to evaluate the items' dependability. Twenty NOUN students who aren't

included in the study's population participated in a pilot test of the questionnaire. Determining the degree of internal consistency between the questionnaire items served as the foundation for the pilot testing. Following the questionnaires' pilot testing, the Cronbach alpha value of 0.80 showed that the tool had dependable internal consistency.

Open Educational Resources Availability Scale

This section comprises ten items designed to measure the availability of OERs provided by NOUN for students. The participants were requested to express their responses as either "Yes" or "No" for each item. To validate the instrument, both face and content validity were assessed by four experts who were academic staff members from the Department of Adult Education and Science and Technology Education within the Faculty of Education, specialising in ODL. These experts provided their professional opinions on the suitability of the identified items for measuring the availability of OERs. Based on their feedback, three questions that were considered redundant were eliminated, resulting in the final version of the instrument.

The instrument's reliability was evaluated through a pilot study carried out at the Apapa Study Centre in Lagos State. The questionnaire was pilot-tested among 20 NOUN students who do not form part of the study's population. The basis for the pilot-testing was to ascertain the level of internal consistency among the questionnaire items. The resulting Cronbach alpha value of 0.80 obtained from the pilot-testing of the questionnaire indicated that the instrument demonstrated reliable internal consistency.

Open Educational Resources Accessibility Scale

This section consists of ten items designed to evaluate the accessibility of Open Educational Resources (OERs) provided by NOUN for students. Each item presents four response options: Slow and Unstable (SU), Fast Only (FO), Fast and Stable (FS), and Good with High-Speed Bandwidth (GB). These response options were assigned weights of 4, 3, 2, and 1, one to one. Face and content validation were conducted to ensure the validity of the instrument. Four experts specialising in ODL from the Department of Adult Education and Science and Technology Education within the Faculty of Education reviewed the identified items to assess their appropriateness in measuring accessibility. Based on their feedback, three questions that were deemed unnecessary were removed, resulting in the final version of the

items. A reconnaissance survey was conducted to evaluate the dependability of the items. Twenty copies of the questionnaire were administered to NOUN students at the Apapa Study Centre in Lagos State, excluding participants from the main study population. The data obtained from the pilot survey were analysed using Cronbach's alpha coefficient to assess the internal consistency. The resulting Cronbach alpha value of 0.88 indicated that the instrument exhibited reliable internal consistency.

Open Educational Resources Utilisation Scale

This section comprises seven items aimed at assessing the frequency and types of usage of OERs. Each item offers five response options: Never Used (NE), Use When Needed (UN), Use Once Daily (UOD), Use Once a Week (UOW), and Use at Least Once Every Month (UOEM). These response options were assigned weights of 5, 4, 3, 2, and 1, respectively. Additionally, participants were requested to indicate their usage of various types of OERs by selecting either "Yes" or "No".

The validity of the instrument was assessed by evaluating both face and content validity. Four experts, who were academic staff selected from the Department of Adult Education and Science and Technology Education within the Faculty of Education and specialising in open and distance learning, provided their professional opinions on the appropriateness of the identified items for measuring utilisation. Based on their feedback, certain questions were merged, some were rephrased, and two questions were eliminated, resulting in the final version of the instrument. The reliability of the instrument was assessed through a pilot study. Twenty copies of the questionnaire were administered to NOUN students at the Mushin Study Centre in Lagos State, excluding participants from the main study population. The data obtained from the pilot study were examined to assess the internal consistency of the reliability. The analysis yielded a Cronbach's alpha value of 0.83, indicating that the instrument exhibited reliable internal consistency.

The researcher, along with the facilitators from the NOUN, personally administered the questionnaires to the participants. 881 copies were distributed to the selected centres; however, 866 copies were retrieved from the NOUN learners, while 19 copies were not properly filled and were not considered valid for investigation. The data that was gathered underwent analysis utilising basic percentages, mean calculations, and frequency counts to examine the demographic information of the respondents. The research question was analysed using percentages and frequency counts, while the two hypotheses were analysed using linear correlation with a significance level of 0.05.

Results or Findings

Table 1: Demographical Characteristics of Respondents.

s/n	Variables	Labels	Frequency	Percentage
1	Age	21-30 years	570	67.3
		31-40 years	206	24.3
		41-50 years	64	7.6
		Above 51 years	7	0.8
2	Gender	Male	405	47.8
		Female	442	52.2
3	Marital status	Single	578	68.2
		Married	256	30.2
		Divorced	13	1.5
4	Employment status	Student	445	52.5
		Self-employed	233	27.5
		Civil servant	169	20.0
5	Academic qualification	NCE	152	17.9
		Diploma	233	27.5
		GCE A-level	142	16.8
		Others	320	37.8
6	Level of course	300 level	532	62.8
		400 level	252	29.8
		500 level	63	7.4
7	Usage of OERs	Once in a day	266	31.4
		Twice daily	248	29.3
		Less than once in a week	173	20.4
		More than once in a week	160	18.9

The demographic information about the respondents was displayed in Table 1. Given the age distribution, the majority of respondents (67.3%) are relatively young, with the majority falling between the age range of 21 and 30. The age group of 31–40 years old makes up 24.3 per cent of the population, whereas the age groups of 41–50 years old and over 51 years old are under-represented, with 7.6 per cent and 0.8 per cent, respectively. The sample is nearly evenly distributed by gender, with a slight gender gap (52.2 per cent to 47.8 per cent) between males and females. This close balance suggested that both genders were fairly equally represented in the research. When it comes to marital status, 68.2 per cent of respondents are single, 30.2 per cent are married, and 1 point 5 percent are divorced. Upon determining the employment status of the participants, it was found that 52.5 per cent of them are students, followed by 27.5 percent self-employed individuals and 20.0 per cent civil

servants. This suggests that the study primarily represents the viewpoints of individuals who are currently enrolled in educational institutions, with a notable proportion of them holding employment. In terms of educational background, respondents range from 37.8% who were classified as others to 27.5% who have diplomas, 17.9% who have NCE qualifications and 16.8% who have GCE A levels. According to the course level, the majority of respondents—62.8%—are in the 300-level, while the 400 and 500 levels have lower percentages. Finally, the respondent's use of Open Educational Resources (OERs) varies. 24 per cent use OERs less than once a week, 18.9 per cent more than once a week, and approximately 34 per cent use it once a day and 29 per cent twice a day.

Research Question 1

Do NOUN students easily access OERs to support their learning?

Table 2: Respondents' accessibility to Open Educational Resources.

S/N	Items	ACCESSIBILITY					S.D
		Slow and unstable (SUS)	Fast only (FO)	Fast and stable (FS)	Good with high-speed bandwidth (GHSB)	$\bar{x}$	
1	Digital Course Materials	48 5.7%	106 12.5%	448 52.9%	245 28.9%	3.05	0.80
2	E-library	20 2.4%	122 14.4%	506 59.7%	199 23.5%	3.04	0.69
3	Course modules	29 3.4%	188 22.2%	475 56.1%	155 18.3%	2.89	0.73
4	Electronic resources: journals	42 5.0%	185 21.8%	454 53.6%	166 19.6%	2.88	0.77
5	Online Streaming videos	36 4.3%	209 24.7%	443 52.3%	159 18.8%	2.86	0.76
6	OERs – Textbooks	56 6.6%	161 19.0%	488 57.6%	142 16.8%	2.85	0.77
7	Animation	49 5.8%	204 24.1%	439 51.8%	155 18.3%	2.83	0.79
8	Assignments	28 3.3%	251 29.6%	430 50.8%	138 16.3%	2.80	0.74
9	Tests /Assessment	31 3.7%	244 28.8%	459 54.2%	113 13.3%	2.77	0.72
10	Quizzes	38 4.5%	248 29.3%	453 53.5%	108 12.8%	2.74	0.73
Weighted mean = 2.85							

Table 2 presents the accessibility of OERs among NOUN students to support their learning. On the digital course material, it shows that 5.7% of NOUN students claimed that it is slow and unstable to access, 12.5% agreed it's fast only to access, 52.9% said it's fast and stable, and 28.9% said accessibility is good with high-speed bandwidth. 2.4% of respondents were of the view that the e-library is slow and unstable to access; 14.4% said it is fast only; 59.7% were of the view to be fast and stable to access; and 23.5% said accessibility is good with speed band width. On course modules/units, 3.4% of respondents indicated that accessibility was slow and unstable, 22.2% said it's fast only, 56.1% were of the view to fast and stable, and 18.3% said accessibility was good and high-speed bandwidth. Regarding electronic resources and journals, 5.0% of the respondents reported that the accessibility level was slow and unstable, while 21.8% indicated it was fast. A majority of 53.6% mentioned that the accessibility was fast and stable, and 19.6% expressed satisfaction with good and high-speed bandwidth for accessibility. In terms of online streaming videos, 4.3% of NOUN students perceived the accessibility as slow and unstable, 24.7% considered it fast, 52.3% reported it as fast and stable, and 18.8% found the accessibility to be good with high-speed bandwidth. For 6.6% of NOUN students, OERs textbooks are slow and unstable to access, fast only according to 19.0% of respondents, and fast and stable according to 57.6% of respondents, and 16.8% of accessibility was good and had high-speed bandwidth. For 5.8% of NOUN students, animation is slow and unstable to access, fast only according to 24.1% of respondents, fast and stable, according to 51.8% of respondents, and for 18.3%, accessibility is good and high-speed bandwidth. On assignments, according to NOUN students, 3.3% said it is slow and unstable, 29.6% believed it is fast only, 50.8% said it is fast and stable, and 16.3% said it is good with high-speed bandwidth. On tests/assessments, 3.7% of distance learning students claimed that it is slow and unstable to access, 28.8% agreed it's fast. Only to access, 54.2% is fast and stable, and 13.3% said accessibility is good with high-speed bandwidth. On quizzes, according to NOUN students, 4.5% said it is slow and unstable, 29.3% believed it is fast only, 53.5% said it is fast and stable, and 12.8% said it is good with high-speed bandwidth. The findings had mean scores that ranged between 2.77 to 3.05, where the weighted mean is 2.85. The data indicate that NOUN students have easy access to Open Educational Resources, which serve as valuable support for their learning endeavours

The findings reveal that NOUN students have a fast and stable level of accessibility to OERs materials, thanks to the 24-hour online services provided by the university. This highlights the importance of students accessing and utilising OERs in NOUN. The university has established an OERs platform and repository to facilitate easy access for students. The result of this research is in line with a

prior study by Ememe and Modebelu (2019), which found that the majority of NOUN students in their case study had access to OERs for their assignments and academic learning, demonstrating their proficiency in accessing OERs materials online. Given that NOUN is the sole single-mode distance learning institution in the country, it is understandable that substantial resources and funding are allocated to provide OERs to students. This commitment is evident through the establishment of a dedicated unit for OERs at NOUN, ensuring the integration of OERs at all levels of teaching and learning to enhance the quality and accessibility of higher education for thousands of distance-learning students. This is consistent with the viewpoint expressed by Yuan (2012), highlighting the increasing interest in OERs, particularly in the context of distance education. OERs have the potential to facilitate lifelong learning and self-learning and offer valuable teaching and learning opportunities. The utilisation of open content has helped NOUN address challenges associated with providing freely accessible educational resources to its students. Despite the time and financial investment required to develop various types of OERs for diverse distance learning students across different disciplines, NOUN has made these resources available on its online repository. NOUN's approach aligns with Wiley, Caswell, Henson, and Jensen (2008), asserts that courses can be disseminated electronically or made accessible online, allowing unlimited student access to the materials.

The study's findings indicate that NOUN students have a high level of accessibility to OERs, as these resources are freely available to them for academic purposes without any restrictions, except as specified on the NOUN website(s). Raza and Allsop (2006) emphasise that ODL can bring education to learners' homes, eliminating the need for physical travel. They further highlight the importance of ensuring feasible accessibility for the effective utilisation of OERs in ODL programmes. Access to OERs is crucial in improving learning outcomes and plays a significant role in the strength and success of any ODL institution. In line with this, the NOUN has launched the NOUN Portal of OERs, which serves as an online repository of the initial 40 NOUN courses, re-released under Creative Commons open licenses. Both distance-learning students and traditional students need access to diverse educational resources to facilitate their learning, irrespective of where they are located geographically. The NOUN study centres adopted for this study reported that access to OERs is good, providing students with the opportunity to utilise OERs and eliminating geographical barriers. However, the accessibility of OERs for distance learning students can be influenced by various factors. Hence, the availability of OERs has significant implications for the process of teaching and learning.

The outcomes of this research align with the findings of Geith and Vignare (2008), who highlight the importance of easy accessibility as a fundamental value

and significant advantage of OERs. This indicates that NOUN students have convenient access to various types of OERs from the institutional repository, including animations, course modules, assignments, audio-visual materials, College Open Textbooks, FreeTech Books, Open Commons, Open Culture, and the Open Textbook Library, which offer a diverse selection of OERs across multiple fields of study. These results demonstrate that NOUN has a dedicated OERs Unit and has successfully transformed its previously copyrighted courses into fully open-licensed OERs. This result further corroborates Wiley's (2007) claim that a significant portion of MIT OpenCourseWare users primarily comprises independent self-learners. Among the participants, 16% identified as tutors and 32% as learner students, while 49% indicated to be self-learners.

The findings in this study align with the conclusions drawn in earlier research conducted by MIT (2001) and UNESCO (2002), as well as Jena (2012). Jena (2012) highlights the importance of OERs in keeping knowledge up to date. The findings from both the qualitative and quantitative analyses demonstrate that OERs at NOUN are accessible to every student, regardless of their location, further enhancing their effective utilisation. NOUN students can only benefit from the utilisation of OERs when there is easy accessibility that is easily downloaded without internet disruption for learning purposes. When NOUN students are denied access to OERs by institutions, students don't benefit from their utilisation, which may hinder or affect their learning since they are distance-learning students, and facilitation is online, where they rely heavily on learning materials. The availability of OERs through online learning provides students with access to a diverse range of learning experiences. These experiences are not only rich and interactive but also undergo quality assessment and reflect the values and characteristics of the institution that offers such OERs.

This finding supports Itasanmi's (2020) assertion that OERs offer significant advantages to distance learners, particularly in terms of accessing a wide range of learning materials that complement their course modules without additional costs. This is especially beneficial for students who have limited interaction with lecturers and primarily rely on course modules. It highlights the recognised value of OERs in facilitating self-paced learning, enhancing the learning experience, and promoting equitable access to resources, as learners can engage with the materials anytime and anywhere using various technological devices. Therefore, it can be inferred that the accessibility of OERs in NOUN is high, which positively influences its utilisation among students.

The convenient accessibility of OERs for NOUN students may have a significant impact on their utilisation of OERs. This indicates that NOUN is wholeheartedly embracing the OERs approach and converting its entire range of courses into open educational resources. The institution is actively promoting easy accessibility of OERs to its students through the dedicated OERs unit, ensuring that students from various locations can access these resources without restrictions. Furthermore, NOUN provides a round-the-clock service, enabling students to access OERs at any time of the day. Accessibility of OERs is of paramount importance to teaching and learning, as it is through easy accessibility that their utilisation can be enhanced among students. On accessibility, the result revealed that accessibility has a direct influence on OERs' utilisation among students. Without easy access to OERs, students may not be able to utilise them for various reasons, such as doing assignments, tests, quizzes, preparation for exams, and research purposes, amongst others.

Hypothesis Testing

H_{01} : There is no significant relationship between the awareness of OERs and their utilisation among NOUN learners.

Table 3: Linear correlation showing the relationship between the awareness of OERs and their utilisation to support learning among students.

Variable	Mean	Std. Dev.	N	r	P-value	Remark
Awareness of OERs	59.6671	11.4293	847	.494*	.000	Sig.
Utilisation of OERs	38.9799	11.6607				

* Sig. at 0.05 level

According to the data presented in Table 3, a significant relationship exists between the awareness of OERs and their utilisation for supporting learning among students ($r = .494$, $n = 847$, $p < 0.000$, which is < 0.05). Consequently, the initial hypothesis is rejected, indicating that awareness of OERs is indeed linked to their utilisation for supporting learning among students. The awareness of OERs encompasses understanding their meaning, repositories, and how they differ from other copyrighted educational materials. Therefore, without awareness of OERs, students may face challenges in effectively utilising them. According to the Organisation for Economic Co-operation and Development (OECD, 2007), it has

been recognised from the early stages of OERs' development that awareness of these resources is vital for their advancement, acceptance, and utilisation. In other words, without awareness of OERs, their utilisation may be hindered. Awareness plays a significant role in influencing the utilisation of OERs. Without knowledge of the existence of OERs, many students may struggle to locate and effectively utilise them for their academic work or to support their learning. Therefore, when students possess a strong level of awareness concerning OERs, they are more likely to be motivated and encouraged to utilise OERs efficiently for supporting their learning. The awareness of NOUN students regarding OERs repositories serves a dual purpose. Firstly, it enables them to locate appropriate open resources that are relevant to their learning needs. Secondly, it empowers them to effectively utilise these resources for learning purposes or to support their overall learning experience. This indicates that NOUN students possess knowledge and understanding of OERs content, various types available, and copyright considerations, allowing them to distinguish them from other electronic materials. This heightened awareness has positively influenced the utilisation of OERs by NOUN students. NOUN may have made significant efforts to raise awareness of OERs among its students, possibly through collaborations with institutions and organisations focused on OERs initiatives, ensuring that NOUN students are well-equipped to benefit from and utilise OERs. This finding aligns with the study of Nyamwembe et al. (2018), which also identified the existence of a positive association between OERs awareness and utilisation. Similarly, the study's result is also in consonance with the findings of Itasanmi (2020). Thus, as OERs awareness increases, so does its utilisation among the student's increases. Therefore, the higher the awareness, the higher the chances of OERs use.

H₀₂: There is no significant relationship between OERs availability and its utilisation among NOUN learners.

Table 4: Linear correlation showing the relationship between the availability of OERs and their utilisation among NOUN students to support learning.

Variable	Mean	Std. Dev.	N	r	P-value	Remark
Availability of OERs	54.3600	7.6719	847	.467*	.000	Sig.
Utilisation of OERs	41.3490	5.9115				

* Sig. at 0.05 level

According to the analysis presented in Table 4, there is a significant relationship between the availability of OERs and their utilisation for supporting learning among NOUN students ($r = .467$, $n = 847$, $p < 0.000$, < 0.05). Consequently, the hypothesis is rejected. The availability of OERs plays a crucial role in influencing their utilisation for supporting learning among NOUN students. When OERs resources are made accessible to NOUN students, they can utilise them effectively in their learning endeavours. The level of OERs utilisation is directly proportional to the extent of availability provided to NOUN students. This indicates that NOUN has invested significantly in online education, making a wide range of OERs available to its students. Various OERs, such as animations, tests, quizzes, videos, course modules, and more, are accessible to students, facilitating their utilisation. These findings align with the perspective put forth by UNESCO (2017), which recognises OERs as encompassing textbooks, curricula, syllabi, lecture notes, assignments, tests, projects, audio, video, and animations.

Availability of OERs determines utilisation by students for various purposes; thus, NOUN's provision through making OERs available on its platform is important for its utilisation by its students. The findings of this study align with the observation that the availability of OERs to potential students is not solely determined by the quantity of OERs within their field of study but also by the relevance, quality, and subjective judgement of the user. This is consistent with the findings of Akomolafe and Adegun (2014), who reported that the availability of OERs has significantly improved the quality of learning materials and subsequently the learning outcomes. In part because of the reality that NOUN learners, the findings of this study can be, in this era of information technology, have easy access to the internet for obtaining relevant learning materials.

The study findings demonstrate that there is a high availability of certain OERs in the university repository, as indicated by the participants' responses. Moreover, the findings reveal that NOUN's e-libraries and repositories offer readily accessible OERs for teaching and learning purposes. These findings align with previous studies conducted by Samzug and Mwinyibegu (2013) and Nwaokolo-Ojo et al. (2016), which also reported the availability of OERs. Additionally, these findings are consistent with the perspectives of Navarrete et al. (2016), who highlight OERs as a valuable alternative for enhancing access to high-quality educational resources. The presence of advanced technology in various aspects of human endeavours, including education, is not surprising. Higher education in Nigeria is transforming technology-based learning. Students are now required to complete assignments, tests, examinations, and projects online, submitting them electronically to their distance learning lecturers.

This shift reflects the broader trend of integrating technology into education systems. This finding is consistent with Feldstein et al. (2012), who reported in their study that 95% of the students believed that OERs were user-friendly, and 78% believed that OERs offered access to more current content compared to printed textbooks. Furthermore, approximately two-thirds of the students expressed a strong preference for OERs materials, considering them more advantageous for their academic work compared to traditional textbooks. This finding indicates a clear inclination towards OERs usage. Furthermore, a study conducted by Pitt et al. (2013) titled “Assessing OERs’ Impact across Organisations and Learners in the USA: Experiences from the Bridge to Success Project” discovered that student perceptions of OERs’ use played a role in enhancing academic performance.

This also supports the conclusion of Cheung and Hew (2013) in their study. The survey results showed that students extensively utilised OERs in their learning endeavours. This study aligns with the research conducted by Itasanmi (2020), which reported that distance learning students extensively utilise open educational resources for various purposes. According to Itasanmi’s study, students use OERs for assignments (56.2%), complementing formal classes (56%), preparing for classes (58.7%), preparing for tests and examinations (54.1%), gaining current information in their field of study (55.6%), updating their knowledge on specific research areas (57.2%), personal study (55.1%), and supplementing their study materials (56.4%). These findings indicate that NOUN students effectively utilise open educational resources to support their learning. This could be attributed to NOUN being the only single-mode distance learning institution that has implemented the use of OERs, thus promoting its utilisation among students. Additionally, a study conducted by Ememe and Modebelu (2019) further corroborated the findings of this current study. Specifically, their results indicated a significant proportion of students in their case study actively utilised OERs materials for completing assignments and supplemented their learning with additional resources provided by their facilitators and e-tutors. This implies that NOUN students, being open-distance learners, are accustomed to utilising e-learning platforms and online learning resources, thus enhancing their familiarity with online learning materials and facilities.

Conclusions and Recommendations

The NOUN students acknowledged their knowledge of their own accessibility, availability and use of OERs. Notably, the NOUN established its own OERs unit and repository, demonstrating how actively it has embraced the OERs movement. This reveals the university’s dedication to offering a variety of OERs that comply

with international standards, followed by other open universities across the globe. As a result, NOUN has the personnel and material resources required to successfully execute distance learning across the nation. By putting strategies like knowledge promotion, technical instruction delivery, converting current course materials into OERs and fostering partnerships with institutions and organisations into practice, NOUN has prioritised continuous learning and understanding of OERs principles to ensure the successful integration of OERs. These efforts are meeting the needs of educators and learners who stand to benefit the most from NOUN's OERs.

Based on the findings of the study, the following suggestions are put forward:

- 1) NOUN should aggressively promote OERs to students and emphasise the advantages of using them in its education.
- 2) To keep students informed about the resources available, staff from the OERs unit and facilitators should regularly promote and advertise NOUN's OERs offerings through a variety of channels.
- 3) Instructors and online tutors ought to continue giving students online homework in order to encourage them to look into additional open educational resources (OERs) outside of what is available in the school's electronic libraries and repositories.

References

- Akomolafe, O. C., & Adegun, O. A. (2014). Utilisation of open educational resources (OERs) and quality assurance in universities in Nigeria. *European Scientific Journal*, 10(7). <https://ejournal.org/index.php/esj/article/view/3001>
- Cheung, W. S., & Hew, K. F. (2013). Use and production of open educational resources (OERs): A pilot study of undergraduate students' perceptions. In *International Conference on Educational Technologies* (pp. 125–128).
- Ememe, P. I., & Modebelu, O. J. (2019). Challenges of accessibility and utilisation of open educational resources (OERs) in single and dual mode open and distance education (ODE) institutions in Lagos. *International Journal of Education Research*, 6(1).
- Eyisi, J., & Omokhabi, A. A. (2020). National Open University of Nigeria and promotion of digital education. *African Journal of Educational Research*, 23, 40–45.
- Feldstein, A., Martin, M., Hudson, A., Warren, K., Hilton III, J., & Wiley, D. (2012). Open textbooks and increased student access and outcomes. *European Journal of Open, Distance and E-Learning*. <https://files.eric.ed.gov/fulltext/EJ992490.pdf>
- Geith, C., & Vignare, K. (2008). Access to education with online learning and open educational resources: Can they close the gap? *Journal of Asynchronous Learning Networks*, 12(1), 1–22.
- Itasanmi, S. A. (2020). OERs awareness and usage among open and distance learning students in South-Western Nigeria. *International Journal of Indonesian Education and Teaching*, 4(2). <http://journal.usd.ac.id/index.php/ijiet>

- Jena, S. S. (2012). *OERs for distance learning: Meaning to knowledge empowerment for developing nations*. WikiEducator. <http://wikieducator.org>
- Navarrete, R., Lujan-Mora, S., & Penafiel, M. (2016). *Use of open educational resources in e-learning for higher education*. <http://www.disarrolloweb.dlsi.ua.es/OERs>
- Nwaokolo-Ojo, J. O., Igwe, C. O., & Umar, I. Y. (2016). Impact of e-learning and open educational resources on the teaching and learning of metalwork trades in technical colleges in Benue State, Nigeria. *IOSR Journal of Humanities and Social Sciences*, 21(6), 1–6.
- Nyamwembe, E. O., Tanui, E., & Wamutitu, J. M. (2018). Relationship between students' awareness and utilization of open educational resources for academic work in private universities in Kenya. *International Journal of Education*.
- Organisation for Economic Co-operation and Development. (2007). *Giving knowledge for free: The emergence of open educational resources*. OECD Publishing. <http://tinyurl.com/62hvx6>
- Pitt, R., Ebrahimi, N., McAndrew, P., & Coughlan, T. (2013). Assessing OERs impact across organisations and learners: Experiences from the Bridge to Success project. *Journal of Interactive Media in Education*, 2013(3). <http://jime.open.ac.uk/article/view/2012-17/501>
- Raza, R., & Allsop, T. (2006). *Using distance education for skills development*. Department for International Development (DFID). <https://developyst.jellyfish.com.pk/app/webroot/files/article/80/Using%20Distance%20Education%20for%20Skills%20Development.pdf>
- Samzug, A. S., & Mwinyimbegu, C. M. (2013). Accessibility of open educational resources for distance education learners: The case of the Open University of Tanzania. *Huria: Journal of the Open University of Tanzania*, 14(1).
- UNESCO. (2002). *UNESCO promotes new initiative for free educational resources on the internet*. http://www.unesco.org/education/news_en/080702_free_edu_ress.shtml
- UNESCO. (2017). *What are open educational resources (OERs)?* <http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources/what-are-open-educational-resources-oers/>
- Wiley, D. (2007). *Open education license draft: Iterating toward openness*. <http://opencontent.org/blog/archives/355>
- Wiley, D., Caswell, T., Henson, S., & Jensen, M. (2008). *Open educational resources: Enabling universal education*. Faculty Publications, 206.
- Yuan, L., MacNeill, S., & Kraan, W. (2008). *Open educational resources: Opportunities and challenges for higher education* (Educational Cybernetics: Reports, Paper 1). http://digitalcommons.bolton.ac.uk/iec_reports/1