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Mapping Global OER Trends in Higher Education: A Systematic Review with a Comparative Analysis of Nigeria

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ABSTRACT

The study examined global trends in the adoption of Open Educational Resources (OER), with a comparative analysis of Nigeria. The study is a synthesis of 40 global studies on trends in the adoption of OER and 15 studies on the trends in the adoption of OER in Nigeria. The study adopted the PRISMA 2020 approach, which is a systematic approach to the evaluation of the literature, with the process involving the steps of identification, screening, eligibility, and inclusion. The evaluation process adopted the CASP, MMAT, JAB Checklist, and AACODS framework. The study found that globally, there are trends in the awareness, adoption, and infrastructure of OER, while in Nigeria, the challenges are awareness, adoption, digital literacy, and infrastructure. The study recommended that awareness and capacity-building workshops should be conducted among students and faculty; OER policy should be implemented; infrastructure should be put in place for digital resources and the development of OER; open pedagogy should be encouraged to engage students in the development of resources; and research should be conducted on the adoption of OER, student outcomes, and faculty engagement.

Keywords: Open Educational Resources, Higher Education, Nigeria

INTRODUCTION

Recently, the digitalization of higher educational institutions has been has been an issue of discuss among scholars, especially on the implementation of Open Educational Resources (OER) and how it can facilitate the accessibility of educational resources in a better way. The digitalization has also demonstrated its potential for remedying the scarcity of educational resources and creating a concept of inclusive accessibility for the pursuit of quality education (Baas et al., 2022; UNICEF, 2023). The primary purpose for digitalizing higher educational institutions has been to create an Open platform for learning where different classes of people can not only acquire knowledge but also contribute to the creation and pursuit of knowledge. The concept of Open Educational Resources (OER) has become an integral part of the recent discourse on how it can catalyze the accessibility and sustainability of higher educational institutions globally (UNESCO, 2019). Imperatively, the need for Open Educational Resources (OER) in the digitalization of the higher educational institution cannot be overemphasized.

Open Educational Resources (OER) emphasizes its flexibility and potential in bringing about a paradigm shift from traditional learning processes to student-centered, interactive, and collaborative learning processes. This potential for transforming learning processes, as described by Forehand (2024), implies that Open Educational Resources (OER) has the potential to easily disseminate learning resources via the internet, hence eliminating geographical and financial barriers, making it flexible and potentially transforming globally. It is obvious that Open Educational Resources (OER) is not only a means of making education accessible but also a means of effecting change in the way higher educational institutions operate worldwide. Thus, Butcher (2015) elucidated that Open Educational Resources have given strong hope for effecting changes in education by making it more inclusive for everyone.

There has been a rising need in higher educational institutions across the globe for the design of adaptive learning environments with technology to incorporate Open Licensed Learning Resources as a critical feature of the digital education ecosystem of the world. It was in this backdrop that Open Educational Resources (OER) assumed a completely unique role in bringing about the paradigm shift in the pedagogy of education in the world's higher educational institutions. The reason for the world's higher educational institutions to work in this direction was UNESCO's recommendation in the year 2002, and in the year 2019, for the use of open licensing strategies along with the use of the concept of open pedagogy and the incorporation of Open Educational Resources (OER) in the world's higher educational institutions as a critical approach in achieving the goals of Sustainable Development Goal 4 or SDG 4 (UNESCO, 2002; UNESCO, 2019).

Globally, the literature on Open Education Resources (OER) has grown not just in number but also covers the patterns of adoption, pedagogical effects, cost-effectiveness, quality management, learners' involvement, and the Open Pedagogy effects on practice as well. According to the literature reviews and findings from the Bibliometric study conducted on Open Education Resources (OER) from various continents such as North America, Europe, Asia, and Africa, the implementation of Open Education Resources (OER) is associated with a higher level of access, better results for the learners, and the potential for the pedagogical transformation as well (Tlili, 2022). According to the literature on Open Education Resources (OER) as it exists currently, the literature on the application of Open Education Resources (OER) is unevenly distributed as most of the literature on the adoption and use of Open Education Resources (OER) is found from the countries that are categorized as the Global North (UNESCO, 2021). This uneven literature base is the cause for the proper concern that is associated with the design and implementation of Open Education Resources (OER) policies and practice in the different environments that are categorized as socio-economic and institutional backgrounds as well. Nigeria, as a case study, could be taken as the most prominent case as the infrastructural and financial limitations and institutional barriers are the key factors that defines the education space as well.

Being the most populated country on the African continent, as well as having an extremely powerful presence in the growing world of higher education on the African continent, the Nigerian example is of particular interest when discussing the usage of Open Educational Resources (OER) in the Global South. In Nigeria, the National Universities Commission has taken a bold step towards enhancing the development of Open Educational Resources (OER) usage in Nigerian universities (NUC, 2022). Among those steps are the establishment of the National Open Educational Resources Repository, Nigerian University System Open Educational Resources

(NUSOER) repository, and the establishment of a policy on the usage of Open Educational Resources (OER) in Nigerian higher institutions. The awareness of Open Educational Resources, the preparedness of lecturers, as well as the usage of digital technologies, infrastructural challenges, as well as students' perceptions of Open Educational Resources, are all those issues of higher learning education discussed in the context of Nigerian literature, which have been taken into consideration. Unfortunately, available literatures on Open Educational Resources (OER) are of varying quality, yet it has not conducted any comparisons that would allow the assessment of the progress of Nigeria on adoption and implementation of Open Educational Resources, as compared to its global usage.

This systematic review therefore seek to fill this gap in existing literature, as it tries to compare between the current state of Open Educational Resources (OER) globally and the current state of affairs in Nigeria. However, despite several international reviews and recommendations on the use of Open Educational Resources (OER) in higher education globally, too many reviews focused on local contexts in the informative and analytical literature that exists within this area of education which seeks to compare and contrast the different contexts in any way (Atenas, 2024). This systematic review therefore aims to explore global trends on Open Educational Resources (OER) in higher education, with a comparative analysis of Nigeria. By focusing on empirically informed literature from perspectives that are both globally and Nigerian in nature, the review further explores the convergent themes, methodologies, and directions, in addition to obstacles and some gaps that emerge in such literature on OER in higher education.

STATEMENT OF THE PROBLEM

Open Educational Resources have indeed garnered global attention and have been viewed as a means of creating equitable and modernized higher education systems. However, there is still a noticeable gap in the level of adoption and use between and among different parts of the world. Most of the international reviews tend to focus on Open Educational Resources (OER) developments in North America, Europe, and some parts of Asia, which suggests that Open Educational Resources (OER) has not been fully integrated in Africa and other developing nations. According to Nyamboga (2024), in Nigeria, studies on Open Educational Resources (OER) adoption does feel scattered, with most focusing on institution specific studies that also happen to be methodologically shaky**.** Notably, even though very recent initiatives, such as the National Universities Commission (NUC) Open Educational Resources (OER) Policy and the creation of the Nigerian Universities System Open Educational Resources (NUSOER) repository, mark promising progress, we still lack a much needed comparative analysis that brings national Open Educational Resources (OER) research trends in relation to global ones. This knowledge gap has created a situation where significant stakeholders in the field, such as policymakers, academic librarians, university administrators, and educators themselves, are not provided with much needed guidance in effectively implementing Open Educational Resources (OER) in education. Besides, in the absence of such reviews, it is quite difficult to identify what unique challenges exist for Nigeria, how prepared Nigeria is digitally, or how best to measure progress towards global markers. Without such an approach, therefore, it has been realized through this research that there is an intrinsic need to undertake a systematic review of not only global approaches and research into Open Educational Resources (OER) in higher education globally, but to do so with a critical reference to Nigeria's contribution to such a global approach. It would offer quite illuminating

insights into what exists, what challenges, and what opportunities exist for evidence-based policy-making and educational practice within Nigeria.

OBJECTIVES OF THE STUDY

The specific objectives of this study are to:

1. Identify and synthesize global research trends on OER in higher education.
2. Examine research themes, methodologies, and findings from OER studies conducted in Nigeria.
3. Compare Nigeria's OER research patterns with global developments to identify convergences and divergences.
4. Highlight barriers, enablers, and policy directions influencing OER adoption in Nigeria and internationally.
5. Identify gaps in existing literature and propose recommendations for research, policy, and practice.

RESEARCH QUESTIONS

1. What are the dominant global research trends on OER in higher education?
2. What themes, methodologies, and findings characterize OER research conducted in Nigeria?
3. How does OER research in Nigeria compare with global OER trends?
4. What institutional, technological, and policy related factors influence OER adoption globally versus in Nigeria?
5. What gaps exist in current OER research, and what areas require further investigation?

THEORETICAL FRAMEWORK

Theoretically, Open Educational Resources (OER) research is grounded in several interconnected frameworks. These frameworks are:

Open Education Theory (David Wiley, 2007): This theory supports the philosophy of knowledge being freely available and overcoming the financial, legal, and technological obstacles that come along with the process of learning. OERs are considered strong tools to help attain access and independence in learning and to realize social justice.

Diffusion of Innovation (DoI) Theory (Rogers, 2003):DoI theory explains the diffusion and rate of adoption of an innovation such as OER in social systems. Rogers noted that the rate at which such resources are disseminated depends on perceived advantages of use, ease of adoption, and channels of communication. Many scholars use DoI theory to explain the differences in the rates of use of OER across locations.

Constructivist and Open Pedagogy Frameworks (Jean Piaget, 1896 - 1980): This is the kind of teaching approach whereby learners are put at the focal point of constructing knowledge, rather

than just consuming it. With the use of OERs, the process of collaboration, remixing, adaptability, and production by students comes into play.

Technology Acceptance Models Davis, F. D., 1989):This explain the factors of digital literacy, ease of use, and institutional factors in determining whether OER can be accepted and utilized at universities in Nigeria and other African nations.

METHODOLOGY

This review strictly adhered to guidelines contained within the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA 2020) to make sure the methodology had properties of comprehensiveness and reproducibility. In this effect, the methodology of systematic review was used to carry out a systematic analysis and generate synthesized evidence on the study of Open Educational Resources (OERs) in higher education, and this is irrespective of whether it is generally or in the Nigerian perspective.

The identification, screening, eligibility assessment, and inclusion were the four stages in carrying out the research. The preliminary search provided 412 records from different databases in the process of identification. However, after excluding the 118 records that were considered to be duplicates, the total records left were 294. The process of screening the title and abstract of the 294 records to assess their relevance led to the elimination of 202 records that were not eligible for inclusion.

Screening of full texts was done for 92 studies in the eligibility phase, out of which 52 were rejected due to the mismatch of the focus of OER or inappropriate contexts with little pertinence to higher education. Thus, the inclusion phase ended with 40 studies, out of which 25 were on global OER, while 15 were on Nigerian OER.

It also involved an extensive search of leading academic databases to widen the coverage of research on OERs. Some of the leading databases that were searched include Scopus, Web of Science, ERIC, Google Scholar, Dimensions AI, AJOL, and Open Access Repositories such as IRRODL, Open Praxis, and COL Knowledge Repository.

Some of the search statements created include “Open Educational Resources” AND “higher education”, “OER adoption” OR “open textbooks” OR “open pedagogy”, “OER” AND “Nigeria”, “open education” AND “universities”, and “digital learning” AND “open resources”. The keywords were combined using the Boolean operators. The searching of the keywords was only between 2002 and 2025 because this period forms the genesis of the OER movement after the description of OER in 2002 at UNESCO. Articles were included only when the sources were peer refereed journals or theses/xml:namespace prefix: object /higher education sources.

A data extraction template was prepared for compilation of data from the identified literature. Data that were extracted included authors and year of publication, country or area of concern, research purposes, methodologies and designs, target populations, key findings, factors acting as barriers and enablers for the use of OERs, findings for policies, and recommendations. The thematic coding procedure was used. This involved: (1) carrying out an open coding process to generate recurrent concepts, (2) axial coding of the concepts generated to cluster them around

themes including: Awareness and Perception, Adoption and Use, Barriers and Challenges, Policy and Institutional Readiness, OER enabled Pedagogy, and Technological and Infrastructural Enablers, and (3) engaging in selective coding for the comparison of the observed global patterns and those in Nigeria. All coding and validation were done manually and involved constantly comparing coding to verify consistency.

In the data analysis, three major analytical plans were used:

Descriptive analysis: This method was applied to identify the publication trends, design, geographic distribution, and density of themes.

Thematic (Qualitative) Synthesis: In this step, patterns were organized into major themes emerging from the literature.

Comparative Analysis: Global findings were compared with literature specific to Nigeria in order to identify convergences, divergences, unique contextual barriers, opportunities for capacity building, policy gaps, and future directions.

For the quality assessment of empirical studies, several instruments were used: the CASP for qualitative studies, the MMAT for mixed method studies, the JBI Checklist for quantitative studies, and the AACODS Framework for policy documents and reports.

ETHICAL CONSIDERATIONS

Since this study relied on published secondary data and didn't involve any human participants, there was no need for formal ethical approval. However, the rights of all intellectual works were observed by properly citing and referencing every work used in this review.

RESULTS AND THEMATIC FINDINGS

Analysis of the forty studies (25 global; 15 Nigerian) found out six main themes that represent OER research in higher education. Each theme is presented with global trends first, followed by Nigeria specific insights.

1. Awareness, Perception, and Attitudinal Disposition toward OER

In a number of international studies, there is a moderate to a high awareness of OER among faculties, especially in North America, Europe and some parts of Asia. The faculties tend to view OER as economical, pedagogically adaptable, and conducive to teaching in groups (Hilton and Laman, 2020; Porter, 2013; Tlili et al., 2022). Favorable views on openness also exist where the actual adoption is fluctuating (Das & Singha2023; Sousa et al., 2023).

Research on Nigerians, particularly lecturers in state universities, indicates that although faculty has generally positive attitudes towards OER, exposure, lack of digital literacy, and institutional support makes the implementation more challenging (Esan et al., 2024; Ogunbodede et al., 2021; Osang, 2019; Smart and Ogbomo, 2023;).

2. Adoption and Use of OER in Teaching and Learning

Areas that have high institutional and policy orientation tend to have more OER adoption. Applications are in the form of open textbooks, supplementary teaching resources, MOOCs, and other types of digital courseware and OER enabled pedagogies (Luo et al., 2020; Panday, 2023; Werth and Williams, 2023). Faculty incentives, technical infrastructure and access to repositories in general influence adoption (Mishra et al., 2022; Porter, 2013).

Nigeria adoption rates are usually very low and informal. Mostly, institutions are relying on free online materials, not on officially adopted OER (Obinyan et al., 2023; Olufunke and Adegun, 2014;). The integration of OER in official curricula is rather sparse and is normally limited to donor-funded projects (Ogunbodede, & Cocodia, 2023; Bossu, et al., 2019).

3. Barriers and Challenges to OER Implementation

Typical obstacles are experienced globally, which include time necessities of adjustment, quality, incentives, copyright, and technical problems (Adil, 2024; Otto et al., 2021). Nevertheless, in the vast majority of situations, there is a positive institutional support and professional development that helps to overcome most of these barriers.

Nigerian higher education has more structural and systemic issues of low internet connectivity, poor ICT infrastructure, low levels of digital literacy among lecturers, undefined institutional policies, and insufficient funding of OER projects (Dahiru, 2025). The mentioned difficulties are translated into negligible levels of adoption and inadequate innovation in pedagogical practices relative to the international trend.

4. What are the Policy, Institutional Support, and Strategic Frameworks Towards OER in higher education in Nigeria

Countries with mature OER ecosystems have implemented national policies, institutional mandates, dedicated funding, capacity building programs, and established repositories (Ndebele et al., 2023; Ndibalema, 2024). Policy support is strongly correlated with higher adoption rates.

Nigeria has developed a national OER policy and the Nigerian University System Open Educational Resources Repository (NUSOER) (NUC, 2021). However, implementation is uneven across institutions, and faculty awareness of national policies is limited (Mensah, 2024). Funding and technical support remain insufficient (Koseoglu, 2018; Zaid, 2021).

5. Pedagogical Innovation and Open Pedagogy

Globally, Open educational resources (OER) enable open pedagogic practices, in which learners are engaged in the generation of content, and in collaborative activities, in addition to the reuse of resources (Cronin, 2017; Priya, & Senthilnathan, 2024). Effective learning based on constructivism is supported using such practices.

In the case of Nigeria, open pedagogy is not widely used. As a result, OER usage is more of consumption rather than a modification or generation using the effort of a group (Bello, 2023; Onaifo, 2016). Pedagogical innovation is suppressed.

6. Technological Infrastructure, Platforms, and Repositories

Globally, adoption of Open Educational Resources (OER) is enabled with strong infrastructure, such as platforms like OpenStax, OER Commons, MERLOT, and Institutional Repositories, that value accessibility, adaptability, and collaboration (Gurav, 2024;Lawal, 2025;Tlili et al. ,2022).

However, in Nigeria's university system, the technology to support OER is still rudimentary. Despite the establishment of NUSOER, its use is limited by internet accessibility, updates, as well as a shortage of technological staff (Absuldayan. 2024; Omoike, 2024). Thus, faculty rely mostly on freely shared online materials as opposed to the use of well organized OER portals.

Summary of Thematic Patterns

Theme	Global Evidence	Nigerian Evidence	Gap/Comparison
Awareness & Perception	Moderate High (Hilton & Laman, 2020; Porter, 2013; Tlili et al., 2022)	Low Moderate (Ogunbodede et al., 2021; Osang, 2019; Smart &Ogbomo, 2023)	Awareness gap
Adoption & Use	Strong, expanding (Luo et al., 2020; Panday, 2023; Werth, & Williams, 2023	Limited, informal (Olufunke & Adegun,2014; Bossu, et al., 2019; Obinyan et al., 2023;)	Adoption gap
Barriers	Manageable (Adil, 2024; Otto et al., 2021)	Structural/systemic (Dahiru, 2025)	Nigeria faces deeper challenges
Policy & Support	Strong frameworks (Ndebele, et al., 2023; Ndibolema, 2024)	Weak implementation (Mensah, 2024; NUC, 2021; Koseoglu, 2018; Zaid, 2021)	Implementation gap
Pedagogical Use	Innovative, open pedagogy (Cronin, 2017; Priya & Senthilnathan, 2024)	Minimal, mostly consumption based (Bello, 2023; Onaifo, 2016)	Innovation gap
Technology & Repositories	Robust (Porter, 2013; Gurav, 2024; Lawal, 2025; Tlili et al., 2022)	Underdeveloped (Abduldayan, 2024; Omoike, 2024)	Infrastructure gap

DISCUSSION

This systematic review compiled 40 research studies on Open Educational Resources (OER) in higher education, with a comparison of global trends and the Nigerian situation. The discussion interprets some of the key findings based on awareness, adoption, challenges, policy, and

pedagogic and infrastructural considerations, among others, within relevant theoretical frameworks.

Awareness and Attitudinal Disposition

There is considerable awareness of and positive attitude towards OER on the part of academics, according to global scholarship (Hilton &Laman, 2020; Porter, 2013; Tlili et al., 2022). This is in line with the principles of Open Education Theory, which stipulates that awareness is a prerequisite for any democratization of knowledge distribution. However, awareness, along with involvement in Nigeria, is low compared to other places (Ogunbodede et al., 2021; Osang, 2019; Smart & Ogbomo, 2023). Just as there is a crucial missing link in the global effort, so also does Nigeria have a gap that, as opposed to benefiting from existing OER projects, still remains in the awareness stage.

Adoption and Utilization Patterns

Globally, the adoption of OER occurs extensively in the area of text material, MOOC, eLearning content, and open teaching practices (Luo et al. 2020; Panday, 2023, Werth, & Williams, 2023). It was found that adoption is strongly linked with support, incentives, and digital repository facilities. However, within Nigeria, adoption is still informal and rudimentary (Olufunke & Adegun , 2014; Obinyan et al., 2023;). This is as predicted by the Theory of Diffusion of Innovations (DoI) by Rogers, 2003, that adoption is impeded if the perceived complexity is high, if trialability is low, and if observability is low. In Nigeria, lecturers largely depend on freely accessible online material, thus OER repository is still in its embryonic stage.

Barriers to OER Adoption

Obstacles to Adopting OER International literature highlights manageable barriers, which may, with training, incentives, as well as infrastructure, be overcome (Adil, 2024; Otto et al., 2021). However, in Nigeria, the existing barriers appear structural, technological, & systemic, with internet instabilities, ICT infrastructure, digital literacy, as well as policy implementation (Dahiru, 2025). Such barriers point to the importance of Technology Acceptance Models (TAM/UTAUT) as perceived ease of use & facilitation, as well as infrastructure, significantly impact adoption, with infrastructure being a barrier within OER adoption.

Policy and Institutional Support

Policy support and institutional support greatly contribute to OER adoption (Ndebele, et al, 2023; Ndibalema, 2024; Thakran, 2018). Nigeria's progress began with its NUC OER policy and the NUSOER repository (Mensah, 2024; ; NUC, 2021; Koseoglu, 2018; Zaid, 2021). However, imbalances, low knowledge, and poor oversight limit the efficiency of policies. These points reflect a policy practice gap, as policies do not merely call for adoption, but must further push individuals towards participation.

Pedagogical Innovation

Open pedagogy, where students create, adapt, and remix content, is increasingly supported by global OER practices (Cronin, 2017; Priya & Senthilnathan, 2021). However, the use of OER in Nigeria has been largely centered on consumption, as observed by Bello (2023) and Onaifo (2016). This implies an innovation gap in terms of pedagogy, as the use of OER does not encourage the use of constructivist, learning centered practices, which are considered best practices.

Technological Infrastructure and Repositories

Technological infrastructures and repositories aid global OER engagement (Gurav, 2024; Lawal, 2025; Tlili, 2022). The OER infrastructure is limited in Nigeria. While Nigeria has NUSOER as an OER infrastructure, it lacks internet connectivity, updating of the repository is irregular, and technical staff are lacking (Abduldayan, 2021; Omoike, 2024). Significantly, technology gap points to infrastructure as a determinant of adoption as well as a facilitator of implementation, particularly with reference to developing countries.

IMPLICATIONS FOR RESEARCH, POLICY, AND PRACTICE

Research Implications

Studies specific to Nigeria remain few, fragmented, and contextually bound. There is a need for empirical and longitudinal studies assessing OER adoption, open pedagogy, and learning outcomes.

However, comparative research could provide insights on how local barriers can be mitigated using lessons learned from global contexts.

Policy Implications

National policies need to be operationalized at the institutional level through clear incentives, monitoring mechanisms, and capacity building activities.

This will require government and university initiatives in terms of funding, infrastructure, and training.

Practical Implications

Faculty development programs should be specific to digital literacy, licensing, and integration. Nigerian universities can use global best practices in OER, such as openness and collaboration in the development of OER.

SUMMARY OF COMPARATIVE INSIGHTS

Dimension	Global Trends	Nigerian Trends	Key Gap
Awareness	High	Low–Moderate	Awareness gap
Adoption	Broad & diverse	Limited & informal	Adoption gap
Barriers	Manageable	Structural & systemic	Infrastructure & capacity gap
Policy	Strong & operational	Weak implementation	Policy practice gap
Pedagogy	Open pedagogy common	Minimal	Innovation gap
Technology	Robust repositories	Underdeveloped	Infrastructure gap

Although studies on OER globally reveal an increase in the use, pedagogical innovations, and infrastructural support, Nigerian OER faces the multidimensional challenge policy, awareness, infrastructural, and pedagogical issues, which are only matched with interventions that are coordinated at the level of research, institutions, and policy.

CONCLUSION

This systematic review explored global OER trends in higher educational institutions and compared them to those in Nigeria using 40 different studies. From this review, it is evident that when compared to Nigeria, OER adoption globally has a high level of awareness, strong policy support, good technological foundation, and innovative pedagogical practices. This is in contrast to the situation that is being witnessed in Nigeria, where the level of awareness is moderate, the level of adoption is low, there are technological impediments, and there are minimum levels of open pedagogy.

The global adoption and use of Open Educational Resources have shown tremendous potential in transforming the way in which higher education is conducted, such that there is a sense of accessibility, inclusiveness, and collaboration in the conduct of higher education. However, the higher education sector in Nigeria is facing a number of challenges that are affecting the potential of Open Educational Resources. For instance, the level of awareness is moderate, and this is a situation that ensures that Open Educational Resources are not fully integrated in the educational sector. As a result, Open Educational Resources are being used in an informal and fragmented manner.

Additionally, the impediment that is being witnessed in the Nigerian higher education sector, in terms of the ICT and digital literacy, is also affecting the effective implementation of Open Educational Resources in the Nigerian higher educational sector. While the global institutions have been able to effectively mitigate this challenge through the provision of training, the Nigerian institutions are yet to fully address this basic impediment in the conduct of higher education and the adoption of Open Educational Resources. The lack of a cohesive strategy for integrating OER limits opportunities for pedagogical innovation such as collaborative learning, open pedagogy, and student-centered learning approaches

RECOMMENDATIONS

From the above comparative analysis of the two countries' approaches and strategies towards the implementation of OERs, the following recommendations are made:

1. There is need to raise awareness and build capacity by organizing national and institutional workshops on OERs involving both students and faculty. This will also require the integration of OER literacy and licensing into the capacity development of faculties.
2. There is a need to ensure effective implementation of national OER policy through developing strategies for implementing the policy and its enforcement. This will also require the development of a policy that will provide the necessary incentive for faculties to participate in the development of OERs.
3. There is a need to invest more resources and build capacity through the acquisition of the necessary ICT infrastructure to support the development of digital learning resources and OERs. This will also require the acquisition of the necessary resources and capacity development to maintain and update the resources.
4. There is a need to promote the use of an open pedagogy that allows students to engage actively and co-create learning materials. This will also require the development of guidelines for the integration of OERs into the curriculum.

5. There is a need to conduct more research and longitudinal studies of the adoption of OERs and its impact on learning outcomes and the engagement of faculties. This will also require the benchmarking of the adoption of OERs in Nigeria against global best practice.

References

Abduldayan, A. H., &Jibril, A. F. (2024). Open educational resources integration in colleges of education in Kwara State, Nigeria. *Information Impact: Journal of Information and Knowledge Management, 15*(2), 16–26.

Adedoyin, O. B., Altinay, F., Gemikonakli, E., Altinay, Z., &Dagli, G. (2024). National policy on open educational resources for higher education in Nigeria: Evaluation of institutional compliance rate to infrastructure and the connectivity goal. *Higher Education Policy*, 1–30.

Adil, H. M., Ali, S., Sultan, M., Ashiq, M., &Rafiq, M. (2024). Open education resources' benefits and challenges in the academic world: A systematic review. *Global Knowledge, Memory and Communication, 73*(3), 274–291.

Atenas, J., Ebner, M., Ehler, U. D., Nascimbeni, F., &Schön, S. (2024). An introduction to open educational resources and their implementation in higher education worldwide. *Weizenbaum Journal of the Digital Society, 4*(4).

Baas, M., Van der Rijst, R., Huizinga, T., Van den Berg, E., & Admiraal, W. (2022). Would you use them? A qualitative study on teachers' assessments of open educational resources in higher education. *The Internet and Higher Education*, 54, 100857.

Bello, A. (2023). *Determinants of lecturers' acceptance, use, and attitude towards open educational resources for knowledge sharing in universities in North-East Nigeria* (Doctoral dissertation).

Bossu, C., Pete, J., Prinsloo, P., &Agbu, J. F. (2019). How to tame a dragon: Scoping diversity, inclusion and equity in the context of an OER project.

Butcher, N. (2015). *Basic guide to open educational resources (OER)*.

Cronin, C. (2017). Openness and praxis: Exploring the use of open educational practices in higher education. *International Review of Research in Open and Distributed Learning, 18*(5), 15–34.

Dahiru, M. (2025). Barriers to adopting ICT-based teaching methods in Nigerian polytechnic institutions. *SSRN*. https://ssrn.com/abstract=5285586

Das, D. R. K., &Singha, D. A. (2023). Open educational resources (OER) repositories: A comprehensive analysis of usage patterns and impact on education. *Library Philosophy and Practice* (e-journal).

Esan, A. O., Ifijeh, B. A., & Chanomi, P. O. (2024). Perceived usefulness and use of open educational resources among postgraduate students in federal universities in South-West, Nigeria. Communicate: Journal of Library and Information Science, 26(1), 195–209.

Forehand, L. C. (2024). From Access to Equity: The Role of OER and Technology in Higher Education. California State University, Long Beach.

Gurav, V., & Nagarkar, S. R. (2024). Open educational resources: A review of the concept, benefits, challenges, and key institutions and initiatives. In *Emerging technologies in library services: Innovation for access and engagement* (pp. 296–310).

Hilton, J., &Laman, C. (2020). Meta-analysis of cost savings from OER in universities. *Educational Research Review, 30*, 100314.

Koseoglu, S., &Bozkurt, A. (2018). An exploratory literature review on open educational practices. *Distance Education, 39*(4), 441–461.

Lawal, U. S., & Ahmed, A. (2025). Analysis of open educational resources availability and accessibility for learning activities among students at Kaduna State University: Implications for institutional policy. *African Journal of Educational Assessors, 11*(1).

Luo, T., Ye, J., & Hong, W. (2020). The power of open: Benefits, barriers, and integration strategies. *Open Learning, 35*(2), 135–152.

Mensah, K. (2024). Challenges and opportunities of implementing open access policies. *African Journal of Information and Knowledge Management, 3*(1), 40–52.

Mishra, M., Dash, M. K., Sudarsan, D., Santos, C. A. G., Mishra, S. K., Kar, & da Silva, R. M. (2022). Assessment of trend and current pattern of open educational resources: A bibliometric analysis. *The Journal of Academic Librarianship, 48*(3), 102520.

National Universities Commission (NUC). (2021). *National Universities Commission (NUC) OER policy for Nigerian higher education*. NUC.

National Universities Commission (NUC). (2022). *Strategic plan for the development and use of open educational resources (OER) in Nigerian universities*. NUC. https://www.nuc.edu.ng/

Ndibalema, P. (2024). Global trends on adoption of open education resources in higher education institutions: A bibliometric analysis. *Huria: Journal of the Open University of Tanzania, 31*, 15–34.

Nyamboga, F. N. (2024). *Adoption of open educational resources (OER) in promoting blended learning at university libraries in Nairobi County, Kenya* (Doctoral dissertation, KeMU).

Obinyan, R., Adepoju, T., &Ogunbiyi, M. (2023). Students' awareness and use of OER in Nigerian universities. *International Journal of Research and Review, 10*(3), 1–14.

Ogunbodede, K. F., &Cocodia, B. (2023). Promoting the use of open educational resources by librarians in university libraries in Nigeria. *International Information & Library Review, 55*(4), 329–338.

Ogunbodede, T., Adeyemi, A., & Bello, M. (2021). Awareness and use of OER by academic staff in Federal College of Education (Technical) Asaba. *RSU Journal of Education, 12*(1), 25–36.

Okonkwo, C. A. (2012). A needs assessment of ODL educators to determine their effective use of open educational resources. *International Review of Research in Open and Distance Learning, 13*(2), 289–310.

Olufunke, A. C., &Adegun, O. A. (2014). Utilization of open educational resources and quality assurance in universities in Nigeria. *European Scientific Journal, 10*(7).

Omoike, A. D., &Oyelude, A. A. (2024). Perception and use of open educational resources by distance learning students of University of Ibadan, Nigeria. *Journal of Library Services and Technologies, 6*(1), 183–201.

Onaifo, D. (2016). *Alternate academy: Investigating the use of open educational resources by students at the University of Lagos in Nigeria* (Doctoral dissertation, University of Western Ontario).

Otto, D., Adawi, T., & Lindberg, J. (2021). Trends and gaps in empirical OER research: A systematic mapping. *Contemporary Educational Technology, 13*(1), ep292.

Panday Shukla, P. (2023). Comparing an open educational resource and a traditional textbook: Learner outcomes and engagement. *Foreign Language Annals, 57*(2), 425–449.

Porter, D. A. (2013). *Exploring the practices of educators using open educational resources (OER) in the British Columbia higher education system*.

Priya, M. R. S., &Senthilnathan, S. (2024). Transforming pedagogy: The role of open educational resources in modern education. In *Changing landscape of education*.

Rich, J., Doyle, K., &Orbach, D. N. (2025). Student-generated open educational resources (OERs) to inspire the next generation of STEM students and teachers. *International Journal of Science Education*, 1–18.

Smart, K., &Ogbomo, V. (2023). Awareness of OER and utilization by postgraduate students of NOUN. *Lagos Journal of Information Science Research, 5*(1), 12–28.

Sousa, P., Farrow, R., Perryman, L., & Pitt, R. (2023). A systematic review of systematic reviews on open educational resources. *International Review of Research in Open and Distributed Learning, 24*(1), 1–22.

Tlili, A., Essalmi, F., Jemni, M., &Kinshuk. (2022). Are we there yet? A systematic literature review of open educational resources in Africa. *PLOS ONE, 17*(11), e0276145.

Tlili, A., Jemni, M., Kinshuk, &Essalmi, F. (2023). Are open educational resources (OER) and practices (OEP) effective in improving learning achievement? A meta-analysis. *International Journal of Emerging Technologies in Learning, 18*(1), 23–46.

UNESCO. (2002). *Forum on the impact of open courseware for higher education in developing countries*. UNESCO. https://unesdoc.unesco.org/

UNESCO. (2012). *The Paris OER Declaration*. https://unesdoc.unesco.org/

UNESCO. (2019). *UNESCO recommendation on open educational resources (OER)*. UNESCO. https://unesdoc.unesco.org/

UNESCO. (2021). *Global OER recommendation review: Taking stock of progress made in the implementation of the 2019 UNESCO recommendation on open educational resources*. UNESCO. https://unesdoc.unesco.org/

UNICEF. (2022). Education budget brief: Dealing with new demands emanating from the 'education for all'policy.

Wang, T., &Towey, D. (2017). Open educational resource (OER) adoption in higher education: Challenges and strategies. In *2017 IEEE 6th International Conference on Teaching, Assessment, and Learning for Engineering (TALE)* (pp. 317–319). IEEE.

Werth, E., & Williams, K. (2023). Learning to be open: Instructor growth through open pedagogy. *Open Learning: The Journal of Open, Distance and e-Learning, 38*(4), 301–314.

Zaid, Y. A., &Alabi, A. O. (2021). Sustaining open educational resources (OER) initiatives in Nigerian universities. *Open Learning, 36*(2), 181–197.

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