



Open learning education resource in Nigeria: A review

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Abstract

The core goal of education has always been to transfer knowledge in order to achieve desirable change in the learner. However, gaining access to meaningful education resource has over time become a challenge learners and teachers in the educational system. Such change has led to a conscious search for appropriate learning resources. The emergence of open learning education resources promises to silence the problem of lack of access to education resource materials by making available free educational resources that are essential for teaching learning and research purposes. This position paper therefore looks at the state and situation of open learning education resource in Nigeria. The paper also looks into the use of open education resource in Nigeria and how they are accessed by reviewing relevant literature. Recommendations were also made after relevant literature was reviewed.

Keywords: open education resource, open learning, resource accessibility and resource reusability

Introduction

The acquisition of knowledge and skills within and outside the school setting requires learning materials that will help facilitate and enhance the process of teaching and learning. Educational Resources are used in a learning environment to help and assist in people's development and learning (Twinkl.es, 2021). The availability of resourceful educational materials to a large extent determines the outcome of any educational process.

Traditional educational resources are characterized by various limitations that are not favourable to both the learners and educators. Limitations of traditional course resources include restrictive copyright laws and high cost of available resource materials. These limitations and more gave rise to the emergence of open educational resource.

Globally the use of open education resource (OER) is evidently not a new concept especially in the era of corona virus outbreak which made online delivery of instruction mandatory. Online teaching and learning which was previously an optional method for many educators and learners become the only approved and applicable method and this further placed emphasis on the need for open education resource. This paper therefore explores the nature of open education resources, its benefits and prospects. The paper also explores the use and administration of open education resources in Nigerian Education System.

Brief History of Open Education Resource.

The term "Open Education Resource" was first coined in 2002 at a forum organized by UNESCO on Open Courseware in Higher Education. (educateachild.org, 2021). According to Dike, (2017) the term OER refers to education resources and other materials that have been designed for use in teaching and learning, that are openly available for use by educators and students, without the accompanying need to pay royalties

or license fees. Open Educational Resources as defined by Johnstone, (2005) in Chukwu & Uhegbu, (2021) ^[1] is the open provision of educational resources, made possible by information and communication technologies (ICTs), for non-commercial consultation, use and adaptation by a community of users.

The main attribute of OER is the ability to use educational resources for free. The term 'open content' was first used by David Wiley, an academic now working at Utah State University and a key figure in OERs and the term tends to refer to all types of materials (audio, video, text and so on) that are available for use under an open, 'some rights reserved' copyright licence that enables people to use, adapt and share the materials. (open.edu, 2020). According to UNESCO, Open Educational Resources are 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. OER forms part of 'Open Solutions', alongside Free and Open Source Software (FOSS), Open Access (OA), Open Data (OD) and crowdsourcing platforms.

Proponents of open education believe everyone in the world should have access to high quality educational experiences and resources, and they work to eliminate barriers to this goal. Such barriers might include high monetary costs, outdated or obsolete materials, and legal mechanisms that prevent collaboration among scholars and educators. (opensource.com, 2020).

According en.unesco.org, 2020 "since 2002, UNESCO has developed large-scale projects, with global projects with impact at the regional, national and institution level, to provide expert technical assistance to Member States in advocacy, capacity-building and policy support for OER. In parallel, UNESCO developed and supported a network of

Chairs and Category 2 Centres working on the promotion of OER.

In addition, UNESCO leads inter-governmental discussions on OER capacity building, policy, sustainability, quality, and accessibility issues and its applications to meet the UN 2030 Agenda for Sustainable Development.

With the support of the Hewlett Foundation, UNESCO organized two World Congresses on OER, the first in 2012 with the Commonwealth of Learning in Paris, and the second in 2017 jointly organized with the Government of Slovenia in Ljubljana, with five regional for a co-organized also with the Commonwealth of Learning.

This momentum for promoting OER culminated with the UNESCO Recommendation on OER, which was adopted unanimously by the UNESCO General Conference at its 40th Session in November 2019. As of today, the Recommendation is the only existing international standard-setting instrument on OER.”

Over time, the Open Education Resources have come to include not only materials, but also learning and knowledge management applications and content creation tools, and digital resource publishing standards and licensing mechanisms that enable users to adapt resources to their cultural, educational pedagogical requirements. (Chukwu & Uhegbu, 2021) ^[1]

The Nature/Types of Open Education Resource.

Wikibook.org, (2021) mentioned that the OER movement is comprised of four main categories as follows:

1. **OpenCourseWare (OCW):** Open Course Ware is the digital publication of high quality educational materials that are freely and openly licensed, and are available online to anyone, anytime and anywhere. They frequently include course planning and evaluation tools along with thematic content. OpenCourseWare initiatives range in scope from mirroring traditional classroom sized endeavors, to the emerging Massive Open Online Course (MOOC) model, which enables large-scale participation by anyone with Internet access.
2. **OER Publishers:** The rapid rise in the cost of textbooks, combined with the high demand for affordable alternatives, has led to the emergence of new open publishing efforts for textbooks and other OER. This category also includes initiatives geared toward developing specific collections of OER, such as the Khan Academy and Saylor Foundation.
3. **OER Repositories:** Digital repositories have evolved into a convenient place to find, share and remix OER from a variety of sources. They range in scope from portals and gateways that provide access to information on OER and aggregated content resources to institutional repositories with source content and tools to develop OER.
4. **Publicly-Funded Initiatives:** Increasingly, policymakers on the local, state and national levels are developing policies that encourage the creation and adoption of OER. Approaches vary from directly funding the creation of OER to conditioning federal or state research dollars to require that any Education Resources produced as a result of that funding be made openly accessible.

According to David Wiley, in ecampusontario.pressbook.com () users are provided with free and perpetual permission to engage in 5R activities because of the manner in which OER are licensed. The 5R activities as explained are;

1. Retain: the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage)
2. Reuse: the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video)
3. Revise: the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language)
4. Remix: the right to combine the original or revised content with other material to create something new (e.g., incorporate the content into a mashup)
5. Redistribute: the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend)”

Also critical to understanding the real educational potential of OER are the following two concepts: pedagogy and digital. Pedagogically, the concept is underpinned by the notion of using resources as an integral method of communicating the curriculum in educational courses. However, it is the ease with which digitized content can be shared via the Internet that has the potential to unleash the full power of resource-based learning without bankrupting educational systems. (Commonwealth of Learning, 2017.) The nature of these open materials means they can be legally and freely copied, used, adapted and re-shared by anyone. (Chukwu & Uhegbu, 2021) ^[1].

Examples and types of OER as list in pressbooks.bccampus.ca include;

SOL*R: (Shareable Online Learning Resources) – This is BCCampus’ OER repository.

Creative Commons Search: A repository of various types of media, including images, music, and videos.

OER Commons: A large collection of a variety of types of OER, including textbooks, courses, and ancillary materials.

Merlot: “a curated collection of free and open online teaching, learning, and faculty development services contributed and used by an international education community.”

OER Handbook for Educators: “a guide for those who are just getting started in the creation of open educational resources (OER).”

Textbooks

OpenStax: Supported by Rice University, OpenStax has a huge collection of open, peer-reviewed textbooks on a large variety of subjects.

Project Gutenberg: A collection of tens of thousands of digitized books available for download; audiobooks are also available.

AU Press: Athabasca University's AU Press publishes open access journals and books with a focus on Canada, the North American West, and the Circumpolar North.

Courses

Khan Academy: A collection of instructional videos and practice exercises on topics including math, science, programming, history, English, economics, and standardized test prep.

MIT Open Course Ware: offers free access to almost all MIT course content

Saylor Academy: a non-profit organization committed to providing free and open online courses

Coursera: an educational platform partnered with dozens of prestigious universities and institutions (including MoMA, Stanford, Yale, the University of Toronto, and the University of London)

Multimedia

Creative Commons Search: A repository of various types of media, including images, audio, and videos and audio-visual.

Vimeo: Videos with a CC license can be found through Advanced Search options

Flickr: Creative Commons – Flickr is an “online photo management and sharing application” and many photos are available under CC licenses; Flickr allows searching by type of license.

Supplemental materials

Supplemental, or ancillary, OER materials can include lecture notes, lesson plans, PowerPoint presentations, assignments, and activities.

PhET: Interactive math and science simulations with lesson plans and activities

OER Commons: A large collection of a variety of types of OER, including textbooks, courses, and ancillary materials.

A list of online repositories for finding OER and tools to assess their quality by Mclean, (2019) ^[9].

Open Courses

Open Course Library - A collection of shareable course materials, including syllabi, course activities, readings, and assessments designed by teams of college faculty, instructional designers, librarians, and other experts. Maintained by Washington State Board for Community and Technical Colleges.

SUNY OER Read-to-Adopt Courses lists complete courses for higher education. New York State students can complete the courses online. Outside of this region only course materials and outcomes can be accessed for free, but materials are licensed under the Creative Commons for reuse.

Open Materials

OER Commons offers over 160,000 OER easily searchable by refinable topics including subject areas, education levels,

material type and media formats for all levels of education. You can also build and store your own modules.

Open Ed CUNY is a curated digital library of open educational resources from the City University of New York. Browse collections or use their resource and module builders to create your own.

Open Library is a searchable repository of programs, courses, materials and resources supported by eCampus Ontario. Many of the textbooks offered have been reviewed and vetted by educators across Canada.

SOL*R Sharable Online Learning Resources is a BCcampus collection that provides guest access for browsing and downloading its Creative Commons licensed resources.

Merlot II A curated collection of free and open online teaching, learning, and faculty development services contributed and used by an international education community.

Open Textbooks

Open Stax Textbooks is a nonprofit initiative from Rice University that publishes a collection of high-quality textbooks for high-enrollment courses like math, science, business, history, economics, and sociology.

BC Campus OpenEd lets you search for quality open textbooks offered in a variety of digital formats; the first step in adopting open educational resources. Search by subject and download them to your computer.

Open Textbook Library has open textbooks that have been reviewed by faculty from a variety of colleges and universities to assess their quality. All textbooks are either used at multiple higher education institutions; or affiliated with an institution, scholarly society, or professional organization.

Open Journal Articles

Digital Commons Network is a searchable repository of free full-text scholarly articles. It includes peer-reviewed journal articles, book chapters, dissertations, working papers, conference proceedings, and original research.

Open Media

Creative Commons Image Search allows users to search across several repositories, including YouTube, Google, SoundCloud, and more, for CC licensed still images, music, and videos.

Flickr Images can be searched by each type of CC licence.

Getty Institute Open Images is a searchable database of Creative Commons licensed images under Getty's Open Content Program.

TED Talks videos are all Creative Commons licensed unless otherwise indicated.

Vimeo and YouTube videos with a CC license can be found through Advanced Search options on both of these platforms

Open Data

Some Benefits

Kolentzis, 2019 ^[7] listed some benefits of OER which include;

1. Lower cost of course materials.
2. Give students access to content before, during and after course.

3. Lower course drop and withdrawal rates.
4. Increase in the number of students who receive a C or higher final grade.
5. Increase in the number of credits students complete.
6. Provides access to high-quality content to students in developing countries.
7. Instructional materials can be adapted to the teaching context.
8. Content can be selected and arranged to align with curriculum and syllabus.
9. Freedom to use traditional or innovative pedagogical methods or combine the two.
10. Information can be disseminated rapidly.
11. Improve student outcomes.
12. Increase revenue through higher enrollment and fewer tuition refunds.
13. Increase academic freedom.

Hodgkinson-Williams (2010) in Commonwealth of Learning, (2017) presents the benefits of OER for a range of stakeholders

Government Perspective: OER help advance knowledge by unlocking information for the benefit of all. They also stimulate the widening of participation in higher education by expanding access for non-traditional learners. In addition, OER promote lifelong learning, bridge the gap between formal, informal and non-formal learning, and leverage taxpayers' money by sharing and reusing educational resources between institutions.

Institutional Perspective: The benefit of OER lies in the sheer fact that sharing knowledge is congruent with the academic tradition. In addition, this perspective posits that the public image of the institution may be enhanced and new students attracted through OER initiatives. OER also provide resources for students and faculty to support learning and collaboration, attracting alumni as lifelong learners.

Educator's Perspective: This perspective posits that OER can enhance personal gain through increased reputation. They can also enhance publicity or expedite market access, which may result in economic advantages. In addition, OER foster connections with colleagues around the world and preserve a record of teaching innovations, allowing others to build upon them. Most interestingly, OER can accord lecturers the opportunity to leave a legacy after exiting academia.

Learner's Perspective: OER enable an independent learner who has access to the Internet to use materials from the best universities in the world. OER can also promote informal learning, wherein credentials are not needed. Prospective students may also access institutions by looking at their materials made available by other institutions.

Challenges

Literature reveals that there are many challenges when it comes to using open education resources. Findings from Henderson, & Ostashewski, (2018) ^[6] indicate that barriers to

OER include institutional policy, lack of incentives, and a need for more support and education in the creating, using, and sharing of instructional materials
Abbey Elder in Kolentzis, (2019) ^[7] notes several key challenges to using OER in higher education;

Subject Availability

Many of the largest OER projects funded over the past fifteen years targeted high cost, high impact courses to save students money. Because of this, most of the OER available today are for general education courses such as Psychology, Biology, and Calculus. This is beginning to change as more institutions begin publishing OER through regional and institutional grant programs.

Ancillary Materials

There are many open textbooks available today, but fewer options for ancillary materials. You can find lecture slides, notes, and lesson plans online, but ancillary content such as homework software and test banks are harder to find.

Time and Support.

Time constraints are always going to be an issue for instructors who want to try something new in their course. Luckily, there are resources available to help you locate, adapt, and implement OER. Contact your local OER expert on campus or your subject librarian if you need support.

Open Education Resources in Nigeria

In Nigeria the issue of quality in tertiary education has and is currently a major concern to stakeholders of educational system. Literature has it that although the concept of Open Education Resources is not new in Nigeria tertiary institutions, usability and access has remained the major problem. Zaid & Alabi, (2020) ^[17] in trying to explain the state of OER in Nigerian Universities is of the view that despite their popularity approaches that may work best for sustaining OER initiatives in Nigerian Universities are still evolving in Library and Information Science. Zaid & Alabi, (2020) ^[17] also added that a framework that is tended towards the sustainability of OER needs to be developed considering the current budget climate for higher education in Nigeria.

According to Dike, (2017) ^[3] Nigeria's higher education t recorded landmark feat as a draft National Policy on Open Education Resources (OER) was validated in September 2017. This document is to address the dearth of learning resources in quality, quantity and currency in tertiary education.

The decision to adopt the draft National Policy on Open Education Resources (OER) was reached by stakeholders at a one-day symposium held at the National Universities Commission (NUC), Abuja where about 340 participants considered, finalized and adopted the policy document, following a motion by a member and Advisor of the National Steering Committee on Open Educational Resources (NSC-OER), Prof Peter Okebukola. (Lawal, 2017) ^[8]

The participants at this one day symposium held to address the way forward to achieve quality and quantity in tertiary education included Vice Chancellors, Rectors, Provosts,

Librarians and Directors of ICT of Nigerian Universities, Polytechnics and Colleges of Education, representatives of national and international non-governmental organizations, embassies and tertiary education regulatory agencies in Nigeria [NUC, National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE), among others, who had earlier received copies of the draft document for their inputs. With this validation, the document is ready for the approval of the National Council on Education (NCE) and Nigeria, hitherto missing from the World map of OER, can now take its place. (Dike, 2017) ^[3].

Nigeria was singled out by different speakers and praised with commendation in recognition of the speedy way with which the country produced the first-ever draft National Policy on OER. The commendation came at the 2nd World OER Congress which held on the 17th – 22nd September 2017 at the Cankarjev Dom in Ljubljana the capital of the Republic of Slovenia. The theme of the congress ‘OER for Inclusive and Equitable Quality Education: From Commitment to Action’. (nuc.edu.org) In a video message, the Director-General of UNESCO, Dr. Irina Bokova recalled that in 2015, the World agreed on a new, universal and comprehensive education goal in the 2030 Agenda for Sustainable Development with access, equality and equity, as key priorities. She noted that Open Educational Resources offered vast potentials on all accounts. She said that with ‘open’ as the operative word, OER are openly licensed materials and resources that could be accessed, freely used, reused and adapted to the needs of the user.

After the great step taken in drafting the national Policy on OER much cannot be said on the progress of OER in tertiary institutions of Nigeria.

EduCeleb.com in teachonline.ca, (2018) recalls that the NUC had on 21st August, 2017 launched the Nigerian University System Open Education Resources (NUSOER) to serve as repository for all open education resources held by all universities in Nigeria. It thereafter directed that all Nigerian universities be ranked by the strength of their Open Educational Resources (OER). Prior to this development, no West African country was visible on the World OER Map.

However, when it comes to OER in Nigerian higher institutions the top on the list of Institutions is the National Open University of Nigeria (NOUN). As seen in wikipedia.org the National Open University of Nigeria in its effort to take education to the doorstep of the Nigerian populace irrespective of their social status and the developing economy of Nigeria has deployed and implemented iLearn portal technology to enhance students' learning experience. The NOUN iLearn platform has been created to ease access to excellent quality education. The platform provides amongst many, the following:

1. Online class discussions organized by NOUN facilitators thereby creating a virtual classroom environment.
2. Facility for students to get answers to any questions or areas of difficulty pertaining to their course of study.
3. Networking and collaboration tools to help in community of interaction among students, facilitators, academic staff and faculty members.
4. Better study tools such as the Smart e-Book Digitized

lecture video and audio materials for an enhanced student learning experience available on the platform.

5. Access to assignments, quizzes and self-study assessment tools.
6. E-library Edit: The NOUN operates an e-library at the headquarters situated at Victoria Island, Lagos, Nigeria which all students have access to after providing a valid student's identity card. Students have access to both Internet facilities, books, journals, projects, thesis of past students and other educational materials.

The NOUN also provides a platform for students that needs to access its database of educational materials NOUN e-Courseware Free Download strictly for educational purposes rather than financial or commercial purposes. Books can be downloaded in PDF formats at no cost.

NOUN is now convinced the OER movement should be embraced and sustained. To accomplish this, faculty members are encouraged to maximize their use of OER to ensure their courses are current and their students receive a quality teaching and learning experience. This includes sensitizing student to make them fully aware of the benefits of online learning using OER. NOUN plans on sharing its OER and its OER implementation experience with other universities in Africa and on other continents. NOUN policy makers continue to uphold the ideals of OER and promote sustainable approaches to ensure the continuation of the process. This includes working with government to promote OER for the common good and insisting government-funded educational materials are released using open licenses. (teachonline.ca)

In 2018 the first ever Open Educational Resources (OER) ranking in Nigeria which was initiated by the Executive Secretary, National Universities Commission (NUC), Professor Abubakar Adamu Rasheed, for the application in Nigeria Universities system. It was conducted by the National Universities Commission (NUC) Institutional Repository, in conjunction with a 12-member National Experts Group on OER Ranking (NEGOR) and a four-person team of external experts from outside Nigeria. In the OER, 160 Nigerian Universities, both public and private were ranked, with Federal University of Technology, Owerri (FUTO), coming top, followed by Mountain-Top University, MakogiObu, Ogun State, while Edo University, Iyamho came third. The ranking further showed that the Universities of Lagos, Ibadan and Covenant University, came up in the fourth, fifth and sixth positions respectively. With the 12, 070 qualities OER holding presented by 50 Universities in the inaugural exercise, it also showed that Nigerian Universities were among the best African Universities in OER (Ibibleke,2018) ^[7]

Conclusion

The gains of Open Education Resources is characterized by the ways in which it facilitates the goals of education beyond time, space, financial, physical constraints. Literature reveals that OER has indeed made a remarkable difference in the way both learners and educators get access to materials.

In the case of Nigeria, the challenges of OER centers around lack of awareness, inadequate access to internet and other technical irregularities. Higher institutions in Nigeria to a

large extent depend on educational resources that cost money and this makes education difficult for many. Again professional development in tertiary institutions in Nigeria has not fully embraced open education resources and this is also a major challenge that needs to be addressed to bring quality to the educational system.

Recommendations

1. OER units should be created in every tertiary institution in Nigeria to further create awareness about OER and its benefit.
2. Periodic workshops and seminars should be organized to illustrate recent innovations in OER.
3. Lecturers of higher institutions in Nigeria should be encouraged to create OER materials that are typical to the Nigerian setting to foster knowledge and further widen the resource collection.
4. Attention should be drawn on professional development of educators and lecturers to enable them embrace the OER movement.
5. OER centers should be made available in all tertiary institutions for the purpose of on-campus support and assistance.

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