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## **PRESERVATION OF OPEN EDUCATIONAL RESOURCES WITHIN LIBRARY COLLECTIONS IN SELECTED ACADEMIC LIBRARIES IN NIGERIA**

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### **Abstract:**

*Open Educational Resources (OER) is becoming increasingly popular as a means to provide affordable and accessible educational materials. Libraries play a crucial role in the dissemination and preservation of OER. However, ensuring the long-term preservation of OER within library collections can be challenging due to various factors such as technological changes, copyright restrictions, and the dynamic nature of OER content.*

*Therefore, this paper highlights the importance of preserving OER within library collections and proposed a framework based on three main strategies: the use of standardized metadata for OER, the adoption of open standards and formats and the implementation of preservation strategies that incorporate both technology and human interventions. The proposed framework showed that the use of standardized metadata for OER will facilitate the discovery and retrieval of these resources, while the adoption of open standards and formats will ensure that OER can be accessed and used in the future. In addition, the implementation of preservation strategies that incorporate both technology and human interventions will help to ensure that OER remains accessible and usable over time.*

*The paper recommends that, academic libraries of all sizes and missions that will build a sustainable future through the SDGs should continue to express an interest in the management and preservation of open educational resources at their institution. By so doing, libraries can help to ensure that OER continues to be accessible and usable for future generations.*

**Keywords:** Open Educational Resources, Preservation of OER, Library Collections, Academic Libraries, Nigeria

## **Introduction**

The preservation of Open Educational Resources (OER) has emerged as a critical concern within the academic library landscape worldwide, including Nigeria. Open Educational Resources encompass a vast array of freely accessible educational materials that promote equitable access to quality education. As academic libraries in Nigeria strive to support teaching, learning, and research endeavours, it becomes imperative to address the preservation challenges specific to OER.

Academic libraries play a pivotal role in the dissemination and curation of educational resources, making them natural custodians of OER and advocates for their long-term accessibility and usability. Nigeria, with its large and diverse higher education system, has experienced a significant growth in the adoption and creation of OER in recent years. OER not only provide cost-effective alternatives to traditional learning resources but also foster innovation and collaboration among educators and institutions. However, the preservation of OER poses unique challenges, including technological obsolescence, content integrity, metadata management, sustainability, and collaboration within the open education ecosystem.

In order to secure the long-term availability and value of OER inside library collections, a strategic framework comprising policies, technologies, and collaborations is necessary. Therefore this study seeks to:

1. Highlight the importance of preserving OER within library collections.
2. Investigate the preservation strategies implemented by the selected academic libraries in Nigeria to safeguard OER within their collections.
3. Examine the approaches, policies, technologies, and collaborations employed in preserving OER, and
4. Propose a framework that can be used by libraries to ensure the long-term preservation of OER.

Academic libraries in Nigeria need to address these challenges and establish sustainable preservation practices that align with national and international standards. By doing so, they can contribute to the broader preservation efforts, support open education initiatives, and enhance access to quality educational resources for students, researchers, and educators across the country. The findings of this study have implications not only for academic libraries in Nigeria but also for the broader academic community and stakeholders involved in open education initiatives. By highlighting successful preservation strategies, potential challenges, and opportunities, this research contributes to the knowledge base surrounding OER preservation within library collections, facilitating the development of best practices and informed decision-making for the sustainable preservation of OER in Nigeria and beyond.

## **Review of Literature**

### **Definition and Scope**

In the framework of UNESCO's goal to grant unrestricted access to educational resources on a worldwide level, the term "Open Educational Resources" (OER) has been introduced and promoted. The phrase "open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a

(community of users for non-commercial purposes") was first used by UNESCO in the final report of the Forum on the Impact of Open Courseware for Higher Education in Developing Countries in 2002.

UNESCO defines Open Educational Resources (OER) as “teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and aspects the authorship of the work”. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. Creative Commons License is the most common license used but options vary in different countries OER include everything from entire courses to syllabi, from assignments and assessments to whole textbooks, and various types of media (Hess, Nann and Riddle, 2016; Commonwealth of Learning, 2017). In other words, they are educational materials that are either in the public domain or have been licensed under an open copyright license such as Creative Commons (<http://creativecommons.org/>) so that they are not only freely accessible, but also permit people to engage in the “5Rs of Openness”: retain, reuse, revise, remix, and redistribute.

### **The benefits of Open Educational Resources**

OER utilization has a number of advantages. In the study of Goodwin (2011) as cited by Jensen and West (2015), the author notes that faculty adopts OER for reasons such as: cost, the ability to adapt materials, greater possibilities in collaboration, diversity of resources, convenience, and reflection on their teaching. According to Zaid (2019), the emergence of OER has therefore paved way for increasing access to teaching and learning materials and improving the quality of education around the globe. Specifically, Hodgkinson-Williams (2010) posit that the benefits of OER could be seen from the perspective of various stakeholders as follows:

1. **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.

2. **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.

3. **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.

4. **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.

## **The Importance of Preserving Open Educational Resources (OER) within Library Collection**

Preserving OER within library collections is of utmost importance due to several compelling reasons:

1. **Ensuring Accessibility:** OER provide a wealth of freely available educational content that can benefit learners from diverse backgrounds. By preserving OER within library collections, libraries play a vital role in ensuring the continued accessibility of these resources, regardless of changes in technology, internet availability, or the lifespan of individual websites or platforms. This accessibility empowers learners, educators, and researchers to access valuable educational materials anytime, anywhere.
2. **Supporting Open Education Initiatives:** OER are a fundamental component of the Open Education movement, which seeks to make education more inclusive, affordable, and customizable. By preserving and curating OER, libraries actively contribute to the growth and sustainability of Open Education initiatives. They help cultivate a culture of sharing, collaboration, and innovation, which benefits learners and educators worldwide.
3. **Enriching Library Collections:** Including OER in library collections enhances the breadth and depth of available resources. OER often cover a wide range of subjects, from basic skills to advanced topics, catering to different educational levels and interests. By preserving OER, libraries can enrich their collections and provide a broader array of educational materials to their patrons.
4. **Supporting Teaching and Learning:** OER offer educators the flexibility to adapt, customize, and integrate materials into their teaching practices. By preserving OER, libraries empower educators to discover and utilize a variety of high-quality, open-licensed resources that align with their curriculum and teaching objectives. This support for teaching and learning fosters innovation, creativity, and pedagogical excellence.
5. **Promoting Information Literacy:** OER often embody open licenses that explicitly encourage users to engage with and modify the content. By preserving OER, libraries provide opportunities for learners to critically evaluate, remix, and contribute to educational resources. This engagement fosters information literacy skills, digital literacy, and the ability to navigate and participate in the open knowledge ecosystem.
6. **Enhancing Collaboration and Partnerships:** The preservation of OER within library collections strengthens collaboration and partnerships between libraries, educational institutions, content creators, and the broader open education community. Libraries can actively engage with OER initiatives, contribute to the improvement and curation of OER, and foster collaboration among educators and learners. This collaborative approach enhances the overall quality and sustainability of OER resources.
7. **Supporting Lifelong Learning:** OER are not limited to formal educational settings but also benefit lifelong learners, professionals, and individuals seeking self-paced education. Preserving OER within library collections ensures that these resources remain available for continuous learning and personal development. Libraries can serve as a lifelong learning hub, facilitating access to diverse educational materials and fostering a culture of lifelong learning within their communities.

Preserving OER within library collections is crucial for ensuring the accessibility, sustainability, and enrichment of educational content. Libraries, as custodians of knowledge, have a unique role to play in curating and preserving OER, supporting open education initiatives, and promoting lifelong learning. By embracing and preserving OER, libraries contribute to the democratization of education and empower learners and educators to thrive in an increasingly interconnected and knowledge-driven society.

### **Librarians and the necessity to preserve OER**

OER is becoming increasingly popular and the appealing packages it offers make it a valuable resource for the entire academic community. It has become a hot topic in academia because of its allure and addictive qualities, as well as their accessibility and freeness. Zaid (2019) noted that OER has gained a wider use and application in Nigeria educational community. In comparison to other learning materials, OER have a greater potential to impact outside educators and institutions due to the way they are licensed. Hence, OER should be a top priority in university records management plans because they frequently reflect the teaching and learning activities of a university or institution.

Nonetheless, while the expertise that librarians bring to the open education movement in the areas of copyright, open access, metadata, and instructional design is frequently cited, digital preservation is rarely emphasized. The preservation of OER may be mandated or at the very least encouraged. There are many justifications for thinking about preservation. The first is accountability: if library resources, including financial support, are devoted to encouraging OER creation, the resulting materials should be made permanently accessible.

Therefore, librarians have a responsibility to thoughtfully preserve OER that hold significant value for the teaching and learning missions of their institutions. Hare and Sullivan (2020) remarked that, when librarians overlook preserving OER, they miss an opportunity to help users realize the first and arguably most essential of Wiley's 5R permissions: retain. In addition to making content available, preserving OER provides an important opportunity to collaborate with colleagues whose expertise can enhance librarians' own, showcase the breadth of expertise the library offers to more holistically support users, and extend the reach of open education.

### **Methodology**

The qualitative research method using a case study design was adopted for this study. The selected academic libraries in Nigeria included both private and public institutions: Ladoké Akintola University of Technology (LAUTECH), Ogbomoso, Oyo State and Ajayi Crowther University, Oyo. The selected academic libraries in Oyo State, Nigeria were studied, and 9 library staff out of 72 were purposively selected for interview in a systematic and rational way. The purposively selected participants were from units of the libraries responsible for preservation of library resources, which were likely to generate useful data for the research work. This is in accordance with Green and Thorogood (2009), who remarked that, samples in qualitative research are usually purposive. They also indicated further that, sample sizes are typically small in qualitative work, and one way of identifying how many people you need is to keep interviewing until, in analysis, nothing new comes from the data – a point called saturation.

The researcher visited the selected academic libraries to interview the selected professional and para-professionals that were directly responsible for the preservation of

library resources. The participants' interviews and observation were carried out within two weeks and data collected analyzed qualitatively using narrative words and descriptions.

### **Discussion**

This study was carried out to investigate the preservation strategies implemented by the selected academic libraries in Nigeria to preserve OER within their collections and examine the approaches, policies, technologies, and collaborations employed in preserving OER. To do this, five research questions were framed to enable effective data collection in the libraries in order to achieve the study objectives. Among the research questions raised were: What is the preservation strategies implemented for preservation of OER? What are the approaches employed in preserving OER? ; What are the policies employed in preserving OER? What are the technologies employed in preserving OER? ; what are the collaborations adopted in preserving OER?

### **Findings**

The author discovered that the preservation of OER is a gap both in practice and in the literature. Based on analysis of data collected, the following are the major findings of the study. The participants responded that, there were policies guiding the operations of the selected academic libraries, however, they emphasised that OER preservation generally centres on using institutional repositories (IRs). Based on the findings, the author proposed a framework to effectively manage and preserve OER in academic libraries in Nigeria.

### **Proposed framework for Open Educational Resources (OER) Management and Preservation**

In order to effectively manage and preserve OER, a framework encompassing three main strategies has been proposed: the use of standardized metadata, the adoption of open standards and formats, and the implementation of preservation strategies incorporating both technology and human interventions. This framework aims to ensure the accessibility, interoperability, and long-term sustainability of OER.

**Strategy 1: Standardized Metadata for OER** Standardized metadata plays a crucial role in organizing and describing OER, enabling efficient search, discovery, and retrieval. The following components should be considered:

1. **Metadata Schema:** Adopt a standardized metadata schema, such as Dublin Core Metadata Initiative (DCMI), to provide a common set of elements and terms for describing OER. This facilitates consistency and interoperability across different platforms.
2. **Descriptive Metadata:** Include descriptive information such as title, author, subject, keywords, and abstract to provide comprehensive details about the content and context of the OER.
3. **Technical Metadata:** Capture technical details such as file format, size, resolution, and compatibility requirements. This information assists in assessing accessibility and suitability of the resources for various users and platforms.
4. **Educational Metadata:** Include educational attributes such as learning objectives, target audience, instructional level, and pedagogical approach. These attributes aid educators in aligning OER with specific learning needs.

**Strategy 2:** Adoption of Open Standards and Formats to ensure the openness, interoperability, and longevity of OER, the following practices should be followed:

1. **Open Licensing:** Encourage the use of open licenses, such as Creative Commons, that permit free use, adaptation, and redistribution of OER while maintaining proper attribution and addressing copyright considerations.
2. **Open Formats:** Promote the use of open and non-proprietary file formats for OER to avoid dependence on specific software or hardware. Common open formats include HTML, XML, PDF, ODF, and OER-specific formats like IMS Content Packaging or Learning Tools Interoperability.
3. **Accessibility Standards:** Ensure that OER conform to accessibility standards, such as Web Content Accessibility Guidelines (WCAG), to enable access for individuals with disabilities. Consider alternative formats, captions, transcripts, and other accessibility features.
4. **Interoperability Standards:** Adopt interoperability standards, like Learning Tools Interoperability (LTI) or Sharable Content Object Reference Model (SCORM), to facilitate integration and interoperability with learning management systems and other educational platforms.

**Strategy 3:** Preservation Strategies Incorporating Technology and Human Interventions  
Preservation of OER involves both technological solutions and human interventions to mitigate risks and ensure long-term accessibility. Key considerations include:

1. **Data Backup and Replication:** Implement robust backup mechanisms, including regular data replication, to prevent data loss and enhance redundancy. This can be achieved through cloud storage, distributed storage systems, or dedicated backup servers.
2. **Digital Preservation Systems:** Deploy digital preservation systems that incorporate metadata management, version control, and file format validation to ensure the integrity, authenticity, and long-term accessibility of OER. These systems may leverage existing digital preservation frameworks like LOCKSS or Archivematica.
3. **Migration and Format Conversion:** Monitor technological advancements and periodically migrate OER to newer formats to avoid obsolescence. Ensure that conversion processes maintain the integrity and functionality of the resources.
4. **Community Engagement:** Foster a community of contributors, curators, and users who actively participate in the preservation efforts. Encourage user feedback, resource enhancement, and collaboration to sustain the relevance and quality of OER.

This framework, encompassing the use of standardized metadata, adoption of open standards and formats, and implementation of preservation strategies, provides a comprehensive approach to effectively manage and preserve OER. By adhering to these strategies, educators, learners, and institutions can ensure the accessibility, interoperability, and long-term availability of valuable open educational resources.

## **Conclusion**

Academic libraries of all sizes and missions that will build a sustainable future through the SDGs should continue to express an interest in the management and preservation of open educational resources at their institution. Although the specific roles and responsibilities of librarians in safeguarding OER are not yet widely recognized in Nigeria, it is crucial for

stakeholders in higher educational settings to understand that librarians play an important role and have the potential in OER management and preservation.

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## **BIOGRAPHICAL STATEMENT**

Dr. Adefunke Sarah Ebijuwa has been a Deputy University Librarian at the Olusegun Oke Library for 22 years and she is currently the pioneer head of the newly established Department of Library and Information Science, Ladoke Akintola University of Technology (LAUTECH), Ogbomoso, Nigeria. She holds B.Tech. (Food Science), LAUTECH; MLS and M.Phil Degrees in Library and Information Studies from the University of Ibadan, Nigeria, respectively. Her research interests are in Electronic Resources Use, Indigenous knowledge Preservation, Knowledge Management, and ICT. She is a member of the Nigerian Library Association and IASSIST. Dr. Ebijuwa is a seasoned researcher who has published extensively, locally and international.