

Mobile Gateway for Open Education Resources (OER): A case with University of Swaziland libraries

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Abstract

Open educational resources (OER) are free and openly licensed educational materials that can be used for teaching, learning, research, and other purposes. Around the globe there are a number of initiatives which are being experimented in the development of OER. This paper is a case study of the development of a gateway application for the OER material to enhance the teaching and research capability of the University of Swaziland. The development of the desktop OER gateway and the conversion of such a gateway into mobile application gateway are discussed in this paper.

Keywords: Open Educational Resources, OER; mobile application; Open Education, OER Mobile gateway

1. Introduction

Open Education resources are described as educational resources which are available freely for research and education to be used and reused for the development of education by the wider educational community. William and Flora Hewlett Foundation defines OER as "teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge." (The William and Flora Hewlett Foundation, n.d.) Globally there are a number of initiatives to maximize the usage of these resources. UNESCO is the frontrunner in consolidating most of these initiatives. UNESCO announces that "universal access to high quality education is key to the building of peace, sustainable social and economic development, and intercultural dialogue. OER provide a strategic opportunity to improve the quality of education as well as facilitate policy dialogue, knowledge sharing and capacity building" (UNESCO, n.d.). In 2001 Massachusetts Institute of Technology (MIT) released all its courses on the internet for free access; since then there are a number of high quality educational resources that are made freely available in the internet (Blackall, 2008).

2. Open Access – the Genesis

The genesis of Open Access to Educational Resources can be attributed to the maturity of the Open Source movement which started in the early 80s mainly to counter the closed and proprietary software and operating systems environment. It gained its momentum and spread

its wings into a number of fields which had felt the monopoly of specific groups of people who made knowledge resources as money minting activities. In scholarly publication there was a great monopoly which restricted users to access quality scientific information mainly because of the monopoly of proprietary scholarly literature. These monopolies made sure that the journals were sold at very high price which only wealthier institutions could afford to buy. Thus an artificial digital divide was created among the haves and have-nots. The open education movement addressed this fundamental issue to curb this anomaly and to bring back education to the masses which resulted in the birth of Open Access movement. The Open Educational Resources are the offshoot of the Open Access movement which aims to provide open access to quality educational resources.

Keeping the anomaly of closed access to quality educational resources as the main agenda the Budapest Open Access Initiative (2002) (BOAI) in February 2002 highlighted the need to remove the barriers to educational resources and make it available free and open for all the people in the world. The BOAI particularly invited “governments, universities, libraries, journal editors, publishers, foundations, learned societies, professional associations, and individual scholars who share our vision to join us in the task of removing the barriers to open access and building a future in which research and education in every part of the world are that much more free to flourish”.

The following are some of the main players who endorsed the Open Access for further improving the access to educational resources.

- February 2002 -- Budapest Open Access Initiative
- August 28, 2003 -- Association of College & Research Libraries (ACRL) Principles and Strategies for the Reform of Scholarly Communication, August 28, 2003
<http://www.ala.org/acrl/publications/whitepapers/principlesstrategies>
- June 20, 2003 -- Bethesda Statement on Open Access Publishing,
<http://legacy.earlham.edu/~peters/fos/bethesda.htm>
- October 22, 2003 --Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, <http://www.berlin9.org/about/declaration/>
- December 12, 2003 -- UN World Summit on the Information Society Declaration of Principles and Plan of Action, <http://www.itu.int - Document 1>
- January 30, 2004 -- Organisation for Economic Co-operation and Development (OECD) Declaration on Access to Research Data From Public Funding,
<http://acts.oecd.org/Instruments/ShowInstrumentView.aspx?InstrumentID=157>
- February 24, 2004 --The International Federation of Library Associations and Institutions (IFLA) released the IFLA Statement on Open Access to Scholarly Literature and Research Documentation,.
<https://www.ifla.org/publications/ifla-statement-on-open-access-to-scholarly-literature-and-research-documentation>
- September 23, 2005 -- Salvador Declaration: Commitment to Equity,
<http://www.icml9.org/public/documents/pdf/en/Dcl-Salvador-Commitment-en.pdf>

2.1 Open Education

From Open Access to educational resources a new concept called Open Education evolved. Open education is defined as:

“Open education is about sharing, reducing barriers and increasing access in education. It includes free and open access to platforms, tools and resources in education (such as learning

materials, course materials, videos of lectures, assessment tools, research, study groups, textbooks, etc.). Open education seeks to create a world in which the desire to learn is fully met by the opportunity to do so, where everyone, everywhere is able to access affordable, educationally and culturally appropriate opportunities to gain whatever knowledge or training they desire.” (What is [Open Education, n.d.](#))

This noble global phenomena caught up with the imagination of the entire world and many countries started embracing the concept of Open Education as the way forward to make the society more meaningful especially if it has to be made well educated. Africa joined the bandwagon in September 2007 with its Cape Town declaration on Open Education. The crux of the declaration reads as

“We are on the cusp of a global revolution in teaching and learning. Educators worldwide are developing a vast pool of educational resources on the Internet, open and free for all to use. These educators are creating a world where each and every person on earth can access and contribute to the sum of all human knowledge..... It is built on the belief that everyone should have the freedom to use, customize, improve and redistribute educational resources without constraint. Educators, learners and others who share this belief are gathering together as part of a worldwide effort to make education both more accessible and more effective.....” (Cape Town Open Education Declaration, n.d.)

2.2 Open Educational Resources

Taking cue from the concept of Open Education many illustrious thinkers, scientists, educators and teachers started developing material which are called Open Educational Resources (OER). OERs are defined as “*Digitized materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research*” Contrary to the misunderstanding that OER is sub-standard educational material they are high-quality, free and open educational materials that offer opportunities for people anywhere in the world to share, use and reuse. Open Educational Resources (OER) are built on two convictions: that "knowledge is a public good" and that "the internet is a good way of sharing knowledge." (Open Educational Resources, 2015)

Walz, (2015) asserts that Open Educational Resources (OER) have saved students millions of dollars in textbook costs and greatly expanded access to a wide variety of educational materials for countless numbers of students and life-long learners. OER have also saved teachers time and effort by allowing them to reuse, modify, and build on materials developed by other teachers. The beauty of OER resources is the ability and flexibility built around it to reuse, modify and build on it to recreate new resources. The success of OER is mainly attributed to this great freedom which comes with Open Education.

3. OER and University of Swaziland a case study

University of Swaziland (UNISWA) was developed from the University of Botswana, Lesotho and Swaziland (UBLS) which had its headquarters in Lesotho between 1964 and 1975. First operated from 1975 as University College it gained university status in 1982. With 7 faculties and one institute of distance education which spans three sprawling campuses, UNISWA is the foremost institution of higher education in Swaziland. The total student enrolment in 2015 stands at 6305 and a teaching staff complement of 271 (University of Swaziland, 2015). In the year 2013 the Institute of Distance Education decided to introduced blended learning and encouraged the staff members to augment their courses with the creation of electronic learning support tools. In order to create a multimedia learning environment, the staff members were encouraged to use Open Educational Resources.

3.1 OER Usage and Challenges

With a number of initiatives in OER being practiced around the globe, the biggest challenge for the staff members to use the OER material is to identify the right resource for the right learning activity. In order to ease the access problems, the university library was approached to provide resource audit assistance to the staff members with special emphasis on OER. While providing user education on Open Educational Resources, it was evident that the staff are not able to use them properly because of their limited exposure to the resources and also because of the rapidity with which new resources arrive in the global OER scene. It was a big challenge to provide access to these resources through formal presentations since the availability and existence of these resources became numerous and varied in platforms.

3.2 OER Desktop Gateway

In order to streamline access to these resources, the University of Swaziland Library developed an Open Educational Resource Gateway. This gateway is available at <http://www.library.uniswa.sz/oer>. Figure 1 is a screen capture of the OER Gateway at the University of Swaziland library website.

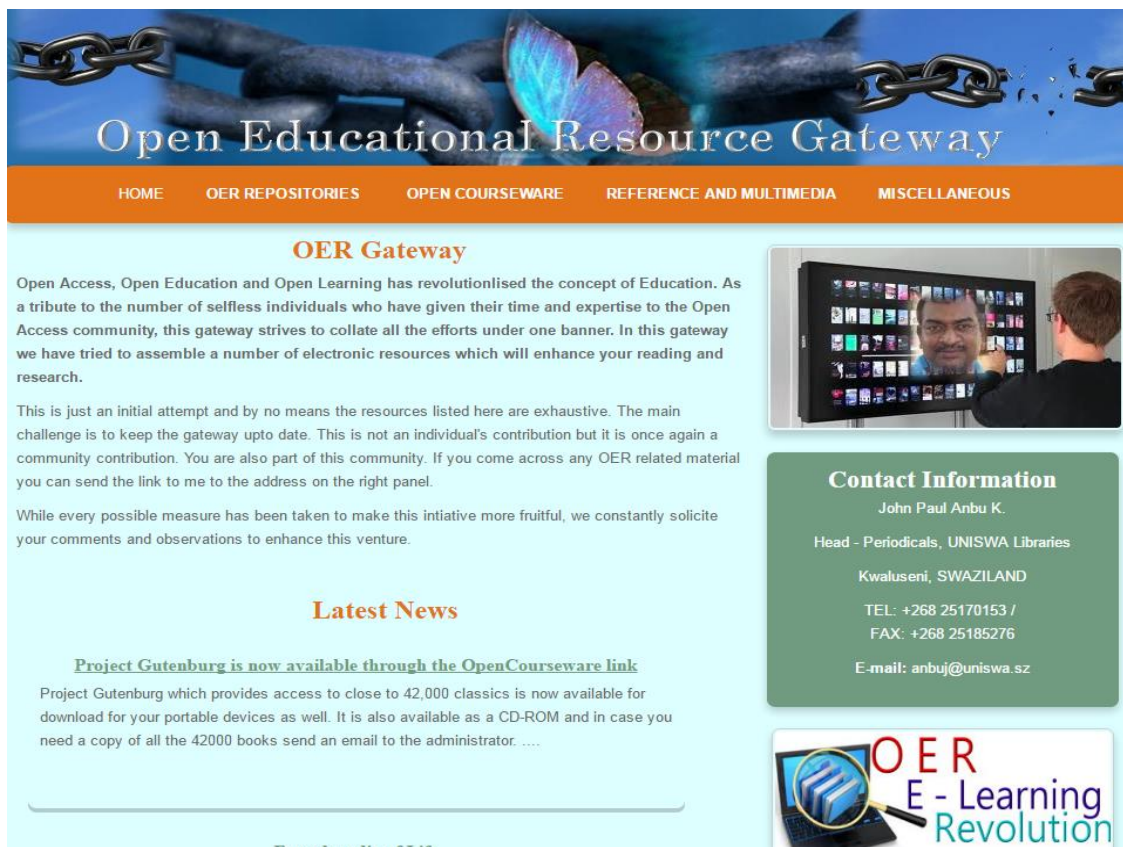


Figure 1. Desktop OER Gateway

The development of OER Gateway allowed the lecturers to freely use content from OER repositories and sources especially multimedia and images. The focus of the gateway is to provide a one-stop entry into the world of Open Educational Resources. An elaborate resource audit was conducted by analysing each and every OER and a comprehensive website was developed after months of research. The gateway was established with links to various repositories and OER projects around the globe. The OER Gateway provided an easy faceted menu based links to: Repositories

- Courseware
- Reference
- Multimedia
- and other OER Resources

4. OER Mobile Gateway

After months of using the desktop OER gateway it was felt that there were a number of limitations. First and foremost the mobility of the gateway was severely hampered, especially if the lecturers wanted to use the resources in the classroom situation and, if they wanted to use it along with the students, it was not possible since the interface is desktop. Time-critical mobile-specific features like push notices or location-based services could not be activated through desktop gateway. Looking at the limitations of a desktop gateway, this gateway was further developed into a mobile-based gateway application with push notices and location-based alert services and linking to real-time social network based OER network. The vision of this project is to further enhance into a mobile portal for OER. Currently the mobile app is in its testing stage. Figure 2 is a screen capture of the OER Mobile application.

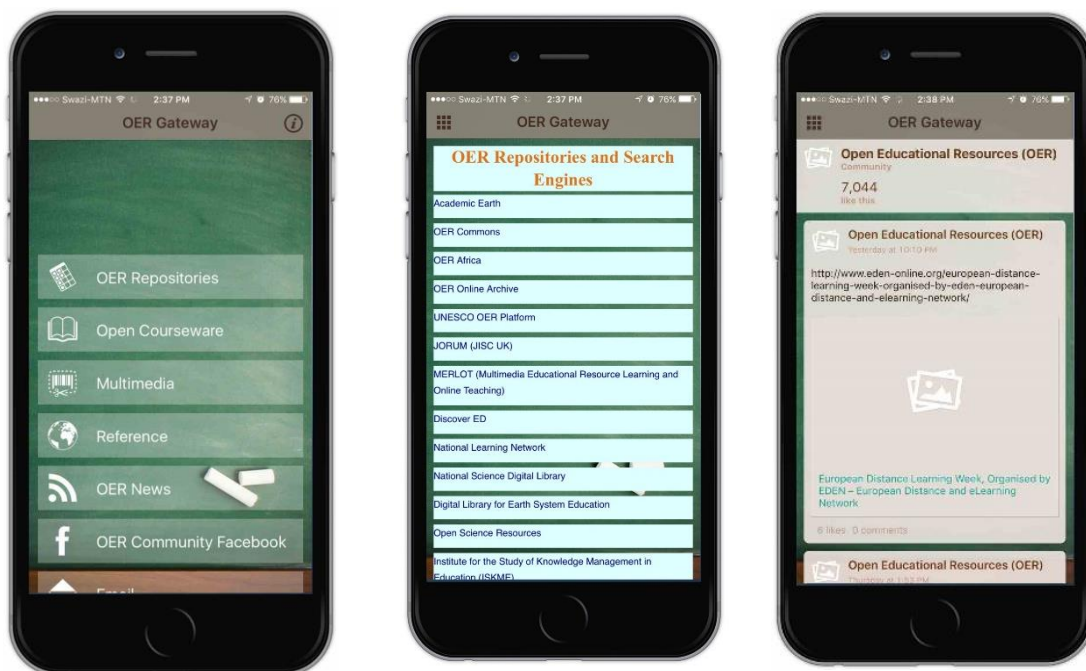


Figure 2. OER Mobile Gateway

4.1 Advantages of Mobile OER Gateway:

The following are some of the major advantages of the mobile OER Gateway

- Push Notification as and when a new resource is added
- Connected to OER groups through Social Networking
- OER News updated periodically
- Location-based resource service
- All the mobile-compliant resources are identified and tagged

4.2 Challenges in the Mobile OER Gateway

The major challenge we face in the OER Gateway is the continuous updating of links and resources. While it was a desktop interface it was easy to update the links as and when it is updated or new links are found. With mobile Gateway each time an update is done it has to be compiled and resubmitted to the app store for re-download by the users. Another major challenge is the research on new and upcoming resources which keeps the developer very busy. The current application and the push notices are not based on any Selective Dissemination of Information type of an alert system. Such an exhaustive system requires a service of a portal which seems to be the future of this project.

5. Conclusion

Open Educational Resources are a big boon to the Social development and the sustainable development of any country since it augments the creation and development of human capital. Providing proper support to the creation of these resources, especially by creating appropriate support tools to enhance the usage of these resources, will result in better utilization of the resources and at the same time will improve the process of creating more resources. With Open Educational Resources it is not only about the free and open usage, it also provides a platform for collaboration. Creating support tools especially using mobile platforms will result in better utilization of these resources even when the users are on the go. This pilot project is an example of how support tools can enhance the resources for better utilization.

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