

The promise of open educational resources for higher education in Africa

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The OER concept

Open educational resources (OER) refer to educational resources that are freely available for use by educators and learners without an accompanying need to pay royalties or licence fees. OER is sometimes confused with online learning or electronic learning; it is, however, not synonymous. Indeed, in many developing world contexts where connectivity may not be ubiquitous, many educational resources produced may be printable while also shareable in a digital format.

OER Africa, an initiative of the South African Institute for Distance Education (Saide), supports African institutions of higher education in using and developing OER as a means of improving teaching and learning. It was launched in 2008 with seed funding from the Hewlett Foundation. Its vision is one of vibrant, sustainable African higher education institutions that play a critical role in building and sustaining African societies and economies by producing the continent's future intellectual leaders through free and open development and sharing of common intellectual capital.



OER Africa Advisory Group

We believe that OER initiatives can build capacity in African higher education by providing educators and learners with free or low-cost access to openly licensed educational tools, content and communities of practice wherein experiences can be shared and questions answered. These communities of like-minded educators can support African educators to develop and/or adapt educational materials and integrate them into high quality courses and programmes. Through such processes, both educators and learners will benefit from improved and collaborative delivery of education.

The impact of digitisation

The explosion of freely available, high quality content online that educators and students can link to facilitates the student-centred notion of resource-based learning, which operates on the premise that learning can be facilitated with access to information that learners can actively explore (Davis and White, 2001). Increased access to digitised information, along with online tools that are already available, provides numerous and varied opportunities to design high quality teaching and learning environments. However, significant challenges exist regarding how to deal with issues of intellectual property and copyright.

In technologically rich countries, where connectivity and bandwidth may often be ubiquitous in higher education institutions, access to the World Wide Web sometimes means that both student and teacher are accessing new knowledge or new resources at the same time. In this environment, the challenge becomes one of being able to discern what is of good quality. It is essential that universities in Africa seek to harness these opportunities in order to ensure that they are not further marginalised in emerging knowledge networks.

Telecommunications capacity is growing rapidly in Africa as in the rest of the world. When OER Africa first started its work in 2008, we were often asked to conduct online searches on behalf of faculty in many African universities. The bandwidth available to them was simply too limited and too costly to facilitate easy navigation of the web. Today, it is increasingly common for both faculty and students to have access to their own laptop or other device. Bandwidth on university campuses is systematically improving. We expect this internet penetration to continue accelerating in almost all African contexts, meaning that it is increasingly possible to assume that both educators and learners can be online as part of the educational experience.

In many developing countries, issues of limited access to technology, combined with outdated and/or maintenance challenges to application of that technology, are slowly but steadily being resolved as both government and institutional policies increasingly recognise the importance of access to the internet – and to ICT-based productivity tools – for both educators and students. Many institutions view improving ICT infrastructure and connectivity as a possible solution to the imperative of increasing access to higher education; education delivery via a mixed mode of online distance education and face-to-face classes is increasingly in demand. That said, the quality of education delivered via distance methodologies continues to be met with a degree of scepticism by some educators and students alike.

As most faculty are hired based on their subject matter expertise – rather than their pedagogical proficiency – unfamiliarity with

educational technology poses the risk that poor pedagogical practice might jeopardise the quality of ongoing programme and course design. Appropriate planning of contact sessions with students, development of relevant teaching and learning materials, and design of effective assessment are pedagogical skills that may not be widely applied. The concept of life-long learning, however, is now widely accepted and there is increased demand for access. Within this context, the transformative potential of OER becomes increasingly important.

The promise of OER

As technology access continues to improve, this increasingly enables universities to harness the transformative educational potential of OER. This potential revolves around three linked possibilities.

- First, in many systems, royalty payments for textbooks and other educational materials constitute a significant proportion of the overall cost, while processes of procuring permission to use copyrighted material can also be time-consuming and expensive.

Box 1

Open licensing of educational materials

A common misperception about OER is that, when materials are 'openly licensed', the author gives up all of his or her rights to this material. In fact, the emergence of open licences has been strongly driven by a desire to protect an author's rights in environments where content (particularly when digitised) can so easily be copied and shared on the internet without permission. Open licences seek to ensure that this copying and sharing happens within a structured legal framework that is more flexible than all-rights reserved copyright, while simultaneously providing the author with appropriate attribution. An open licence reduces the incentive for people to 'steal' intellectual property, or to pass it off as their own, because it is already openly accessible.

In recognition of this potential, the recent United Nations Educational, Scientific and Cultural Organization (UNESCO)/ Commonwealth of Learning (COL) Paris OER Declaration (<http://creativecommons.org/tag/paris-oer-declaration>) recommends (among others things) that member states:

- Foster awareness and use of OER.
- Facilitate enabling environments for use of ICTs.
- Reinforce the development of strategies and policies on OER.
- Encourage the development and adaptation of OER in a variety of languages and cultural contexts.
- Encourage research on OER.
- Encourage the open licensing of educational materials produced with public funds.

This Declaration was unanimously approved in June 2012. (For more on the Declaration process, see the article in this volume by Sir John Daniel and Professor Asha Kanwar.)

Because OER remove restrictions around copying resources, they can reduce the cost of accessing educational materials. Increased availability of high quality, relevant learning materials can contribute to more productive students and educators.

- Second, content licences that encourage activity and creation by students through re-use and adaptation of that content can make a significant contribution to creating more effective learning environments. The principle of allowing adaptation of materials provides one mechanism, among many, for constructing roles for students as active participants in educational processes, who learn best by doing and creating not by passively reading and absorbing.
- Third, while teaching staff are increasingly expected to have the knowledge and skills to teach a broad spectrum of subjects, in reality they often lack the time to re-visit and modify curricula on a regular and systematic basis. OER have the potential to build capacity by providing institutions, educators and learners with access, at relatively low cost, to the means to develop competence in producing educational materials and to carry out the necessary instructional design to integrate such materials into high quality programmes of learning.

OER – a practical application

To test the potential of OER to have a positive impact on teaching and learning, the Health OER initiative was set up as a partnership between the University of Ghana, the Kwame Nkrumah University of Science and Technology (KNUST) – also in Ghana – the University of the Western Cape and the University of Cape Town (UCT) in South Africa, the University of Michigan (USA) and OER Africa.

Participating Colleges of Health Sciences were concerned with developing socially relevant and culturally appropriate training materials and experiences for their students. Faculty wished to tackle the challenge of large class instruction in the face of limited tutorial time and small numbers of qualified lecturers. Exposure to good practices in materials development and curriculum design enabled them to find alternative ways to deliver health education content in formats that would enable students to have increased access to the material in their own time.

Prior to this initiative, lecture notes had been the key means of working through their syllabus. Now, students have access to resources – including videos, print-on-demand PDFs and DVDs created specifically for them by their own faculty and tailored to their needs – that they can refer to in their own time. Participating faculty noted that these students were able to engage at a far higher level than previous cohorts.

As faculty were no longer entirely dependent on lecture time to deliver the curriculum, they had the option to use some of that time to develop resources for teaching (for example, case studies and problems) or to engage their students in discussions or even group projects on particular aspects of the curriculum. All of this has proved to be a far more effective means of teaching and learning than dependence on the lecture.

Similarly, applying open licences to resources created through this kind of collaboration increases their availability through multiple sources rather than restricting them to a single institutional website

or repository. One example of this increased visibility is that multimedia, bilingual resources created at UCT are now being used at the University of Stellenbosch as they meet the objective of training doctors to be able to communicate directly with their patients. Their use also negates the need for translators, which protects patient-doctor confidentiality.

Likewise, resources created at KNUST by the world's leading authority on a tropical condition called the Buruli Ulcer are used to instruct medical students at the University of Michigan in the USA. Recently, these have been adopted by the World Health Organization as a training aid. In this way, resources shared under open licences can help to raise the profile of African institutions and experts both within and beyond the continent.

Conclusion

Common intellectual capital such as this can only be generated through planned and sustained investment in developing and improving curricula, and in creating, using and adapting quality teaching and learning materials. These are all activities aimed at improving the teaching and learning environment, and increased use of OER allows institutions to manage the costs of this investment.

Managing cost while sustaining quality is a key concern for Africa's intuitions of higher education. The examples in this article provide simple, practical illustrations of how OER can support ongoing improvements in the teaching and learning process – a core purpose of higher education – and enable active African participation in emerging networks that contribute to the global knowledge pool.

Reference

Davis, H. C. and White, S. (2001). 'Linking Experiences: Issues raised developing link services for resource-based learning and teaching'. Second IEEE International Conference on Advanced Learning Technologies, Madison, USA. Available at: <http://eprints.soton.ac.uk/259196/>

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