

The Case for Openness: Access to Knowledge, Visibility, Influence, Participation and Quality



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The concept of 'Open' in the context of education refers to freely available online content and, increasingly, the sharing of research and teaching processes. The following terminology is frequently employed in this area:

- **Open content** refers to both teaching and research resources (with the term '**open education resources**' referring specifically to teaching resources).
- **Open access** refers to the form of online publishing where access is free for the user.
- **Open research** is about making transparent all aspects of the research process, including data, methodology, analysis and outputs.
- **Open licensing** is a mechanism of intellectual property rights protection which enables access and/or re-use under varying conditions while attributing the original author.

Open education issues are especially linked to public universities and the argument that all that is generated with public funds should be available in the public domain.

There is an increasing amount of evidence being gathered and research being undertaken in all areas of openness in education. Of special interest is the value of openness for those in developing countries. There is an increasing sentiment that "open" is not a good in itself but rather a means to an end – those ends being the reasons for adopting open practices in higher education. They are: access to knowledge, visibility, influence, participation, and quality.

Access to knowledge is a two-pronged issue for African universities – it is about both access to the knowledge resources generated by universities internationally as well as the ability to contribute locally-generated content which is presently 'locked away' in African universities.

The opening up of scholarly resources through multiple mechanisms (including institutional initiatives such as MIT's OpenCourseware, Open Yale, etc.) and through open access publishing overcomes the barriers of soaring costs, especially to subscription journals. This has benefit not only for the African scholarly community but also for the broader development community. A single example is illustrative: Australian researchers Njiru et al's development of a scientifically robust and simple blood test for African sleeping sickness. By deciding to publish open access in the Public Library of Science (PloS) *Neglected Tropical Diseases* under a Creative Commons license, they have contributed to development and provided ubiquitous access to an invaluable resource.

How can African universities contribute and become more globally visible? One strategy is to develop and contribute to open access repositories (see Ezema 2011). This is a rapidly growing area, both in Africa and abroad. The Directory of Open Access Repositories (DOAR) now lists 2,085 repositories globally, of which 51 repositories are found in 15 African countries, 27 repositories excluding South Africa (see <http://www.opendoar.org/>).

The number of African journals listed on the Directory of Open Access Journals (DOAJ) is increasing too; over the last five years there has been an increase of 543% from 40 African journals listed in 2007 to 217 in 2011¹. In the last year countries such as Kenya, Ethiopia and Ghana have appeared on the list or substantially increased their presence.

Open publishing increases visibility, the opportunity for use and the possibility of impact. The majority of studies undertaken on this issue have shown an increase in citations arising from open access. Of the 35 studies surveyed, 27 have shown a citations advantage (the percentage increase ranges from 45% increase to as high as 600%), with only four showing no advantage (Swan 2010).

An important consideration is that these are global studies. In the African context the starting point is low – Dulle and Minishi-Majanja (2009) quote studies which find, for example, that Africa generates only 0.4% of global content, with even a discipline considered productive contributing only 0.12%. In this situation of minuscule exposure and contribution, the smallest increase in exposure through open communication can only be significant. Indeed, this is confirmed by a study which reports that the influence of free access on citations is twice as large for the poorer countries in the developing world compared to richer countries as measured by per capita GNI (Evans and Reimer 2009).

In addition to access, the open imperative also enables participation and collaboration. An example is the African Virtual University (AVU) which through its Open Education Resources Portal provides an example of both community building and contribution. Through the AVU Portal launched in January 2011, the AVU has made available 219 open educational modules in three languages (largely in maths and science). These were developed collaboratively by clusters in 10 African countries and the resources have been downloaded by 142 countries, with significant numbers from Brazil and the United States (Diallo 2011). The Portal has been internationally recognised, receiving the Best Emerging Initiative Award in the OpenCourseware People's Choice Awards in 2011.

At the individual level, a university can contribute resources while also building its own institutional profile. The University of Cape Town's OpenContent Directory (<http://opencontent.uct.ac.za/>) presently makes available 142 resources from 48 disciplines in the university. Usage statistics indicate that since its launch in February 2010, visitors have accessed resources 28,921 times. About two-thirds of the site's visitors are from African countries – of the 31,712 visitors from 166 countries, 20,841 were from 42 African countries.

Resources have been re-used in various ways: in one case a Facilitating Online Guide has been used in courses elsewhere in Africa as well as in the USA; in another case a resource (an infographic about open licensing) was translated into Dutch and French for re-use; and in a third example resources were adapted for use in the schooling sector. An especially interesting case is that of an Occupational Therapy lecturer whose notes on a theoretical model were published in a Spanish research journal, the *Journal of Occupational Therapy of Galicia*.

Other African open content partnerships are making headway. These include Siyavula (<http://www.siyavula.com/>) developing mathematics, science and life sciences textbook materials for use by high school students and working with Connexions (an educational content repository and content management system – <http://cnx.org/>), Edunova (<http://www.edunova.org/>) and Open Learning Exchange (<http://olerwanda.org/>) in Rwanda. The Open Learning Exchange is currently in the process of developing a digital library of Open

¹ For DOAJ statistics, see <http://www.doaj.org/doaj?func=byCountry&uiLanguage=en>

Education Resources. To date Rwanda and Ghana are the most active countries in the Open Learning Exchange initiative.

That openness adds value to knowledge production at the societal, institutional and individual-academic level is indisputable. Achieving openness requires a set of inter-related strategic institutional activities linked to broader technical infrastructures and policies. Openness is one aspect of a broader vision to serve research, teaching and social responsiveness through building a research infrastructure which enables publishing of research results in real time and which links data and scholarly communication (Ambruster 2010). It is also an invaluable means of showcasing an institution's intellectual outputs, promoting university profile and attracting students.

Participation in this fast-moving environment requires both technical investment and institutional policies which support the deposit of scholarly resources, as well as efficiencies for individual academics and feedback mechanisms for tracking use. This is the path universities globally are following. Planning for these inter-relationships at the outset can only be advantageous for African universities in order to contribute to and ensure full participation in the global knowledge society.

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