

Towards Sustainable OER: A Perspective from the Global South



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It is a privilege to speak to such a distinguished international audience and I'm very thankful to the organisers for giving me this opportunity.

I represent the Commonwealth of Learning, located in Vancouver, Canada. Our slogan is 'learning for development'. COL is an intergovernmental organisation set up by the Commonwealth Heads of Government, when they met in 1987 in Vancouver. We are the only Commonwealth organisation located outside the UK and we help Commonwealth Member States and institutions to harness the potential of educational technologies for expanding access to education and training. We work in 54 Commonwealth Member States, which cover all regions of the world.

My topic today is 'Towards Sustainable OERs: a perspective from the global south'. I have prepared this presentation jointly with my colleagues Dr Balasubramniam and Dr Abdurrahman. One of the emerging issues in educational discourse today is the development and use of Open Education Resources (OER) and their potential in expanding access and improving the quality of education, particularly in developing countries where there is a dearth of quality materials.

What are OERs? Do they really help us expand access, improve quality and cut the costs of education? What is the status of OER development and use in the developing world? What needs to be done to ensure that developing countries benefit from the OER movement? This presentation seeks to critically

examine the experiences of the Commonwealth of Learning in the creation and dissemination of OER and to share the lessons learned. What are some of the key components of sustainability? Finally, we look at concrete ways in which various stakeholders can contribute to the sustainability of OER. For the purposes of this presentation the term OER is used to refer to open content rather than open source software and tools. But first, how important is content in terms of impact on learning?

Researchers at Concordia University in Montreal carried out a meta-analysis of hundreds of studies in which distance education students were treated in different ways. They distinguished three types of interaction: student – content; student – student; and student – teacher. All the studies were then analysed to find which type of interaction made the greatest difference to student performance when it was increased. The results were significant. Increasing *student – content* interaction had the greatest effect; followed by *student – student* interaction; with *student – teacher* interaction featuring last (Bernard, R.M., P.C Abrami, E . Borokhovski,C.A.Wade, R.Tamim, M.A. Surkes,and E.C. Bethel. 2009). According to this study, learners’ interaction with content makes the most significant impact on their performance. This highlights the importance of content and consequently of OER within the teaching-learning process.

The OER movement is only a decade old, if we take 1999 as the starting date, with Richard Baranuik’s initiative at Rice University, which later became the Connexions project’ (C Hodgkinson-Williams, 2010, p.6). OER are synonymous with OCW, ‘open eLearning content’; ‘open digital educational content’; ‘open content’, Open Learning Resources .

But the term OER was first used in July 2002 at a UNESCO workshop where participants defined OER as:

technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes. They are typically made freely available over the web or the internet. Their principal use is by teachers and educational institutions to support course development, but they can also be directly used by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabi, curricula and teachers’ guides (UNESCO 2002)

Soon after The Commonwealth of Learning defined OER as:

publicly available resources that may be used for educational purposes and have been deposited (by donation) by a variety of sources to one or more of the many online repositories. The range in types of materials is much broader...from suitability for children to college students to professionals. These materials are more often smaller modules rather than complete lesson plans or complete courses (COL, 2002).

Wikipedia (2009), defines OER as ‘educational resources (lesson plans, quizzes, syllabi, instructional modules, simulations etc) that are freely available for use, reuse, adaptation and sharing.

OER are seen as: i) free and freely available; ii) suitable for all levels of education; iii) modular iv) reusable and iv) online. These definitions are based on the assumption that OER would be small reusable learning objects lodged in online repositories which institutions would access, adapt and construct as courses.

However, the notion of OER has evolved and changed over the past decade.

Massachusetts Institute of Technology's (MIT) Open Courseware (OCW) initiative can be seen to mark the first generation of OER, in which teachers placed their lecture notes online for free use. Teaching was being shared and opened up as never before. The UK Open University's Open Learn project marks the second generation in which existing self-instructional materials, designed for structured learning are placed in online format. Here it is the learning which is being shared. The third generation sees the convergence of both teaching and learning in the experience of the VUWSC. In this case, courses are developed collaboratively using an authoring tool, the wikiEducator and shared freely by all stakeholders (Daniel, Kanwar and West,2007).

The role of OER is increasingly changing from primarily a teaching to a learning resource. This reflects the wider change within education from a teacher-centred to a learner-centred model. Instead of teachers and educational institutions being the main users, it is students who now constitute the majority of users of OER. As David Wiley reports, only 16% of the users of the MIT OCW are educators (Wiley, 2007).

OER are seen as a major breakthrough in expanding access to education in the global south. Some of the oft-cited advantages include:

1. since course development is so resource intensive, OER help developing countries save both course-authoring time and money;
2. OER foster the exchange of global knowledge;
3. online collaborative OER development supports capacity building in the developing world thereby bridging the digital divide;
4. collaborative OER development encourages the preservation and dissemination of indigenous knowledge; and
5. the availability of high-quality OER can raise the quality of education at all levels.

However, despite their huge potential, so far the promise of OER has often not translated into concrete and tangible results. First, there are not enough data yet to substantiate the claims listed above.

Second, the flow of OER is happening in one direction only, from the global north to the global south. Gray (2007:35) notes that the dominance of developed countries over the production of OER risks relegating developing countries to the role of mere consumers. She added that in terms of bridging the knowledge divide "...the question of content becomes very important. The African continent generates only 0.4% of global online content and this drops to 0.02% if South Africa is excluded".

We have heard of major OER initiatives like the MIT OCW, Rice University's Connexions, the Carnegie Mellon Open Learning Initiative; Open Learn, UKOU; OpenER of the Open University of the Netherlands.

It is true that OER initiatives are beginning to emerge in the developing world but how many of us are familiar with Sakshat in India, the China Open Resources for Education initiative, the UCT's (University of Cape Town) Open Content project in South Africa, the Vietnam OpenCourseware initiative, the OER projects at the name a few, but these are exceptions rather than the rule.

Thirdly, it should also be noted that most of the activities of the OER movement are donor-driven and as soon as donor support is withdrawn, the initiative shuts down. The most recent illustration is the discontinuation of the Utah State University's Open Courseware Movement, which was rated second only to the MIT initiative (David Wiley 2007). The project was discontinued in 2009 due to lack of funding

Let us now look at some of COL's OER projects to identify the lessons learned and what needs to be done in order to ensure that developing countries engage productively in such initiatives.

We look at three of COL's OER projects namely, the Science Technology and Maths Programme (STAMP 2000+) teacher training materials, the Commonwealth Computer Navigator's Certificate (CCNC) and the course materials developed by and for the Virtual University for Small States of the Commonwealth (VUSSC). The lessons learned will suggest the possible approaches that will contribute to optimising the potential and minimising the risks involved in creating, using and re-using OERs.

COL supported the development of the STAMP 2000+ materials in the late nineties, long before the term OER had entered the educational lexicon. 140 course writers from eight Southern African countries, namely, Botswana, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe, wrote 46 modules of materials for training upper primary and junior secondary school teachers.

The modules focussed on four subject areas: Science, Technology, Mathematics and General Education. Yet, an external evaluation of COL's programmes conducted in 2006 revealed that there was very little attempt to adopt and use the modules by teacher education institutions in Africa (Spaven, 2006

Why were there no takers? Some of the reasons for this could be i) the fact that no teacher training institutions in these eight countries had committed to using the resources; ii) it was simply assumed that once the OERs were developed, teacher training institutions would AUTOMATICALLY use them. There was no clear strategy for implementation by the participating countries; iii) there was a general apprehension about using materials 'not-made-here'; iv) the materials were considered too generic to be integrated into courses already on offer; and v) lack of awareness about the programme and its benefits.

LESSON 1

The key lesson from this experience is not only to develop capacity and content but to ensure a buy-in from local partners and to have a clear implementation strategy.

This approach has been subsequently taken up by other OER projects in Africa, notably, the Teacher Education in Sub-Saharan Africa (TESSA) Consortium, led by the Open University UK. TESSA's OER development and utilisation strategy required partner institutions TO be identified even before the design stages of the project and that these partners develop the OER themselves based on their institution's needs, and priorities. (Moon, 2009; TESSA Secretariat, 2007). The use of OER was not simply assumed but made an integral part of the project design from the very outset.

The second OER initiative which COL supported was the development of the Commonwealth Computer Navigator's Certificate (CCNC), an open Information Technology (IT) literacy course modelled on the International Computer Driver's License (ICDL).

COL invited volunteers to join the consortium that would develop the CCNC materials. Seven modules were taken up by individuals from institutions in six countries: the Indira Gandhi National Open University, India, The University of the Western Cape, South Africa, The Open Polytechnic, New Zealand, The University of the West Indies Distance Education Centre, Trinidad and Tobago, Memorial University of Newfoundland, Canada and The Penn State University World Campus, USA It was envisaged that the certificate course would be piloted during 2008. However, despite the energy and enthusiasm of the community, the modules could not be completed as scheduled and a course author had to be commissioned to complete the course in 2009.

What caused the delays and brought the project back to a more traditional course development mode? Was the community of volunteers overtaken by their more pressing ‘day jobs’? Were the structure and timelines too loose?

LESSON 2

The key lesson from this experience is that in spite of the strength of the community to self-organise there was a need to put in place a governance structure that would steer the project and monitor progress against agreed-upon quality standards.

Let us look at the third COL OER initiative the Virtual University for Small States of the Commonwealth (VUSSC). This has drawn lessons from the earlier experiences and begun by building a strong stakeholder base. This is a consortium of 32 small states of the Commonwealth which have come together to first develop capacity in online course development, develop courses that are need-based and freely available.

It is a network that seeks to strengthen national tertiary institutions in the participating countries and focuses on capacity building, the design and delivery of new courses and the creation of a mechanism for regional accreditation of courses based on a Transnational Qualifications Framework (TQF) through the use of which students can gain mobility between different jurisdictions. What makes VUSCC important is that it is demand driven and focuses not only on content creation but also on capacity building, and on developing strategies for institutionalisation, which include a strong multi-stakeholder governance structure.

LESSON 3

The key lesson from this initiative has been that a bottom-up participatory approach requires much longer timeframes.

The COL approach to OER is now more holistic and process-oriented.

One of the most important challenges facing the OER movement is how to ensure sustainability. What is meant by sustainability and how can it be attained by the OER movement? Although ‘sustainability’ is often conceptualised as a matter relating to money or financial resources, there is an emerging and more comprehensive model that emphasises not just funding but other dimensions as well.

Wiley (2007) defines sustainability as:

the ability of a project to continue its operations.....Sustainability will be defined as an open educational resource project’s ongoing ability to meet its goals.

He identifies two types of sustainability: how to sustain the development and sharing of the OER; and their continued use.

The main problem with most OER is that planning for sustainability is often an afterthought, usually when the project nears its end or as an add-on to the project’s main activities. Guthrie et al , identified the following key factors:

1. Sustainability plans should include the provision of resources for future growth;

2. A project's value depends on its impact on the target group i.e what benefits flow from it, how it adequately addresses their needs and what difference it has made.
3. Scaling up will require building partnerships, collaborations, Strategic planning is extremely important given the competitive environment in which OER projects operate;
4. Projects must demonstrate a high degree of accountability and transparency to their funders and during project implementation

The case of Utah University alluded to earlier is not unique. There are many OER projects in both the developed and developing worlds that face a similar fate unless proactive measures are taken to promote their continuity. The problem is that many OER projects are product rather than process-oriented

We argue here that a process-oriented approach is needed to make OERs more sustainable. While there are arguments that OER are not mere technology, the substantive discourse has not moved beyond the technology domain.

Breck (2007:3) raises the following questions: “Is Open Educational Resources (OERs) just another pedagogical theory for learning experts to debate? Or another techie thing to come along for educators to play with?” She contends that “Opening educational resources is an action that will cause education to move to a new place”. (Breck, 2007:3).

The action which Breck (2003) talks about is social action which could involve skills of collaboration and ethics of new knowledge among the various stakeholders. By shifting the discussion to the social and ethical domain from a purely technology angle, the base of those who can participate in the OER initiatives is being broadened. And this includes those on the wrong side of the digital divide.

The simple statistics in the following tables give a picture of the vast disparities among the different regions of the planet:

Regions/Country	Computer Per 1000 People	Internet Users Per 1000 People
South Asia	18.00	31.0
Africa	32.41	39.0
Latin America	84.58	185.83
Western Europe	522.67	552.67
USA	760.0	690.0

Source: http://info.worldbank.org/etools/kam2/KAM_page3.asp

The regional, class, gender and ethnic divides in the digital world have been well documented by many studies. The access to educational technology in terms of gender has been a well-reviewed subject and many studies have found that the gender differential exists even in developed countries in terms of accessing and resourcing ICT infrastructure (Sanders, 2006). Similarly, the digital divide has also a GEOGRAPHICAL AND RACIAL dimension As these dimensions of the digital divide get reflected in the OER, is it possible that OER can become a resource for education and learning? This may partly explain the latent resistance to OERs in some contexts.

The other explanation may relate to who owns and controls the OER networks. As Castells (2009:50) succinctly put it:

But there is a fundamental form of exercising power that is common to all networks; exclusion from the network....However, because the key, strategic networks are global, there is one form of exclusion—thus, of power—that is pervasive in a world of networks: to include everything valuable in the global while excluding the devalued local. There are citizens of the world, living in the space of flows, versus the locals, living in the space of places. Because space in the network society is configured around the opposition between the space of flows (global) and the space of places (local), the spatial structure of our society is a major source of the structuration of power relationships.

Network making power.

In his analysis of the networked society, Castells (2009) has elaborated the *network-making power* which operates on the basis of two mechanisms: the ability to constitute, program and reprogram networks and the ability to connect and ensure cooperation. Many important stakeholders of education may be far beyond this network-making power due to regional, gender, class and ethnic factors. It is obvious that Africa, South Asia and Latin America may have limited potential in network-making power. These types of power play a major role in the inclusion-exclusion of various stakeholders. The global networks have the power to ‘constitute, program and reprogram’ networks whereas the ‘local’ often gets subsumed under the larger initiatives. It is perhaps because of these inequalities that institutions and individuals from the global south have hitherto had a limited role in OER creation and dissemination.

OER require social movements which will result in institutional change. The present debates in OER are *too focused on technology* and there is rarely any discussion on issues such as stakeholder engagement and the politics of power. OER require a process-oriented approach in which stakeholders and citizens come together and articulate their views and influence institutional change.

The process-oriented approach for OER could be perceived in the context of *domestication* as proposed by Silverstone, Hirsch and Morley (1992). They argue that technology defines as well as is defined by communities that adopt or challenge it.

The domestication theory propounded by Silverstone, Hirsch and Morley (1992) could be extended from a household level to the community, national and international levels for OER to be truly an open resource in which every type of stakeholder could participate. The following table visualizes such a process:

Domestication: A Process Oriented Approach in OER

	Phases	Characteristics
1	<i>Appropriation</i>	The ability of every stakeholder to have access to the tools of OER – particularly the communication network. Teachers, students in many developing nations have problems not only in terms of physical access, but also in terms of social, political and cultural values which restrict their access.
2	<i>Localization</i>	the term localization reflects the meaning, position and physical space given to OERs vis-à-vis the social, political and cultural values.
3	<i>Incorporation</i>	Every stakeholder should have the ability to interact with OER and use them for strengthening the educational goals of the community.

4	<i>Conversion</i>	In this phase, the stakeholder is encouraged to look beyond the community and enter into a relationship with the global community. In addition, the stakeholder is also influencing the structure and functions of OER.
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Domestication is crucial for various stakeholders to get involved, influence and be influenced by OER. It is only then that this can become a mass movement.

A participatory approach which is dominating the development discourse also has a relevance to OER. Technology is definitely one of the influencing factors in participation. Many educational institutions still have traditional governance structures and teacher-centred pedagogic models. The OER initiative requires a learner-centred and decentralised approach. There is then a basic contradiction between the centralised and decentralised institutional models. Such contradictions can be addressed through an effective governance framework which would also help to strengthen the participation of all types of stakeholders.

Thus “*open*” in OER must be perceived not merely from a technological perspective but also from a governance standpoint. The “*open*” should reflect the institutionalisation process which facilitates all types of stakeholders to participate on equal terms. It is in this context that OER/OLR are defined as follows:

The phenomenon of OER/OLR is an empowerment process, facilitated by technology in which various types of stakeholders are able to interact, collaborate, create and use materials and processes, that are freely available, for enhancing access, reducing costs and improving the quality of education at all levels.

In order to promote the growth of the OER movement in education in developing countries, there is the need for greater support for the creation and use of OER by various stakeholders. In specific terms what roles can different actors play in ensuring that the stated objectives of OER are met?

The role of international organisations/development partners

International organisations and development partners such as COL, UNESCO, UNICEF can support the OER movement in developing countries by:

i) policy advocacy sharing information about their initiatives in this field regularly so as to avoid duplication of effort building the capacity of educational institutions in developing countries to adopt a process-oriented approach.

National governments in developing countries should seek to promote and *sustain an enabling environment* in which the OER movement can flourish. They need to:

1. develop an ICT in Education policy
2. propose a vision and strategy for not just developing OERs but also for using them at all levels: primary, secondary and tertiary—since the maximum number of students (upto 90%) will be affected at the basic levels.
3. recognise OER-development at par with academic publications to reward faculty in promotions.

What incentives and other institutional mechanisms and processes need to be put in place to facilitate the growth and mainstreaming of OER in educational institutions? Some of the initiatives need to include:

1. developing an ICT policy within the institution
2. elaborating a policy on copyright
3. providing incentives for faculty members such as increments and recognition of OER towards promotions
4. making the development of OER a job requirement at the time of recruitment

OER can radically change the landscape of teaching-learning in the twentieth century. OER can contribute to the creation of genuinely inclusive knowledge societies. However, this is a process which takes time. Together, we can do it.

Thank you for your kind attention.