

## Open Educational Resources: Access to Knowledge – A Personal Reflection

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“At the heart of the movement towards Open Educational Resources is the simple and powerful idea that the world’s knowledge is a public good and that technology in general and the Worldwide Web in particular provide an opportunity for everyone to share, use, and reuse it.” (Smith and Casserly 2006, p. 2)

Having followed and been engaged in the Open Educational Resources (OER) movement since 2002 when the term was coined, I feel it’s timely to look back over the decade and reflect. At the United Nations Education, Science and Culture Organization (UNESCO) until 2009, I saw Open Educational Resources in the context of their potential to contribute to the building of knowledge societies and focused on raising awareness through an international community of interest. Now associated with the UNESCO/COL Chair in OER created at Athabasca University in Canada, I have shifted my focus to promoting an international network through the UNESCO Chairs in OER and their respective networks of partners.

But this chapter is largely a personal reflection, drawing a red thread through my experience and bringing together thoughts from several of my speeches and writing. Behind the specific activities associated with one’s work lie the layers of interest and thinking that accumulate over a lifetime. We bring these to each new endeavour, which, in turn, builds upon and enriches them further. These reflections of mine lead towards opening access to education and knowledge and, specifically, Open Educational Resources. The thread links professional experience and favourite personal interests: the library (my first job) and information dissemination (projects at the Canadian Association for Adult Education, the Ontario Institute for Studies in Education), distance education and the potential of new technologies (Ryerson University in Toronto), educational planning (Association of Universities and Colleges of Canada, the International Institute for Educational Planning) and, always, learning and access to knowledge.

## Introduction

“Indistinct, majestic, ever-present, the tacit architecture of that infinite Library [of Alexandria] continues to haunt our dreams of universal order. Nothing like it has ever been achieved, though other libraries (the Web included) have tried to copy its astonishing ambition.” (Manguel 2006, p. 24)

As a very small child, I was enchanted by books and loved being read to. The fat books I was given had few drawings and held their messages to themselves while I was too young to read. Those books were opened to me by my father as he read us both to sleep in my bedroom under the eaves at the top of my grandparents’ house in Toronto. My father — the reader — was the first key to opening those books, their stories and their knowledge.

As an older child, and by then a reader myself, I was allowed to cross the park in front of the house to wander freely through the children’s library that was housed in a lovely old grey stone building. Here, I began to sense there was an order that allowed one to find what one wanted by something other than size or colour, but it was not obvious yet.

Later, at school, the Dewey Decimal System and the card catalogue provided the key to unlock the library and its treasures. After I completed my university degree, that love of books and the knowledge they shared made me consider becoming a librarian, and I went to work as a librarian candidate in the public library of the small provincial city in which I had passed my university years in beautiful grey stone buildings. The library, too, I might note, was housed in a grey stone building. Assigned fortuitously to the children’s section, I found once again many of the books I had been read so many years ago. I did not become a librarian, but read to my own child each night until she herself became a reader and, in fact, created her personal library by ordering and cataloguing her own books.

Libraries have remained favourite places for me, as have bookstores. And so, when dawdling in a bookstore in the Toronto airport I happened upon a book entitled *The Library at Night*, I picked it up immediately to take home to Paris to my apartment in yet another beautiful grey stone building. Its author, Alberto Manguel, an Argentinean who lived in Toronto for some time, had subsequently moved to France where he created his own library in what I, myself, envision as a very old grey stone building. Musing about the origins of the library in the opening chapter of the book, “The Library as Myth,” he invites the reader to consider two buildings that he states stand for everything we are: the Tower of Babel and the Library of Alexandria:

“The first, erected to reach the unreachable heavens, rose from our desire to conquer space, a desire punished by the plurality of tongues that even today lays daily obstacles against our attempts at making ourselves known to one another. The second, built to assemble, from all over the world, what those tongues had tried to record, sprang from our hope to vanquish time, and ended in the legendary fire that consumed even the present.” (Manguel 2006, pp. 18–19)

It is the second concept, that of the universal library, that resonates with the objective of increasing access to knowledge inherent in the vision of the Open Educational Resources movement.

## Education, Learning and Knowledge Societies

“Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.” (United Nations, 1948, Universal Declaration of Human Rights, Article 2)

One fundamental human right is education, and this right is enshrined in the Universal Declaration of Human Rights adopted by the General Assembly of the United Nations in 1948. Universal education remains a goal, but it also remains a challenge to the international community. Education for All (EFA) is an international initiative launched in Jomtien, Thailand, in 1990 to bring the benefits of education to “every citizen in every society.” A broad coalition of national governments, civil society groups, and development agencies such as UNESCO and the World Bank committed to achieving six specific education goals (World Bank [n.d.]):

- Expand and improve comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.
- Ensure that by 2015 all children, particularly girls, those in difficult circumstances, and those belonging to ethnic minorities, have access to complete, free, and compulsory primary education of good quality.
- Ensure that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes.
- Achieve a 50% improvement in adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.
- Eliminate gender disparities in primary and secondary education by 2005, and achieve gender equality in education by 2015, with a focus on ensuring girls’ full and equal access to and achievement in basic education of good quality.
- Improve all aspects of the quality of education and ensure the excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.”

Ten years later, the international community once again affirmed its commitment to EFA in Dakar, Senegal, aiming to meet the learning needs of all children, youth and adults by 2015. But the goal of Education for All remains elusive. According to UNESCO (2011a, p. 5), “The world is not on track to achieve the Education for All targets set for 2015.” The number of children out of school is falling too slowly, about 17 per cent of adults lack basic literacy skills, the quality of education is low in many countries and 1.9 million more teachers are needed.

And increasing participation in primary education results in increasing demand for secondary education:

- “Secondary education is becoming a growing concern and major challenge for education policy makers and researchers worldwide as it plays an increasingly important role in creating healthy and cohesive societies and spurs economic growth. It represents a critical stage of the system that not only links initial education to higher education, but also connects the school system to the labour market.” (UNESCO 2011b, p. 7)
- Education systems reflect the societies they serve. Each is unique and, therefore, diverse. The UNESCO World Report of 2005 put forward the concept of “knowledge societies,” noting that the plural form points to the need to recognise and accept that diversity.
- “The aims associated with the desire to build knowledge societies are ambitious. Providing basic education for all, promoting lifelong education for all, encouraging the spread of research and development efforts in all countries of the world ... – all these efforts towards the participation of all in knowledge-sharing and the establishment, even in the most disadvantaged countries, of a true knowledge potential, represent a considerable undertaking. Are such ambitions within reach?” (UNESCO 2005, p. 186)

If this was a challenging question in 2005, it is all the more so now with the ongoing effects of the recent financial crisis. Just at the moment, when more and more is expected of education systems, the means of reaching the goals of the Education for All initiative may be severely compromised.

In its education strategy for the next decade, *Learning for All: Investing in People’s Knowledge and Skills to Promote Development*, the World Bank has shifted the focus from education to learning (2011, p. 1):

“The overarching goal is not just schooling, but learning. Getting millions more children into school has been a great achievement. The World Bank Group is committed to building on this progress and stepping up its support to help all countries achieve Education for All (EFA) and the education Millennium Development Goals (MDGs). The driver of development will, however, ultimately be what individuals *learn*, both in and out of school, from preschool through the labour market.”

## Opening Education – Enabling Learning

### Open and Distance Learning

“I was persuaded that the standard of teaching in conventional universities was pretty deplorable. It suddenly struck me that if you could use the media and devise course materials that would work for students all by themselves, then inevitably you were bound to affect — for good — the standard of teaching in conventional universities.” (Perry 1988)

Open and distance learning has played a significant role in the trend to opening education to more learners, freeing them from the constraints of time and place and the need to assemble in grey stone buildings or their like. The Open University UK was founded as an institution that would be open — open to

people, places, methods and ideas. It represented an innovative means to increase access to higher education. Sir Walter Perry, the first Vice Chancellor, made the prescient comment above when stating why he was initially interested in the new university.

Brenda Gourley, the past Vice Chancellor, articulated three imperatives for finding innovative ways to expand access to quality educational opportunities (Gourley 2004, p. 4):

- a demographic imperative – meeting the increasing need for lifelong learning cannot be met by traditional approaches;
- a financial imperative – the cost of building infrastructure is simply not feasible; and
- an educational imperative – to develop a model for this century.

Not only do open universities and other distance education institutions serve to increase access, but their methods, expertise and experience have much to contribute to the planning and provision of education for all in the 21st century.

## Technology

Various technologies have served and continue to serve both conventional and distance learning institutions, as well as their students, to make education more flexible, more accessible and more open. But perhaps no technological innovation has had the potential impact of the Internet and the Web. I have often made reference to John Seely Brown, who, when writing about learning in a digital age, suggested electricity as an apt analogy for the impact of the Internet and the Web (Brown 2000, pp. 1–2):

“In 1831 Michael Faraday built a small generator that produced electricity, but a generation passed before an industrial version was built, and then another 25 years before all the necessary accoutrements for electrification came into place — power companies, neighborhood wiring, appliances (like light bulbs) that required electricity, and so on. But when that infrastructure finally took hold, everything changed — homes, work places, transportation, entertainment, architecture, what we ate, even when we went to bed. Worldwide, electricity became a transformative medium for social practices.

“In quite the same way the World Wide Web will be a transformative medium, as important as electricity.”

Working in distance education in the '70s and early '80s, I felt that the focus was on each new technology and not on the applications and the appropriateness of the technology to them. Now there is a growing body of open content needing a means of being distributed and used. Furthermore, there appears to be a convergence of the increasing connectivity worldwide through the Internet and the growing pervasiveness of low-cost devices such as mobile phones and laptop computers, coupled with the increasing availability of openly licensed educational content. The Internet and the Web have facilitated access to a wealth of material in a way that may transform education and learning. When material is free of copyright, it may be readily used by educators and learners — adopted or adapted — potentially spurring creativity and innovation.

Sir John Daniel (2009) has described an “iron triangle” of access, cost and quality, which has hindered the expansion of education in a classroom setting throughout history. As access or quality is improved, costs rise as well. But, he contends, technology can transform that iron triangle into a flexible one through the principles identified by Adam Smith: division of labour, specialisation, economies of scale and the use of machines and communication media. This describes the organisation and achievement of open and distance education.

## Open Educational Resources

“Open Educational Resources (OER) are high quality, openly licensed, online educational materials that offer an extraordinary opportunity for people everywhere to share, use and reuse knowledge.” (William and Flora Hewlett Foundation [n.d.], p. 1)

### A Vision

For many years, the William and Flora Hewlett Foundation has acted as champion of the OER movement, nurturing and promoting it. The vision for this important role was articulated in the 2002 strategic plan that included a new component, “Using Information Technology to Increase Access to High-Quality Educational Content.” The rationale for this component resonates with the vision of the open university movement to increase access to learning, and with the comment of Sir Walter Perry cited earlier about the potential to raise the standards of teaching (William and Flora Hewlett Foundation 2002, p. 6):

“The focus of this component is on creating exemplars of academic content that are free and accessible to all on the web.... [T]hese exemplars ... will help raise the level of quality of academic content by setting a standard of practice.... One criterion [is that] ... it must set quality benchmarks and potentially establish new models for organising and delivering content.”

It was not just course materials that were to be made available, but also modules, learning objects, library materials and journal-related data. Together these materials were described as “a new public library.”

In 2002, I attended a meeting at UNESCO of a group of academics, largely from developing countries, who had been convened with support from the William and Flora Hewlett Foundation to consider a new initiative of the Massachusetts Institute of Technology (MIT). OpenCourseWare (OCW) aimed at making all MIT course materials available on the Web. The academics listened to the presentations and found both the concept and the specific initiative to have great potential for education. They coined the term, “Open Educational Resources”, with the initial definition cited above, and expressed “their wish to develop together a universal educational resource available for the whole of humanity” (UNESCO 2002, p. 1).

### A Landscape of Initiatives

After more than a decade of development, a global landscape of institutional OER initiatives with varying objectives and approaches is emerging — a testimony

to the innovation spurred by the concept, along with the growing access to technology and tools and with the increasing comfort with both.

After considering a range of options for digital learning, MIT launched its **OpenCourseWare** (OCW) initiative with the publication of 50 courses in 2002. By 2010, 2,000 courses had been published. MIT's goal for the next decade is to multiply its reach by ten and reach a billion minds. "We aspire by 2021 to make open educational resources like MIT OpenCourseWare the tools to bridge the global gap between human potential and opportunity, so that motivated people everywhere can improve their lives and change the world"(OCW [n.d.], p. 1).

This model for a traditional university to disseminate knowledge and share scholarship inspired other institutions to adopt the approach and several hundred higher education institutions have come together in the **OpenCourseWare Consortium** (OCWC). OCWC is committed to advancing OpenCourseWare by acting "as a resource for starting and sustaining OCW projects, as a coordinating body for the movement on a global scale, and as a forum for exchange of ideas and future planning" (OCW Consortium [n.d.]). Building on OCW, in late 2011, MIT announced MITx, an online learning initiative with the objective of improving education at MIT and internationally. It will make online MIT courses available to learners around the world and will offer them the possibility of a certificate of completion. The open source platform will be offered to educational institutions everywhere with the "hope that teachers and students the world over will together create learning opportunities that break barriers to education everywhere" (MIT 2011, p. 1).

The **Connexions** project at Rice University was started to address some of the problems associated with publishing educational materials. The goal was to make high-quality, open source educational content widely available (Henry 2004). Connexions functions as "an open source platform and open access repository for open education resources, enabling the creation, sharing, modification, and vetting of open educational material accessible to anyone, anywhere, anytime via the World Wide Web" (<http://cnxconsortium.org/>). The Connexions Consortium links a number of institutions that have come together to advance both open source educational technology and open educational content.

Carnegie Mellon University launched the **Open Learning Initiative** (OLI) to develop "exemplars of high quality, online courses that support individual learners in achieving the same goals as students enrolled in similar courses at Carnegie Mellon" (Thille 2009). Using a concept similar to that of the course team that was originated by the Open University UK, OLI courses benefit from the close collaboration of cognitive scientists, experts in human-computer interaction and experienced faculty members. Significantly, courses have assessment embedded into the instructional activity, and the technology that delivers the instruction also collects data to give feedback to students, instructors, course designers and learning science researchers. The courses have been made available to independent learners at no cost and at low cost to students using the materials in accredited courses.

**OpenLearn** was established by the Open University with the vision of providing free online education, open to anyone, anywhere in the world. A website was launched in 2006, and in the first two years, 8,000 study hours of learning

material were added (Open University 2009a, p. 1). In 2010 OpenLearn was merged with open2.net that supports BBC broadcasts, and now material is available on YouTube and iTunesU as well. The OpenLearn website currently offers differing levels of engagement to potential users. They are invited to: *Explore* topics or subjects that interest them; *Try* course materials in *LearningSpace* (more than 500 units from 12 subject areas) that are freely and openly available; or *Study* as an enrolled student for accreditation. In keeping with its tradition of conducting and disseminating research on open learning, the Open University is a partner with Carnegie Mellon University in the OLnet project, “an international hub that aims to gather evidence and methods about how we can research and understand ways to learn in a more open world, particularly linked to OER” ([www.olnet.org/](http://www.olnet.org/)).

The African Virtual University was launched as a project of the World Bank in 1997. In 2003, it became a pan-African intergovernmental organization with the aim of increasing access to quality higher education through the innovative use of information and communication technologies (ICTs). The African Virtual University has created a network of distance and eLearning institutions in over 30 anglophone, francophone and lusophone countries in Sub-Saharan Africa. Its Open Educational Resources portal, **OER@AVU**, has the objectives of facilitating increased participation in the creation, organisation, dissemination and utilisation of OERs; addressing issues pertaining to relevance of OERs to the African context; reducing technological challenges; and enabling institutions to participate actively, by driving and owning the process in terms of form, content, structure and orientation (<http://oer.avu.org/>). This repository was created in early 2010 to act as a platform for the 73 modules that had been developed as OER with the involvement of 12 universities. This significant initiative is a model for multilingual regional collaboration and networking.

Recognising the importance of offering academic credit to those learning with open resources, an international group of institutions has begun to collaborate in the OER university, **OERu**, initiative. The objective is to provide free learning opportunities with OER and pathways to qualifications from recognised education institutions. The initiative is couched in the community service and outreach mission of the university to provide a “parallel learning universe” (WikiEducator 2011, p. 1), an alternative path for learners to the traditional system. An inaugural meeting was held in early 2011 with ten founding partners. That number had grown to 20 partners as of August 2012, together who are now developing prototype courses.

Operating as a grassroots open education project, **Peer 2 Peer University (P2PU)** “organizes learning outside of institutional walls and gives learners recognition for their achievements” (<http://p2pu.org>). It was founded in 2009 by five people who saw the need for a peer component in open education and is committed to openness, community and peer learning: “Open sharing and collaboration enable participation, innovation, and accountability.” The P2PU community is open to any participants and their content can be accessed and used by anyone. The P2PU model, processes and technology are also open and accountable. Although some seed money has been made available by the Hewlett and Shuttlesworth Foundations, P2PU is community-centred and run largely by volunteers who organise the courses. Together the Internet and open educational materials make



high-quality, low-cost education opportunities possible. P2PU aims to create a model for lifelong learning alongside traditional formal higher education, similar in intent to the “parallel learning universe” of OERu.

## **Impact**

The initiatives outlined above indicate the diversity of OER initiatives. Just as Sir Walter Perry felt that open and distance learning could have a positive impact on conventional institutions, these OER initiatives have a broad potential impact that will contribute to making knowledge more accessible and benefit both educators and learners. The Carnegie Mellon initiative stated explicitly its aim to create “exemplars” of high quality. But what is striking in even a limited overview of mainly institutional OER initiatives is their creativity and innovation in expanding access to new learning opportunities — and, in doing so, addressing some of the pressing efforts of nations to meet the lifelong learning needs of their populations through both formal and non-formal means. And although the OER movement began at the higher education level, there are now OER-related initiatives at other levels, including international work at the OECD (Organisation for Economic Co-operation and Development) and UNESCO (with the 2012 Paris OER Declaration), plus national and state government policies related to OER.

## **Promoting OER, Community Building and Networking**

Although intended to promote a sharing of the world’s knowledge, much of the OER development at the beginning of the movement was in the North, particularly in the United States. For this reason, creating a space for interested individuals from developing and developed countries to come together to “talk” around a virtual table was an important step to raise awareness of this new initiative and some of the related issues and concerns.

From 2005 to 2009, I had the extremely rewarding experience of convening and supporting an international online community on OER. Launched at the International Institute for Educational Planning (IIEP) of UNESCO with support from the William and Flora Hewlett Foundation, the community assembled almost 500 people initially and grew steadily over the succeeding years. Community members represented a wide range of organisations, but over half came from universities and distance teaching institutions. About 40 per cent held senior management positions. Teachers represented about 20 per cent, and researchers and project officers each represented more than 10 per cent (D’Antoni and Savage 2009, p. 162).

This large international community remained very active for almost four years. The organisation of the interaction, and the software support chosen to support the community, took into consideration especially those with difficult or expensive connectivity. A series of short structured seminar-like discussions on specific topics kept the community discussion moving forward, but allowed a period of quiet after each session. Documentation was shared systematically: succinct background documents informed interaction facilitated by expert discussants, and summary reports captured the main points as a record for others (all accessible on the International Institute for Educational Planning [IIEP] website: <http://oerwiki.iiep-unesco.org/>).

The community assembled many OER leaders as well as those who wanted to learn about OER, and interaction was often intense. The strong engagement of the community made it an ideal group to reflect on what should be the priorities for advancing the OER movement. Those priorities identified were (D’Antoni and Savage 2009, p. 163):

*To advance the OER movement*

- Awareness raising
- Communities and networking

*To enable creation and use*

- Developing capacity
- Quality assurance

*To remove barriers*

- Sustainability
- Copyright and licensing

Until the end of the activity in late 2009, the interaction in the community was unflagging, and was recognised by an award — the 2008 Leadership Award of the MERLOT African Network.

It is clear that a movement that aims at worldwide impact, such as the OER movement, can be strengthened through such international awareness raising, dialogue, networking and collaboration. UNESCO now supports information exchange on OER through one of its WSIS Knowledge Communities (WISIS [n.d.]). And two UNESCO Chairs were awarded in 2010: a UNESCO/COL Chair in OER to Athabasca University in Canada and a UNESCO Chair in OER to the Open Universiteit of the Netherlands. UNESCO Chairs act as think-tank facilitators and bridge builders, and function with a network of partners. To build on the early work of the IIEP OER Community and contribute to building an international OER Network, the current plan of action for the two Chairs focuses on four main lines of action: a global OER graduate school; an OER Knowledge Cloud and publication; an exploration of the feasibility of a collaborative mapping of OER initiatives worldwide; and the geographic extension of the network of Chairs to achieve a global balance.

## **Sharing Knowledge**

“To remain human and liveable, knowledge societies will have to be societies of shared knowledge.” (UNESCO 2005, p. 5)

The knowledge sharing that is the goal of the Open Educational Resources movement needs to be global if the vision stated at the beginning of the chapter is to be realised — that the world’s knowledge is a public good to be shared. At the inception of the movement, much of the development was in English and in the Northern Hemisphere, but cultural hegemony has no part in that vision. The concept of the library may still serve to make the vision clear. According to one’s needs and interests, one selects or ignores what is on the shelves, be they physical or virtual as in the case of the Web and OER. What is most important is that the world’s knowledge be represented on those shelves: that all nations, cultures and

linguistic groups contribute. And with such global engagement, the Web offers the possibility once again of the dream of a universal library.

Knowledge societies must strive to be inclusive if they are to further the well-being of all their citizens. The Constitution of UNESCO proposes full and equal opportunities for education for all, the unrestricted pursuit of objective truth and the free exchange of ideas and knowledge. This is what we must all strive for. The frustration and fury of the excluded — like the woman denied access to a university library — is palpable in the words below, and speaks for all those who seek access to knowledge and seek to learn, whether in formal or informal situations.

“Venerable and calm, with all its treasures safe locked within its breast, it [the library] sleeps complacently and will, so far as I am concerned, so sleep for ever. Never will I wake those echoes, never will I ask for that hospitality again, I vowed as I descended the steps in anger.” (Woolf 1993, p. 7)

The challenges of making education available to all and building knowledge societies links back to the reflection at the beginning of this chapter on the concept of the universal library.

But as Manguel (2006) reminds us, the Library of Alexandria was set up to do more than merely immortalise. It was to record everything that had been and could be recorded, and these records were to be digested into further records, an endless trail of readings and glosses that would in turn engender new glosses and new readings.

This surely describes Open Educational Resources — resources that are to be shared, built upon, reshaped, repurposed — and then returned to the commons to be available for the same exercise to take place over again.

## Conclusion

The red thread of my experience has lead through increasingly interesting endeavours and career opportunities in a diverse range of institutions, with many wonderful individuals. What I retain from this is a sense of optimism and continuing renewal as we seek to improve — and that knowledge is at the base of this improvement. Of the issues on which I have worked, Open Educational Resources proved to be the most stimulating and engaging. Perhaps this is so because so many threads of personal and professional experience came together, but more because of the inherent pleasure one has when working on something that aims to contribute to the common good.

David Johnston, Governor General of Canada (and Chair of the Board of Directors of the Association of Universities and Colleges of Canada at the time I came to work there), has written about “the diplomacy of knowledge,” defining the concept as our ability and willingness to work together and share our learning across disciplines and borders. “Aristotle once said, ‘All men by nature design to know.’ Today we can perhaps recast this statement for the 21st century, envisioning a world in which all nations are eager to know and share their learning” (Johnston 2012, p. A15).

Open Educational Resources will contribute to this vision.

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