Open Educational Resources University: An Assessment and Credit for Students Initiative

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Introduction

The OER university (OERu) is a consortium of 20 post-secondary institutions and organisations (as of September 2012) collaborating in the development of OER pathways for learning. A list is provided at the end of this chapter. These pathways lead to formal post-secondary assessments and credits for learners who study informally online and who desire formal recognition of their efforts from recognised public institutions. The OERu members are committed to identifying these pathways using OER.

The concept of *open education* encapsulates a simple but powerful idea: that the world's knowledge is a public good and that the open Web provides an extraordinary opportunity for everyone to share, use and re-use knowledge. This represents a significant opportunity for universities to return to the core values of the academy — namely, to share knowledge for the benefit of society.

Educators have a natural propensity to collaborate (Chow 2010). The nature of the academy requires sharing knowledge and building upon the ideas of others. An experienced researcher knows that a thorough literature review of existing knowledge is the starting point in resolving a research question. In research, universities have no issue with sharing and building on the ideas of others, yet in teaching there is a perception that we must lock our teaching materials behind restrictive copyright regimes that minimise sharing at the expense of learning. OER provide a unique opportunity to expand and integrate research traditions associated with the notion of building on the ideas of others into our teaching practice. In this way, universities can leverage the potential of the Internet and open education for research-led teaching and learning.

Universities are one of a handful of organisations that survived the Industrial Revolution. It is plausible that history will repeat itself in the digital age. The traditions of rational and reflective practice of the academy will contribute to building sustainable futures for the university and the institution's rightful place in society as we move forward in the OER world. Brown and Duguid (1995) have alluded to the risks that, in a digital age, blind adoption of technology-mediated degrees without due understanding of the institutional character and culture of the university could impact on the value society attributes to post-secondary credentials. Digital learning and OER, for instance, could lead to a new form of elitism where the perception associated with online degrees using OER would not command the same respect as campus-based alternatives. In this regard, the awarding of credentials by the university is an important determinant for credibility and quality because this function depends on the value that a community of scholars actively engaged in research can provide.

Universities can be actively engaged in designing appropriate futures for credible assessment in the OER world. Processes appropriate for the assessment of digital learning using OER hosted on the Web need to be properly researched and implemented with the academic rigour required. Tapscott and Williams (2010) suggest that universities may be losing their grip on higher learning because changing models of pedagogy and knowledge production may necessitate changes in how we credentialise. The OERu project provides a contribution to building what Brown and Adler (2008) have called an "open participatory learning ecosystem" — an ecosystem in which formal education institutions have an important role to play by augmenting opportunities for open learning, assessment and credentialisation.

Individuals are free to learn from OER and other digital learning materials hosted on the Internet. The problem is that learners who access these digital learning materials on the Web and acquire knowledge and skills either formally or informally, alone or in groups, cannot readily have their learning assessed nor can they subsequently receive appropriate academic recognition for their efforts.

Proposed Solution

The knowledge, research and experience of the large-scale open distance learning institutions in providing assessment services at a distance, combined with refinements to existing protocols for Prior Learning Assessment and Recognition (PLAR), could open pathways for student assessment and credit services where traditional delivery models are unable to respond to the growing need for post-secondary education worldwide.

The OERu has been established to provide affordable access to post-secondary education for the estimated increase of more than 100 million learners in the world who will be qualified for a seat in tertiary education over the next 15 years who, because of funding issues or lack of tertiary education provision, will not be able to gain credible qualifications (Daniel 1996). The core mission of the university is to contribute to society as a community of scholars through the pursuit of education, learning and research. The OERu can support such a mass community, as shown in Figure 4.1.

Figure 4.1: Concept for an OER for assessment and credit initiative (adapted from Taylor 2007).
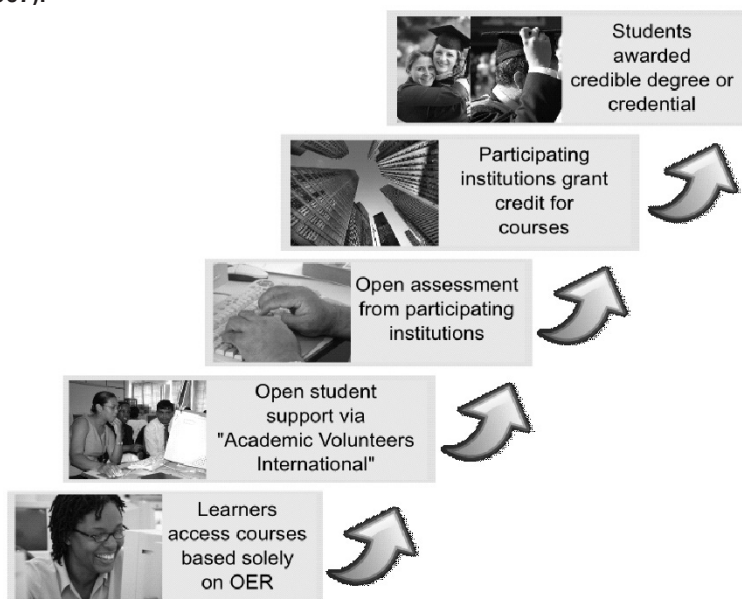
With OER, it is possible to learn globally but accredit locally. While it is possible for individual universities to provide academic credit through PLAR methodologies, the Internet provides unprecedented opportunities for universities to collaborate on the development of a sustainable and scalable OER ecosystem whereby students can achieve credible qualifications using open access materials from around the world. In addition, the complexities of credit transfer and course articulation across geographical boundaries call for a collaborative networked solution for addressing transnational online learning and credentialisation.

The OERu has been modelled on the university equivalent of industry's co-opetition model. That's when companies work together for selected parts of their business where they do not believe they have competitive advantage, and consequently agree to collaborate in areas where they can share common costs. Consider, for example, the collaboration between Toyota, Peugeot and Citroen who share design, component parts and a jointly owned manufacturing plant to produce competing "city cars." Similarly, universities can collaborate on components of the OER ecosystem to achieve cost advantage, while retaining autonomy over core credential services.

More than a decade ago, Gibbons (1998) highlighted the imperative for universities to form alliances and partnerships in response to the interplay among the massification of higher education, fundamental shifts in the modalities of knowledge production and technology interchange.

The imperative for collaboration and alliances has now increased as a result of the changing dynamics associated with the ownership of ideas through open content licensing in a digital age. It will become increasingly difficult for universities to forge and sustain competitive advantage in the higher education system through closed teaching resources, as emerging partnerships are formed in the OER arena and foster collaboration.

The appearance of edX, a partnership of three of the world's leading universities (MIT, Harvard and the University of California, Berkeley), is an example of the need for collaboration and alliances in the OER arena. Likewise, the private sector Coursera initiative, partnering with "elite" universities in the USA, Canada, Europe and Asia, is another example of these types of open emerging partnerships. Non-university initiatives like Udacity are also offering courses with certificates that are beginning to be accepted by some employers. There are also start-ups in Latin America and the UK, called WeduboX and FutureLearn, respectively.

Context

Open access technologies, combined with contemporary shifts in the ownership of ideas in a digital age, may change the way universities view their place in the higher education market by refocusing strategic approaches to course development and collaboration. Five significant trends and factors point to the potential for disruptive innovation (Christensen et al. 2006) in online learning provision — that is, where new services take root in simple applications at the bottom of a market and then eventually displace established market propositions:

1. Unsatisfied global demand for post-secondary education

2. Growing inventory of open access learning materials on the Internet

3. The burgeoning phenomenon of institutions providing access to free-tuition learning

4. The potential for shifts in the organisational cost structures for the design, development and provision of asynchronous learning

5. The potential for reconfiguring existing protocols for assessment and accreditation of OER learning

Unsatisfied Global Demand for Post-Secondary Education

According to UNESCO (2009), there were almost 153 million post-secondary students worldwide in 2007, a 53 per cent increase since the year 2000 and a five-fold increase in less than 40 years. The demand for higher education is predicted to expand from 97 million students in 2000 to over 262 million students by 2025.

Daniel (1996) reported that a major new university would need to be created each week to address the anticipated demand. Usher (2007) of the Educational Policy Institute predicted that the number of students in post-secondary education will more than double in the next decade. Daniel et al. (2007) report that "India alone would need nearly 2400 additional universities in the next 25 years — or roughly two new universities per week."

This level of demand exceeds the capacity of the existing system to deliver, and suggests it is not economically viable to continue to build new universities. The magnitude of unsatisfied demand for post-secondary provision provides a solid economic imperative for an OER for assessment and credit for students' projects.

Growing Inventory of Open Access Learning Materials

Thousands of course modules are currently available online, both commercial and free from respected institutions. There are also millions of websites that can be used to support a wide variety of learning outcomes. Consider the following open access examples:

- The OpenCourseWare Consortium has indexed more than 4,000 high-quality university-level courses (Heller 2010)

- The OpenLearn website hosted by the Open University UK provides free access to over 8,000 hours of learning materials

- More than 6,000 journals are listed in the Directory of Open Access Journals (Directory of Open Access Journals 2011)

- AU Press, hosted by Athabasca University, Canada's first open access scholarly press, hosts more than 180 scholarly works, including several textbooks, and augments access to scholarly publications (AU Press 2013: www.aupress.ca).

The Burgeoning Phenomenon of Free-Tuition Courses

Growth in the Internet and social media are contributing to an increased number of free-tuition courses being offered online.

Presently, more than 4 billion people have reasonable access to the Internet. More than 1.3 billion of those do so using mobile devices like cell phones, tablets, e-books and notebooks (Chapman 2010; International Telecommunications Union 2010). Corresponding with increased access to the Internet, post-secondary institutions need to consider the impact of social media technologies. Social media encompasses a range of contemporary Web-based technologies that facilitate scalable and interactive communication around the creation and exchange of user-generated content. Half of the top ten most-visited websites of the world are social media websites (e.g., Facebook, YouTube, Blogger, Wikipedia, Twitter) and it is estimated that social media accounts for 22 per cent of all time spent online in the U.S. (Nielson Company 2010).

Coursera, edX and Udacity are mentioned in Chapter 1, but also consider the following examples of courses offered at no cost to the learner:

- The FlexiLearn website at Indira Gandhi National Open University (IGNOU) provides free and open access to a wide number of degree course materials at the university, and the government is sponsoring tuition services (IGNOU 2009).

- The OpenLearn initiative of the Open University UK reported that over 10,000 students accessing free courses have converted to being fully enrolled students (McAndrew and Lane 2010).

- Otago Polytechnic in New Zealand has adopted a default Creative Commons Attribution intellectual property policy, thus facilitating the potential shift to free access to all courses offered by the institution (WikiEducator 2011).

- The connectivist-based Massive Open Online Courses (MOOCs) (see, for example: Fini 2009; Parry 2010), which use the open Web and social media

to offer courses to large cohorts of both for-credit and free non-credit students in the same course, frequently register more than 1,000 learners.

- The University of the People, a non-profit institution headquartered in Pasadena, California, provides universal access to free-tuition courses and has accepted students from 110 different countries. At present, the university is not an accredited institution, but is preparing to apply for accreditation in the U.S. (University of the People 2011).

- The Saylor Foundation, launched by Michael Saylor, an American entrepreneur with a pledge of USD 100 million, now hosts more than 60 free university courses (Saylor Foundation 2012).

The Potential for Shifts in the Cost Structures for the Design, Development and Provision of Asynchronous Learning

There are two fundamental changes in the potential cost structures afforded by digital technologies and open content licensing:

- The marginal cost of replicating digital knowledge is near zero. Therefore, with open content licensing, there are significant opportunities to reduce the costs associated with reproducing and maintaining online courses.

- Through networked collaboration, the design and development costs for producing high-quality OER can be shared among multiple institutions while still allowing individual institutions the freedom to brand course materials and adapt them for local contexts.

The Potential for Reconfiguring Existing Protocols for Accreditation of OER Learning

Providing assessment at a distance and developing mechanisms for assessing prior learning are not new. Both approaches lend themselves to being refined and adapted for use in OER courses designed for independent study by the OERu consortium.

Research and experience from technology-mediated learning in higher education, most notably that derived from the provision of open distance learning, will enable institutions to design appropriate and scalable solutions for formative and summative assessment at a distance for OER learners.

While the disaggregation of teaching services from credentialing services may not be common practice at most universities, this has been done successfully in the past. One hundred and fifty years ago, the University of London commenced with its external degree programme "on the radical principle that it didn't care how you acquired the knowledge provided you could pass the exam" (Daniel 2011a). So, for example, the University of London proctored its first international examinations at a distance in 1865. The University of London's external degree programme has produced five Nobel laureates.

Prior Learning Assessment and Recognition (PLAR) potentially provides opportunities for the transfer of approaches, methodologies and policy protocols (assessment and credentialising policies, etc.) for the OERu network. PLAR is a recognised process used by many post-secondary institutions to evaluate

learning outside the classroom for non-traditional learners (those who study independently usually not for credit) to gain academic credit (Zucker et al. 1998; CLFDB 1999; Bowman et al. 2003).

There are, however, unresolved challenges. PLAR methodologies are currently very labour intensive and unlikely to scale well for large numbers of learners. Approaches and models for national assessment and accreditation vary considerably around the world (COL and SAQA 2008, p. 7).

In a digitally connected world, the harmonisation of qualification articulation across legal boundaries could contribute to significant savings and reductions in duplication of effort. Consequently, there is growing interest in the area of standardisation and articulation of qualification frameworks among international agencies (COL and SAQA 2008, p. 7). The pioneering work led by the Commonwealth of Learning to develop a Transnational Qualifications Framework for the Virtual University for Small States of the Commonwealth provides useful insights into resolving these issues (COL and SAQA 2008).

The OERu has the following core components:

- **OER collaboration network** – covers those activities where cross-institutional collaboration is more effective than institution-based service provision

- **Educational institution services** – refer to the fee-for-service initiatives that will be provided by participating post-secondary institutions on a cost-recovery basis

- **OER support infrastructure** – incorporates the cross-cutting infrastructure needed to support a scalable network for OER, including ICT and a business model

Each component can be subdivided into a number of initiatives that together constitute a logic model for the planning and implementation of the OERu concept. The OERu logic model distinguishes between free learning and assessment services that are provided on a fee-for- service basis (Figure 4.2)

Learners may choose to enrol at formal education institutions in the traditional way or to learn from OER freely available on the Internet or using OER courses assembled by the OERu partners. The OERu project aims to design and implement appropriate solutions by establishing a collaboration network whereby assessment and credentialing services can be provided by participating institutions on a cost-recovery basis or funded through scholarships or grants from their respective ministries of education or other sources.

The project aims to facilitate pathways for OER learners to gain credible credentials from participating institutions that are formally accredited/officially recognised in their national jurisdictions. Quality assurance and institutional accreditation is the foundation on which this parallel learning universe is based. The OERu must ensure equivalence and parity of esteem for qualifications gained through this OER network. Resources and systems used to support the OER project will be available for re-use and repurposing in the formal sector, thus contributing to improved efficiencies and greater return on investment for participating institutions.

Figure 4.2: Logic model for the OERu, providing a systemic perspective of main initiatives for building a sustainable OER ecosystem.
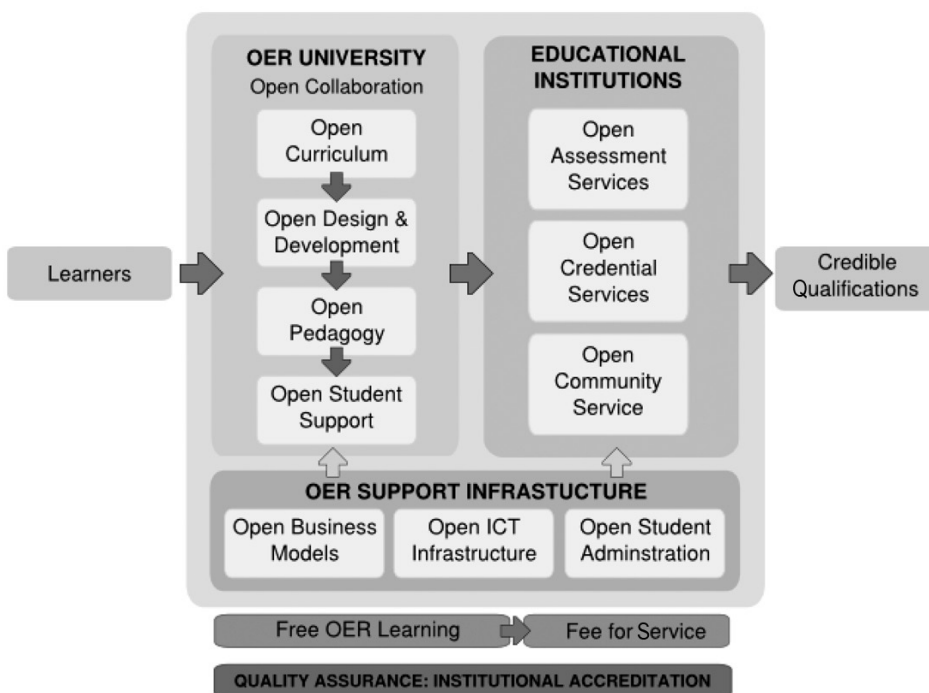
The outputs of the OERu initiative will also add value to existing tertiary education systems worldwide, because OERu courses and support systems can be integrated into the mainstream model.

Intended Impact

The overall aim of the OERu project is to:

- develop and implement a sustainable and scalable ecosystem that can support open learning opportunities for all students worldwide using OER; and

- provide pathways for OER learners to obtain credible certification and qualifications from accredited institutions within national education systems inputs.

A number of important building blocks already exist for input into the OERu project:

- **OER assets**: There is a rapidly growing inventory of existing international educational resources, which can be integrated into the open pedagogy model envisaged by the project. These include open access content, open access journals, open textbooks, and open applications.

- **Existing expertise**: There is a wealth of transferable experience from distance education and open and distance learning to support the design and development of the project. In addition, participants in the free software movement have gained extensive experience in open models and approaches to building sustainable open systems. As an OER initiative,

the project would be committed to transparent and open planning, thus enabling wide participation by OER thought-leaders and practitioners from around the world.

- **Financial resources**: Financial resources (including contributions in time) from participating institutions and external donor funding for strategic elements will be needed to address gaps in available OERs and the design of new components of the OER for student assessment and credit project.

- **Participating institutions**: The project requires a critical mass of participating institutions for awarding formal academic credit for OER university courses. The network has achieved this milestone. Thirteen accredited institutions from Africa, Asia, Oceania and North America convened for the inaugural meeting of OERu founding anchor partners in November 2011. Membership of the network continues to grow at a steady pace. These OERu partners have agreed to award credit for the OERu courses. As an open project, all post-secondary institutions that care about sharing knowledge as a core value of education will be free to contribute to the planning of the project and subsequent implementation of more sustainable education futures.

- **ICT infrastructure**: Reliable and scalable open source software systems exist for implementing the OER networked collaboration.

Initiatives

To facilitate planning and co-ordination across national boundaries, the project is sub-divided into a number of initiatives, including Open Curriculum, Open Design and Development, Open Pedagogy, Open Student Support, Open Assessment Services, Open Credential Services, Open Community Service, Open Business Models, Open ICT Infrastructure, and Open Student Administration. Each initiative includes a number of activities (with corresponding inputs, outputs, milestones, key performance indicators and outcomes), ultimately contributing to the implementation of the OERu project.

The logic model aims to be sufficiently robust to accommodate the requirements for credible certification within the formal education sector, so learners and society will have confidence in the qualifications but also be flexible enough to leverage the potential that OER offers for re-use and repurposing for local learning contexts.

From Logic Model to Plan for Action

Sir John Daniel (2011b) confirms that the "OER university" and the OER for assessment and credit for students concept have the potential to reduce the cost of higher education dramatically, and supports the "examination-only" concept. He has commended anchor partners for engaging in the movement as part of its community service mission. The OERu has reached the following development milestones:

- 20 anchor partners now form a critical mass and foundation for the future development of the OERu; and

- the partners are on five continents and consist of 14 universities, four colleges and two non-teaching organisations.

Anchor partners have now identified the Bachelor of General studies as an achievable goal and the first prototype courses in this degree will be delivered in the near future along with viable assessments at several of the partner universities and colleges.

OERu partners have identified champions for supporting the development of the various activities. This planning has been (and will continue to be) conducted openly and transparently so that multiple organisations can participate, thus avoiding duplication of effort.

The OERu partners will officially launch the OERu in 2013, drawing on the experience from the prototyping phase.

List of OERu anchor partners:

Universities:

- Athabasca University (Canada)
- Dr Babasaheb Ambedkar Open University (India)
- Empire State College – SUNY (USA)
- Excelsior College (USA)
- Kwantlen Polytechnic University
- Southern New Hampshire University (USA)
- Thomas Edison State College (USA)
- Thompson Rivers University (Canada)
- Universitat Oberta de Catalunya
- University of Glamorgan (UK)
- University of Canterbury (New Zealand)
- University of South Africa
- University of the South Pacific
- University of Southern Queensland (Australia)
- University of Wollongong (Australia)

Community colleges, institutes of technology and polytechnics:

- Nelson-Marlborough Institute of Technology (New Zealand)
- NorthTec (NZ)
- Open Polytechnic (NZ)
- Otago Polytechnic (NZ)
- Unitec Institute of Technology (NZ)
- WinTec (NZ)

Organisations:

- BCcampus (Canada)
- OER Foundation (International)

Note: This chapter has been adapted and updated from the report "OERu: Towards a Logic Model and Plan of Action," available at http://wikieducator.org/images/c/c2/Report_OERU-Final-version.pdf

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