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Introduction to selected papers on Open Education

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As it happened in 2014, when we published some selected papers from the OpenCourseWare Consortium Global Conference (vol. 6 issue 2), this special issue is the result of an agreement between ICDE and the Open Education Consortium and a collaboration with Open Praxis to feature, in the journal, research and innovative practice presented at the Open Education Global Conference 2015, held in Banff (Canada) in April 22–24.

The selected papers presented in this issue are a good example of some trends we currently find in the field of open education:

• The increasing number of research and showcases with a focus on openness, providing a rigorous basis for getting recommendations, lessons learned, highlights.
• The relevance of open educational practices, a step beyond open educational resources and open courses.
• The core position of open education within the transformation of higher education, and the relevance of institutional strategies which include “open” to do so.

As stated in the website (http://conference.oeconsortium.org/2015/about-conference/), the Open Education Global Conference is the annual opportunity for researchers, practitioners, policy makers and educators to deeply explore open education and its impact on global education. Conference participants will hear from thought leaders in open education and have the opportunity to share ideas, practices and discuss issues important to the future of education worldwide. Sessions cover new developments in open education, research results, innovative technology, policy development and implementation, and practical solutions to challenges facing education around the world.

The convergence of these topics with those of interest for Open Praxis has facilitated the partnership for the preparation of this special issue.

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The convergence of these topics with those of interest for Open Praxis has facilitated the partnership for the preparation of this special issue.

The conference features the following tracks:

• Pedagogy & Design: Highlights the design and delivery of open educational resources, use of OER, Open Access journals and open data, open MOOCs, learning science, instructional design, remixing resources and teacher training. According to the distribution of the conference presentations, three of the published papers relate to this strand.
• Innovation: Presents new and exciting developments in open education, big data and its use in education, new lenses for considering open education, educational trends, new technologies that enable learning, assessment and accreditation in open education. One paper is ascribed to this track.
• Evidence of Impact: Discusses research on all aspects of open education, including learner success, usage data, indicators of awareness, effectiveness of open policies, workforce development, and economic considerations.
• Strategy: Includes policy development and considerations, working with policy makers at institutional, governmental and intergovernmental levels, developing an institutional strategy, business models, and cooperative efforts and funding. One paper relates to this topic.

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• **Implementation**: Showcases examples of successful open educational practices and projects from around the world, putting policy into practice, developing collaborative networks on and off campus. One paper relates to this track.

Papers submitted for publication in *Open Praxis* have followed a separate review process. The Open Education Global Conference 2015 Programme Committee first reviewed submissions for inclusion in the conference; those accepted for presentation and best rated by the committee were then recommended to *Open Praxis* for peer review and possible inclusion in this issue. The papers followed the usual submission guidelines in *Open Praxis*; additional revisions were requested during the peer review process, and finally six papers were accepted for publication.

Aligned with the usual paper types published in *Open Praxis*, the articles have a research-oriented approach and/or an innovative practice character.

Considering the conference tracks, the first three papers relate to *pedagogy and design*.

Carina Bossu and Wendy Fountain (*Capacity-building in open education: an Australian approach*), describe a micro open online course, *Curriculum design for open education*, showing how openness has been present in the different stages of the project: content, process, pedagogy, platform, . . . The analysis of the pilot experience extracts some opportunities for capacity-building in academics to incorporate Open Educational Resources and Open Educational Practices in higher education, both in Australia or in a broader context.

Colin Elliott and Elaine Fabbro (*The Open Library at AU (Athabasca University): Supporting Open Access and Open Educational Resources*), also in the pedagogy and design track, move in the field of open access and open publishing. They describe in detail the experience of the *Open Library, a new web portal they are involved in, as a means to support students’ learning and researchers by facilitating access to open educational and research resources. Besides the inclusion of open and free content, the *Open Library at AU* focuses on promoting information literacy skills on users.

Closing this section, a research paper by Nikolaos Floratos, Anna Espasa and Teresa Guasch (*Recommendations on Formative Assessment and Feedback Practices for stronger engagement in MOOCs*) first extracts, from literature, a set of requirements that formative assessment and feedback should have. Then they analyze the reviews and comments related to feedback and formative assessment made by learners of 7 top-rated MOOCs, and identify and order a set of recommendations related to the previously stated framework, such as to base assignments on practical problems or to include feedback on performance (rather than just a mark) in automatic quizzes in MOOCs. The findings and conclusions are relevant for MOOC designers.

Within the *innovation* track, Susan Huggins and Peter Smith (*Using an ‘open approach’ to create a new, innovative higher education model*) introduce the case of the Open College at Kaplan University—which offers open courses, a suite of services for personalized learning and an open degree format since 2014—and share their reflections on the future of education. It’s remarkable that Open College at Kaplan University has received one of the 2015 Open Education Awards for Excellence in the category of Outstanding Site, and Peter Smith is the recipient of one of the two Leadership Awards for Open Education Excellence 2015, both awarded by the Open Education Consortium.

The *strategy* track is covered by Thomas Carey, Alan Davis, Salvador Ferreras and David Porter (*Using Open Educational Practices to Support Institutional Strategic Excellence in Teaching, Learning & Scholarship*). Based on their experience at Kwantlen Polytechnic University, they identify relevant points to consider when developing an institutional strategy that incorporates Open Educational Practices. Their reflections about opening up pedagogy, faculty work, etc. and their anticipation of potential benefits for the institution are of interests for other organizations that are initiating a work towards the integration of OEP into their institutional strategies.

*Open Praxis*, vol. 7 issue 2, April–June 2015, pp. 119–121
In the implementation conference track, Tony Coughlan and Leigh-Anne Perryman (Learning from the innovative open practices of three international health projects: IACAPAP, VCPH and Physiopedia) present a research on three case studies in innovation and OER, which share a concern on training public health practitioners in low-income countries using OEP, and do so outside formal education. A detailed description of the cases and the research process leads to an analysis using two complementary frameworks: the OPAL matrix and the OEP social configuration framework. This leads to a complete review of both the cases and the analysis frames, highlighting their limitations as evaluation models.

Finally, this issue includes a book review that totally fits the scope of both Open Praxis and the Open Education Consortium. Daniel Domínguez presents a review of The Battle for Open: How openness won and why it doesn’t feel like victory, a book by Martin Weller published in 2014.

We wish our readers will enjoy this compilation and contribution to the debate about open education.

We specially thank from Open Praxis to the authors and the reviewers for their valuable contributions, and to the Open Education Consortium for the partnership and collaboration in the preparation of this special issue.
Capacity-building in open education: an Australian approach

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Abstract

Addressing the gap between global open educational resource (OER) proliferation and the slow adoption of OER and open educational practices (OEP) in Australian higher education, this paper focuses on a capacity-building project targeting academics, academic support staff and educational developers. The conception, design, development, piloting and evaluation of an open, online professional development micro course are detailed, highlighting key aspects of the open design and considerations for sharing and reuse across higher education institutions. The open micro course introduces five key OEP concepts through five contemporary curriculum design topics, using knowledge co-creation activities which engage learners in iterative shaping of the course, and generate artefacts for demonstration and recognition of learning. Opportunities for short to longer term capacity-building which leverage the micro course are also discussed, in response to significant shifts underway in higher education funding and professional development priorities.

Keywords: Academics; capacity-building; curriculum design; micro course; open educational practices; professional development

Introduction

Despite recent federal investments and important developments in open educational resources (OER) and open educational practices (OEP), the Australian higher education sector lags behind other countries in these endeavours. The US, UK and some other European countries have already developed regulatory frameworks and established institutional and national support, including funding, that are widely available to institutions and academics interested in working with OER and OEP (Bossu, Brown & Bull, 2014). Considering the evolving pace and demonstrable impact of OER and OEP on higher education globally, the need for further professional development and capacity-building to facilitate the adoption of OER and OEP in Australia is critical. In fact, previous research has identified a lack of appropriate professional development programs available for academic and related staff as one of the main reasons for the limited adoption of OER and OEP in Australian universities (Bossu, Bull & Brown, 2012).

This paper features a project funded by the Australian Government Office for Learning and Teaching (OLT) that attempts to bridge this gap and make a significant contribution to the adoption of OER and OEP in higher education in Australia. The project team set out to design, develop and pilot a free, open and online professional development course focussed on supporting curriculum design in higher education, called Curriculum design for open education (CD4OE) (http://wikieducator.org/course/Curriculum_design_for_open_education/). Our specific aim is to develop the capacity of academics in Australia to adopt and incorporate OER and OEP to underpin innovative, engaging and agile curricula across the Australian higher education sector, including traditional face-to-face, distance and blended modes.

This course is a micro open online course (mOOC) where ‘micro’ refers to a sub-component of a full course/program or subject/unit. The micro course format was pursued for its reusability, for example, as a module in professional development programs at a range of institutions, and for its support of transferable ‘micro credentials’. This involves recognition of ‘small batch learning’ on a
smaller scale than traditional higher education courses. In addition to design for reuse and micro credentials, this micro course is distinctive for its explicit modelling of an open design consisting of multiple learning pathways that enable both formal and informal learning approaches. In terms of scope, it presents core OEP concepts in the context of contemporary curriculum design and technology enhanced learning (TEL) in higher education (please see Table 1).

The project comprised two stages: (i) the Design and Development Stage, and (ii) the Pilot and Evaluation Stage, each of which is elaborated in the two sections to follow. The first stage consisted of the design and development of the micro course, including the identification of related open practices and existing OER for reuse within the micro course, and the development of new resources for future reuse. The course has an OEP-based learning design and has been developed in an open platform (WikiEducator); in combination this supports formal and informal learning, and for-credit and not-for-credit reuse options. This stage of the project also included the planning of the course pilot and evaluation strategy. The second stage involved conducting the pilot, and collecting and analysing participants’ feedback on their experience of participating in the micro course, through an embedded evaluation activity (which is ongoing at the time of writing). Outcomes of the evaluation will guide revision of the micro course and form the basis for the research component of this project. The project research findings will be the subject of future publications. In the third section below, we speculate as to how this micro course might be leveraged for OEP capacity-building at a range of scales in higher education.

In this paper, we describe in detail the two stages of the project, as well as discuss how we conceptualised these stages based on contemporary curriculum design theories in combination with OEP, including open pedagogies. According to Weller (2014), open pedagogies combine the abundance of open content (or OER) already available on the internet with the power of networks “and the learner’s connections within this” (2014, p. 10). We also explore some opportunities that this micro course might present to the growing demand for, and importance of, courses such as this to meet the professional development needs of academic staff, including casual staff, as higher education sector funding mechanisms and priorities change. Before continuing, we would like to highlight that most aspects of the micro course are based on the concepts underpinning OEP. Open educational practices represent a shift in thinking from increasing access to open resources (OER), to being focused on supporting educational practices and promoting quality and innovation in learning and teaching through open technologies, open policies, open design, and learners’ co-creation and sharing of knowledge (Smyth, Bossu & Stagg, 2015 – in print).

Stage 1: Design and Development

The Design and Development Stage spanned May 2014 to January 2015 and was characterised by a critical and iterative dialogue between design for learning processes and open technology evaluation. The project team began by articulating course design principles reflecting recent scholarly notions of OEP and formative online learning theory. The core principles included:

- Anticipation of future learners from diverse cultural and institutional contexts for whom English might not be the first language, and for whom Australian terminology may need to be clarified;
- A ‘learner empowered’ view of curriculum design (Smyth et al., 2015 – in print) in which multiple learning pathways enable learners to take a sequenced approach if preferred, or to sample topics and activities based on their learning needs and interests (Wappett, 2012);
- A conception of learning outcomes as nested within broader subject/unit learning outcomes to support ‘micro credentials’, prior learning assessment and recognition (PLAR), and credit transfer for future study (Conrad, Mackintosh, McGreal, Murphy & Witthaus, 2013);
• An emphasis on learners’ professional practice contexts and authentic activities (Herrington, Reeves, Oliver & Woo, 2004), which contribute directly and indirectly to two major tasks through which learning outcomes can be demonstrated;
• A view of course content as co-created by learners via the sharing and peer evaluation of knowledge artefacts during the course, such as curated collections of OER (Antonio, Martin & Stagg, 2012; Flintoff, Mellow & Clark, 2014); and
• Explicit modelling of OEP concepts adopted in the course, along with interwoven commentary by the project team on issues faced and our rationale for decisions made, acknowledging the emergent, co-constructed status of OEP in higher education. Such issues included designing for culturally diverse learners, diverse digital literacies, multiple institutional settings, open platforms, open licensing, and for the complexity of learners’ personal learning environments (PLEs) in action (Johnson & Liber, 2008).

Our course design approach proceeded in line with Conole’s (2013) emphasis on representation for sharing and mediating project team members’ intentions at the design stage. The initial learning design was represented as a matrix, in which five core OEP concepts are introduced through five key curriculum design topics. At the intersections of these sets of concepts and topics, sub-topics formed the focus of six learning pathways including an introduction/induction, set out in Table 1. From this conceptual basis, we devised and refined topic-based learning objectives and online activities for each learning pathway, in interplay with our identification of relevant OER, and evaluation of open course platforms and tools. Designing for reuse (facilitated by open licensing of the course) was a major consideration in this process and represented a significant departure from the design of semester-based, sequenced online courses accessed via institutional learning management systems. Each learning activity, while conceived for one of the six learning pathways in this course, is essentially standalone and able to be reworked and remixed in other open courses. Similarly, the two major tasks—Task 1: Curation and Peer Feedback and Task 2: Micro Course Reflection—can be reworked and reused in other open course contexts.

### Table 1: Micro Course Matrix Learning Design

<table>
<thead>
<tr>
<th>Introduction - Course overview &amp; learning outcomes - Learners’ guide</th>
<th>Topic 1 Learning outcome frameworks</th>
<th>Topic 2 Learner contexts</th>
<th>Topic 3 Learning design for open education</th>
<th>Topic 4 Resources &amp; technologies</th>
<th>Topic 5 Assessment &amp; OEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Openness &amp; open educational practices (OEP)</td>
<td>2A Socially networked learners</td>
<td>3A Open design Sequence or sample Facilitated or self-directed, self-paced</td>
<td>4A The OER movement ‘Native’ and open source technologies</td>
<td>5A Open education and assessment</td>
<td></td>
</tr>
<tr>
<td>B. Open learning pedagogies</td>
<td>1B Qualification frameworks Nested learning outcomes e.g. course/program/unit/subject/module</td>
<td>2B Connectivism Rhizomatic learning Transformative pedagogy</td>
<td>3B Learner-led pathways Curating OER</td>
<td>4B Authentic activities, abundant content, resources and tools</td>
<td>5B Emerging assessment strategies</td>
</tr>
</tbody>
</table>
Designing for open platforms and tools

Shifting focus to the open platform and tools adopted in the micro course, the design was also informed by the project team’s reflections on our own recent participation in open, online professional development courses. While appreciating approaches seeking to support learners’ PLEs and differing levels of learner engagement, we judged abundant digital content and multiple communication channels within courses to be particularly challenging factors. To this end, we canvassed colleagues working in the area of educational/academic development (representative of targeted pilot participants) about their experiences of open courses and online communication preferences. There was a consensus expressed for balance between ‘free for all’ and more structured participation, and for coherent threads of discussion and debate beyond that allowed by aggregated feeds of micro-blog commentary (such as Twitter).

Given the short, five-week duration of the micro course, we committed to ‘low threshold’ tools in terms of access and the skills required, and a limited toolset that still supported the inclusion of learners’ digital artefacts (for example, professional profiles, blogs and personal websites). Following evaluation of open platforms and hosting options, the course was developed in WikiEducator which is provided by the OER Foundation. This ensures free access for learners, and fosters potential reuse of the course through the OER university’s (OERu) expanding partner network. The OERu is a consortium of like-minded tertiary institutions and organisations working in collaboration to provide free and open education through a diverse range of pathways to learners worldwide (McGreal, Mackintosh & Taylor, 2013). Both universities involved in the micro course project are OERu partners.

In practice, this decision resulted in a distributed development process with fellow OERu partners able to view work-in-progress and offer valuable design and technical guidance. The micro course...
website (Figure 1) was paired with a Wiggio site (https://wiggio.com/)—a free suite of group interaction tools—to support the online activity options within the six learning pathways. Together, these two spaces formed the hub for the micro course pilot which is detailed in the following section.

![Figure 1: Micro Course in the WikiEducator Platform](image)

**Stage 2: Pilot and Evaluation**

The Pilot and Evaluation Stage followed Stage 1 from February to April 2015. This second stage of the project involved trialling fundamental aspects of the open micro course and establishing its feasibility for larger-scale implementation. Conducting a small-scale pilot, with an embedded evaluation, was also a realistic option within the time and budget parameters of the project. In addition, the innovative, emergent nature of this micro course meant that piloting was essential to uncover unforeseen issues, while still offering a well-supported, professional development opportunity for learners. Similar to other pilot studies, this pilot proceeded with clear aims and was based on a considered conceptual framework (Edwin & Hundley, 2002; Lancaster, Dodd & Williamson, 2004). The pilot was conceived to address two main aims. The first aim was to trial the OEP-based course design, open platform and interaction tools. Through applying and modelling an open pedagogic approach (Smyth *et al.*, 2015 – in print), the second aim was to engage learners in knowledge co-creation activities that build upon the initial course structure and scaffolds. To this end, those who took part comprised learning and teaching practitioners in higher education, including academic developers, learning support academics and educational technologists.

In order to maximise the utility of the micro course to targeted learners, and derive feedback on the issues central to fostering OEP in curriculum design, we invited review by the project’s ‘critical friends’ prior to the pilot. Three comprehensive reviews were undertaken; two by curriculum design specialists, and one by an information technology specialist. Their aggregated feedback spanned...
language level, scaffolding and alignment (including topics, learning outcomes, activities and tasks), and web accessibility. Assigning time to respond to reviewer feedback prior to launching the pilot built in an initial quality assurance step, which in turn contributed to the authors’ professional development.

Reiterating the second aim of the pilot—to involve learners in knowledge co-creation integral to the pilot process—our recruitment strategy took on great significance given the need to engage relevant expertise in higher education learning and teaching. Tapping into the expanding community of open education advocates, we invited staff from five Australian higher education institutions, including the partners in this project, and particularly targeting organisational units responsible for learning and teaching development and support. The pilot was then facilitated and supported by the authors over a five week period during February-March 2015, with the second (and final) major task due one week after the end of Week 5.

**The embedded pilot evaluation**

The micro course pilot evaluation was embedded within ‘Task 2: Micro Course Reflection’ to enable the project team to respond to feedback within the project timeframe, and to dually offer a meaningful activity for typically ‘over-surveyed’ learners (Kregor, Breslin & Fountain, 2012). As such, Task 2 served two key functions in this project. It first involved learners in writing a structured reflection piece on the micro course, through which critical evaluation of OEP could be demonstrated, as well as diverse perspectives and engagement levels. The design of both major tasks emphasised demonstration of learning outcomes so that successful completion might be recognised by prior learning assessment in larger units or courses. In Task 2 we sought learners’ responses on specific aspects of their course experience, and its application to practice in higher education. Anonymous responses (in compliance with ethics approval, see below), were made via a web-based survey form prompting reflections on:

- Open course experience;
- Applicability of the course to learning and teaching context;
- Scope and relevance to learning and teaching in higher education;
- Learning design;
- Curation of resources and tools;
- Opportunities to connect and share with course colleagues; and
- Specific improvements for future course iterations.

The second function of Task 2 was to direct learners’ responses to the revision and enhancement of the micro course for future sharing and reuse. In this respect, course development was not confined to Stage 1, according to the participatory design principle of ‘design-after-design’ (Björgvinsson, Ehn & Hillgren, 2012). Modularised topics and activities, and the flexibility of the open platform together support ready re-design and adaptation of the micro course, along with incorporation of participants’ knowledge artefacts in the form of curated OER collections arising from ‘Task 1: Curation and Peer Feedback’.

In order for the pilot evaluation outcomes to inform new insights to the field of OEP in higher education, formal ethics approval was gained to allow evaluation reporting and future publication. These manifold functions of Task 2 enabled the project team to maximise feedback for course revision purposes, and manage the demands made of participants during the five week pilot. Following thematic analysis of evaluation responses, all participants will be informed how their collective feedback has shaped the next iteration of the course. It is hoped this ongoing dialogue with learners will also help facilitate the reuse and reworking of the micro course in different institutional contexts.
Capacity-building opportunities

While the micro course evaluation is ongoing at the time of writing, the project to date has spurred consideration of capacity-building opportunities that leverage this course, and related open courses, in the longer term. We propose strategies in this section reflecting current shifts in funding of the higher education sector in Australia (Ling, Fraser & Gosling, 2013). It is believed that these shifts could impact directly and indirectly on institutional support for professional learning programs for academic staff, including casual and contract-based academics (Marginson, 2013). This trend suggests that individual academics will increasingly need to manage their own careers and professional learning, including evidencing their performance against specified metrics and frameworks (Gibbs, 2013). In Australia, many academic support functions are being scaled back at the same time, and postgraduate programs in higher education learning and teaching are being rationalised and disaggregated (Marginson, 2013). Together, these conditions point to a greater need for, and reliance upon, open learning and relevant OER for professional development in different higher education contexts (Weller, 2014). Hosting the micro course with the OERu was therefore a key strategy to maximise its discoverability, and foster its reuse and reworking in and across institutions.

While these sectoral shifts unfold, we still observe opportunities for practical embedding of the micro course in the short to medium term. At the lead institution for this project, for example, the micro course will form a module comprising approximately one third of a new unit focused on curriculum and assessment design which targets academics responsible for curriculum development and renewal. This unit is in turn an elective component of a professional honours degree course in higher education. Learners in the pilot, and in subsequent iterations of the micro course, will therefore have the option for their learning to be recognised in this unit on the principle of ‘micro credentials’, following successful completion. Depending on the prior learning assessment and recognition (PLAR) mechanisms of other higher education institutions, learners could also ‘challenge for credit’ by presenting evidence of their learning in the micro course (such as the knowledge artefacts generated and documented feedback), against the learning outcomes specified in a larger, related unit. This again reinforces how the onus for managing and evidencing professional learning is progressively shifting to the individual. However, the occurrence and pace of this shift might be influenced by individual institutions’ related policies and strategies (Gibbs, 2013).

A further capacity-building opportunity involves engaging those currently active in leading and delivering higher education professional learning in open learning communities of practice. To this end, we invited individuals in such roles at several Australian institutions to participate in the pilot. We see raising awareness of the utility of such OER, in addition to cases demonstrating how OER has been embedded in professional learning as essential to widening uptake by academic staff (Smyth et al., 2015 – in print). A further role for the open learning community of practice is to support members to rework and remix relevant OER to respond to the needs of academic staff working in local and national contexts, especially in relation to disciplinary standards and regulatory frameworks in higher education.

Conclusion and final considerations

In this paper we have elaborated the design, development, piloting and evaluation of a free, open, five-week micro course (Curriculum design for open education), in support of the adoption of OEP in higher education curriculum design. We have also discussed the conceptual and theoretical frameworks that influenced our decisions while scoping, evaluating and adapting different curriculum design models, open platforms and technologies. Through this account, we have highlighted key
considerations for professional development and capacity-building in open education; namely, open design, design for reuse, formal and informal learning options, and ‘micro credentials’.

We further discussed some of the opportunities that this micro course presents to individual learners, communities of practice, and higher education institutions’ professional development programs. However, due to the open nature of the course, it remains difficult to clearly forecast all its possible impacts and future applications, whether of its varied components (such as images, learning activities, and textual content), or its utility as a whole open course. We can nevertheless speculate that the demand for such free, open courses will increase as academic staff in our case, and other professionals in general, are likely to become increasingly responsible for their own professional development and networked capacity-building. We also anticipate that micro credentials, and PLAR possibilities that recognise informal and formal learning, will become more prevalent within mainstream education. This will open up greater opportunities for learners who might choose to learn from different institutions around the world, at their own pace, formally for credit, or informally based on interest and need.

However, an open micro course also poses several limitations. One of the limitations, mostly relating to the design and development of the micro course, was that all initial content had to be devised and assembled prior to the beginning of the pilot to ensure learners had the flexibility to select learning pathways of most interest to them, in contrast to staged, sequenced learning. Another limitation of a free, open course is the completion rate. Learners are free to choose to discontinue the course at any time, or may still engage with the course in ways that might not give them any formal learning recognition. In the case of this micro course, we were largely only able to gather feedback from learners on their experience in the course if they completed the final major task (Task 2). Non-completion therefore limits the richness of feedback that could be used to improve the course for future iterations. In addition, the construction of the micro course using existing OER presented some challenges, particularly around the need to create and adapt resources, rather than rely on reusing existing ones, which were non-existent, not suitable, or not openly licensed.

Despite the limitations, we regard the development of this micro course to have been highly developmental in terms of our own capacity-building. We foresee that some of the limitations above will be overcome as OEP move from the periphery and become incorporated in mainstream education, as OEP is one of the instruments assisting in addressing international agendas to increase access to education in a diverse range of contexts. Open educational practices are also positioned to assist twenty-first century higher education to become “more relevant to society by opening up its knowledge and access to its services” (Weller, 2014, p. 17). We hope that this micro course will provide learners with opportunities for professional reflection, development and innovation in the open space, and that it will similarly challenge their traditional conceptions of learning and teaching as this project has challenged us.

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References


The Open Library at AU (Athabasca University): supporting open access and open educational resources

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Abstract
To address challenges that learners, course creators, librarians and academics involved with OER and MOOCs are facing when looking for scholarly materials, Athabasca University Library has initiated the development of the Open Library at AU. This open library is a full library website that provides easy access to open and free resources. Tools and information literacy tutorials are also included to enable learners, researchers, and others to find, evaluate, and use the information they need for their open learning course or research. Many of the challenges that those involved in open learning face are addressed by the open library and the potential impact it can have on open learning and knowledge sharing is tremendous.

Keywords: knowledge sharing; knowledge society; librarian; lifelong learning; Massive Open Online Courses; open access; Open Educational Resources; open information literacy tutorials; Open Library

Introduction
The shift toward ‘openness’ in higher education that is occurring with the growth of Open Access (OA) and Open Educational Resources (OER), and the advent of Massive Open Online Courses (MOOCs) presents a variety of unique challenges and opportunities for higher learning, and academic libraries. The role of the academic library, and indeed its value, is much discussed in the literature, and it is recognized that the library must participate in campus discussion about openness and scholarly communication. Athabasca University Library is participating in this discussion and exploring opportunities afforded to it by this change by creating the Open Library at AU—a Library website with only open and free content and the tools and resources necessary to support that content.

Literature review
In the last number of years, there has been a surge in interest in open access and open educational resources across the academy. Peer reviewed, open access journals are growing in number, and a variety of open textbook initiatives have emerged, including the Open Textbook Project at BCCampus (http://bccampus.ca/open-textbook-project/), Open SUNY Textbooks (http://textbooks.opensuny.org/), and Oregon State University’s (2014) open textbook initiative. The introduction of the MOOC has contributed to the conversation as well, and has resulted in an increase in open educational resources that go beyond the open textbook movement to include course syllabi, multimedia learning objects and other items.

Concern about the state of scholarly communication and scholarly publishing, and in particular the rising costs of scholarly resources, is rampant. Academic libraries struggle to make declining budgets stretch to cover the rising inflationary costs of journals and database subscriptions. Canadian libraries must also consider currency fluctuations in their budgets, because many journals and subscription resources are invoiced in US dollars. According to a position statement by the Canadian Association of Research Libraries (CARL), in addition to mitigating these rising costs, open access...
allows for greater access to research by the public, and “maximize[s] the return on [taxpayer and funder] investment in research, advancing discovery and innovation, sound public policy, enhanced health and welfare, and other benefits important for society” (CARL, 2013). These rising costs, coupled with the issues outlined in the CARL position statement point to the need for increased library support and involvement in open access. A related issue is the high cost of textbooks, and the sometimes negative effect this has on student’s decisions to take certain courses (Billings, Hutton, Schafer, Schweik & Sheridan, 2012), or even enroll in post-secondary studies. This issue has contributed greatly to the growth of the open textbook movement.

**Open access, open educational resources and libraries**

For these and myriad other reasons, access to high quality, peer reviewed, open access, and open educational resources is viewed by many as a revolution in scholarly communication, through which the democratization of access to resources will occur. Indeed, the democratization of access to resources not only affects the higher education sector, but society as a whole. This access encourages the development of lifelong learners. When coupled with the development of strong information seeking, critical thinking and analysis skills through MOOCs, and open information literacy tutorials, the result is an informed global citizenry.

In most post-secondary institutions, academic libraries support the teaching, learning and research activities of the institution in a variety of ways. These activities include the collection of resources in curricular and research areas, and the provision of information literacy instruction to students, via discipline based sessions, more general course offerings and the creation of tutorials designed to teach the use of specific resources or specific information literacy skills. As the scholarly communication landscape evolves, and explores the creation and use of open resources, libraries can assist in shaping and furthering the discussions of these materials on their campuses. The careful collection, creation, and curation, of open access resources, and the subsequent marketing of these sources can aid in this work (Mitchell & Chu, 2014; Wu, 2013; Martin, 2010).

Collecting open resources can pose a challenge for academic librarians due to the wide variety of locations and sources of open access and open educational materials, including open textbooks (Martin, 2010). It can be a challenge to identify appropriate content, and librarians must be knowledgeable of the difference between various open access sources, and be aware of strategies for identifying relevant materials. Martin’s (2010) article notes that a number of existing library resources, such as link resolvers, and catalogues like WorldCat now index selected open access journals, and some open educational resources. In some cases, these materials are being incorporated into library catalogues and journal title lists. A good overview of discovery methods for each of these kinds of resources can be found in Martin’s (2010) article. According to Mitchell and Chu (2014), libraries are now providing access to supplemental resources, which are to be used in courses, and are collecting free, open and campus created content to make accessible via institutional repositories and library websites. This increasing openness presents a number of opportunities for librarians to collaborate with faculty, specifically in the creation, curation and management of open collections (Mitchell & Chu, 2014). Given the shrinking budgets and declining staffing levels in many academic libraries, it is crucial that library administration carefully considers what strategies are most appropriate in managing these resources, in order to ensure that these collections are both useful and valued by the academic community. Without an effective plan, it is simply too easy for the collection of open resources to become haphazard and ineffectual.
Library support for MOOCs

The introduction of MOOCs has had a significant impact on the online learning landscape (Bull, 2012). As freely available online courses that do not place restrictions upon the number of registrations, MOOCs have had up to 160,000 students enroll (Perez-Peña, 2012). It should also be noted that the majority of students who enroll in these courses do not actually complete them (Jordan, 2014). These courses present an unparalleled opportunity for access to high quality education for enormous numbers of people (Mahraj, 2012). Even several years after the beginning of the movement, the research and literature on the role of libraries and librarians in MOOCs continues to be sparse (Barnes, 2013). A search of the literature published in 2014 and early 2015, reveals that this continues to be the case. While there are questions about what the role of the library will be in this new environment (Hoy, 2014) there seem to be two main opinions about this role: first, that the library and librarians will not be needed in MOOCs, and second, that the work of librarians will be a variant of work currently being undertaken and that in fact they will continue to be integrated in some way into courses (Barnes, 2013; Mahraj, 2012). Ultimately, the role that librarians play in a MOOC may vary depending on context and content. They might provide assistance to faculty in transitioning to teaching online, and participate in course development teams and alerting course authors to relevant open sources. As libraries are often considered the experts in copyright and licensing, a librarian may be asked to provide insight into these areas, or be asked to secure permissions for use of a particular set of resources. S/he might also be asked to provide instruction on how to find relevant and accessible sources on a topic or on a specific aspect of the research process (Barnes, 2013; Wu, 2013).

Mahraj (2012) posits that librarian involvement in MOOCs follows logically from the work currently performed by librarians in the support of courses and students, and suggests that just as librarians are currently embedded in many online courses, they should also be embedded in MOOCs. Embedded librarians should work as a team with MOOC instructors, targeting specific information literacy skills to be focused on in a particular course (Barnes, 2013). Many question the practicality of a fully embedded librarian initiative (Hoy, 2014; Barnes, 2013), given that support for MOOCs is often in addition to the regular workload of academic librarians, but it is still recognized that librarians must be involved in some way, lest they be seen as no longer necessary to education (Hoy, 2014).

A number of other smaller ways for librarians to involve themselves in MOOCs have been suggested. Many information literacy tutorials created by librarians in recent years have been licensed with Creative Commons, so that they might be shared and reused if the creator is credited. These tutorials focus on a variety of topics and can be easily embedded directly into open courses as instructional aids for students. Likewise, the inclusion of information literacy self-assessment tools (Barnes, 2013) can assist students in determining the areas in which they are weak, and can point them to additional tutorials and resources to review to develop these skills. Barnes (2013) also emphasizes the importance of using a variety of media to deliver information literacy skills instruction, including screen-capture tools and audiovisual materials. Considering different ways of providing information literacy instruction is important in determining what will be effective (Pritchard, 2013).

The open library conceptually

*The Open Library at AU* is based on the same principle as open access and open educational resources, namely that cost is a barrier to learning and to reduce that barrier, materials should be made freely available to learners and researchers in order to promote and democratize knowledge.
and learning (Yiotis, 2005). Open access tackles this issue by promoting the unfettered sharing of scholarly publications. This allows learners, researchers, and libraries to access this material free of charge and results in the easy dissemination of scholarly material; “OA articles are distributed much more widely and have equal or better likelihood of being cited by other scholars” (Anderson, 2013, p. 90). For the OER movement, the aim is to make learning materials freely available to “copy, use, adapt, and re-share” (UNESCO, n.d.). OER by definition, cannot incorporate materials that are behind a paywall or otherwise unavailable for reuse or adaption. The Open Library at AU is a library website that furthers the idea of content collection, creation, and curation, by gathering open access and free content together in one site and provides the seamless access to these materials. This gives learners and researchers the simplest access to resources that they can use without cost. Free access to resources encourages learning, research and knowledge sharing which are often considered the main pillars of the mission and mandate of libraries.

The Open Library at AU supports learners in many ways. This is especially true for students involved with open learning as well as informal learners who do not have access to scholarly resources through an educational institution. Open learning through courses like MOOCs is relatively new and the potential impact is already disrupting higher education (Gore, 2014). This disruption is somewhat tempered by the fact that library engagement in MOOCs is relatively low. As noted above, providing library services to the large numbers of students enrolled in MOOCS can be a challenge. However, in many cases learners do not have access to additional scholarly materials they need for independent research and learning outside their open course, and may also not have access to information literacy tutorials that can assist them in furthering this research. In addition, libraries can sometimes be difficult to navigate for learners unfamiliar with their structure. The lack of access to additional library resources, library information, and information literacy skills can be a major shortfall that leaves learners without an essential part of their learning experience (Mezick, 2007; Goodall & Pattern, 2011) and may pose a significant obstacle to their learning. Students enrolled in MOOCS who do not have access to an academic library whose mandate is to collect scholarly resources may also face a significant cost barrier. Finding content for research or to supplement course learning often leads to content behind expensive paywalls, or it may not be available at all. As Courtney states, “MOOC students are not traditional students of a college or university, therefore they do not have access to the multitudes of subscription databases” (2013, p. 515). As an open library that anyone can access, search, and use, the Open Library at AU will serve as a portal where students can expand their knowledge beyond what they learn in their courses, and create a more rounded learning experience.

Course creators and authors can also see a lot of benefit from collections of open resources. OER and MOOCs both require additional learning resources, including scholarly publications and other resources. Licensing materials for use in MOOCs is extremely problematic and the costs can be prohibitive (Barnes, 2013). Butler (2012) points out that due to the open nature of MOOCs, which make materials freely available online, there are many challenges, delays and costs which prevent the licensing of content for use in MOOCs. Course creators are then using disjointed strategies for finding resources for use in MOOCs and OER. Discussing resources for Harvardx/edX, Courtney (2013) points out that a variety of strategies are required and that MOOCs “suffer greatly” without access for learners. Course authors may or may not involve their library to find resources for the course. If they are using their home institution’s library, it likely does not have a comprehensive list of open and free resources or information on how best to search and access them. This leads to either a lot more effort on the part of course creators, the selection of lower quality material, or that important material is not made available to learners.

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Cost savings is one of the ways that librarians benefit from *the Open Library at AU*. As previously mentioned, subscriptions to journal databases and other resources are constantly rising and are outpacing increases in library budgets. In the face of less purchasing power for scholarly materials, open access materials present one of the best opportunities to make resources available to students. Through the careful selection of open access resources, *the Open Library at AU* brings librarian vetted open access resources together through one site in a way that is easy for users to search and access. Librarians also benefit from the site because it allows them to point students and researchers to quality resources and then focus their interactions with students on the importance of evaluating and analyzing sources, as well as talking about the importance of ethical use of information. Yiotis reminds us that “OA signifies the democratization of knowledge and supports a socially responsible way to distribute knowledge” (2005, p. 160). *The Open Library at AU* also supports the democratization of knowledge by simplifying and facilitating access to open and free resources.

**Information literacy skills development**

A component of *the Open Library at AU* focuses on Information Literacy skill development. Strong critical thinking, evaluation and analysis skills are essential in navigating the plethora of information sources available, and given the wide range of locations that open resources can be found, so are strong searching skills. While the number of open resources is increasing substantially, there are still a large number of disciplines in which little open content can be found. The information seeking process involves being able to identify the gaps in the materials that have been found, and developing the skills necessary to know how to expand the search for other scholarly sources. This might mean determining alternate search terms that can be used, or locating alternate sources of information, including Library subscription resources if possible.

Understanding the ethical use of information is recognized as a crucial part of being information literate. The use of open educational resources licensed under Creative Commons requires an understanding of the different permissions granted by each license type. This concept is one that is a logical choice for inclusion in a tutorial about plagiarism and academic integrity. Instructional tutorials in *the Open Library at AU* will focus on key topics in information discovery, access and use, and will incorporate a variety of technologies. The emphasis will be on skill development, rather than on the use of specific databases. The tutorials that are included will be a combination of tutorials created at Athabasca University Library and selected open tutorials that complement them.

**Site development**

The development and maintenance of *the Open Library at AU* is framed within a context of limited resources. In the fall of 2014, Athabasca University Library staff completed a re-design of the University Library’s main website, completely overhauling the site architecture. This re-design provided an opportunity to add functionality to the site and led to the development of *the Open Library at AU*. The structure of the site was built so that content could be re-purposed for separate, dynamic sub-sites based on different ‘views’ of the data contained in a shared database.

As a result of the limited resources available for developing and maintaining the sites and content, it was not possible for Athabasca University Library to develop and manage separate sites and content. Instead, an in-house system was developed that accesses a single database, but can render the content to different site layouts depending on what data is requested. This is possible because of a simple, clear, and extensive tagging system that was applied to all site content.
has been tagged as open or free, when applicable, as well as being broken down by subject area. For content like tools and tutorials, additional tagging was done by purpose (research, writing, etc.) to encourage discoverability. One of the overall strengths of this approach is that the Open Library at AU has all of the system features that the main Library site does. For learners and researchers accessing the Open Library, they do not receive a ‘scaled down’ version but a site that has all of the functionality of the main library site and is limited to open and free content.

The end result of the modular, layout driven system and extensive tagging, is that much of the content for the Open Library at AU is automatically rendered for a specific layout based on a few selected tags. The previous version of Athabasca University Library’s website already provided access to significant open access and free resources, and the decision to increase this content both populates and improves both sites. Information literacy tutorials and other components are both re-used when appropriate, so that both sites benefit from new content. Very little bespoke content is required for the Open Library at AU helping to minimize maintenance requirements.

Content

Athabasca University and Athabasca University Library have long been strong supporters of open access, and reducing barriers to learning is part of the Athabasca University mission (Athabasca University, 2013). As the first university in Canada to have an Open Access Research Policy (eMundus, 2013), open access materials have long been an important part of Athabasca University Library’s online collection and this content has been continually expanding.

The Open Library at AU is in the early stages of development. The first open content added to the site was that which had previously been tagged as “open” on the Library’s main website. Adding resources to the Open Library at AU is being done in three phases: firstly, open access content, followed by free content, and finally hybrid content. The addition of open access content is the most important phase because this is the material that has the biggest potential use, impact, and cost savings to learners and researchers. The goal of this phase is to create a comprehensive collection of open access content and have it appropriately tagged, described, and curated by librarians. In order to ensure that the collection of resources is meaningful to course authors and developers at Athabasca University, the current focus is on subject areas that are being covered in open educational courses currently in development, and on disciplines taught at AU. This phase involves combing library websites across the world looking for links and information on accessing OA resources. Faculty suggestions and input are also valued in populating the site, as this has proven to be an effective way of gathering content in specific disciplines. All of the resources added to the site to date have been checked for appropriateness, including using Beall’s list of publishers (http://scholarlyoa.com/publishers/).

Free content is more difficult to include because it may require more analysis of whether or not it is suitable for inclusion. Again, faculty suggestions as well as a thorough review of what others have used are two of the approaches being used to create the listing of free resources. Tagging is applied to these resources as well in order to ensure that they are made available appropriately. Free content remains a very challenging issue as it taps into the huge potential of all of the content available on the web but also comes with all of associated pitfalls of quality, and reliability.

A third, hybrid type of content that has been added to the site fits somewhere between open access and paid content. An example of this is JSTOR’s Register and Read program (http://about.jstor.org/rr). This program gives you access to read three articles every fourteen days. While this content is not Open Access, it does make scholarly content freely available for use. Databases with trials may also be included in this third content type.
The content that the Open Library at AU (Athabasca University): supporting open access and open educational resources

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The content that *the Open Library at AU* provides is available to students without cost and allows learners and researchers to find the material they need to support their courses, course work and research.

**Conclusion**

Open access, OER, and MOOCs have all changed the learning landscape for libraries. Learners taking advantage of these disruptive learning technologies have typically been underserved by libraries that struggle to remain relevant and to provide content access to users that cannot access traditionally licensed content. *The Open Library at AU* will tackle these issues by only containing open and free content, supporting tools, and skill development tutorials which support learners, course creators, librarians, and academics involved in OER and MOOCs. By providing a comprehensive open library website, Athabasca University Library is supporting the sharing, creation, and growth of knowledge.

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**References**


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Recommendations on Formative Assessment and Feedback Practices for stronger engagement in MOOCs

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Abstract

Many publications and surveys refer to the high drop out rate in Massive Open Online Courses (MOOCs) which is around 90%, especially if we compare the number of students who register against those who finish. Working towards improving student engagement in MOOCs, we focus on providing specific research-based recommendations on formative assessment and feedback practices that can advance student activity. In this respect, we analysed some significant research papers on formative assessment and feedback methods applicable to face-to-face teaching environments that advance student engagement, and concluded with related requirements and conditions that can be applied also to MOOCs. We also analysed 4050 comments and reviews of the seven most active and highly rated MOOCs (6 Coursera ones and 1 from EdX) provided by the students who have mainly completed those courses via CourseTalk. Based on this content analysis, we have formulated fourteen recommendations that support also the requirements/conditions of our conceptual and theoretical framework analysis.

The results obtained shed some light in a rather unexplored research area, which is the research on formative assessment and feedback practices specifically for stronger engagement in MOOCs.

Keywords: MOOCs, formative assessment, feedback, student engagement, peer assessment, self-assessment

Introduction

Massive Open Online Courses are the latest trend in the area of e-learning and remote education and have significant popularity in the higher education community. For instance, as of July 2014 more than 8.2 million students have enrolled in at least one course in Coursera and more than 678 courses have been offered by 110 Universities and other institutions (Anderson, 2014). However, the drop out rates are very high in the range of 90% or more (Clow, 2013; Lewin, 2013) and the research community should focus on addressing this issue by trying to understand the causes and suggest specific solutions so that open education achieves its high potential and does not fail. In this respect, there is already some research activity on identifying the factors that influence student engagement that can be categorized into two broad categories: a) the non-didactic ones (students’ and instructors’ profiles, their demographics, reputation of institutions and of the teaching staff involved, certification options, fee options, course popularity, etc.) and didactic ones such as course structure and content, self-paced or not, workload and duration, course topic, type of exams, type of assessments and feedback, and interaction with students and instructors, etc. (Adamopoulos, 2013). Nevertheless, little research has been carried out to establish whether different types of assessment (formative, non-formative, peer and self-assessment) or different ways to provide feedback to students may actually affect course quality and impact (negatively or positively) on the MOOC students’ learning experience and consequently on their engagement with the MOOCs. In this respect, we have built a conceptual and theoretical framework of requirements related to...
feedback and formative assessment and based on this framework, we have analysed the reviews provided by students on related feedback and formative assessment practices applied in popular and highly ranked MOOCs.

The objective of this study is twofold:

- Objective 1: To formulate a framework of requirements and conditions for effective feedback and formative assessment practices in MOOCs based on literature.
- Objective 2: To suggest specific recommendations on feedback and formative assessment practices applied in MOOCs for increasing student engagement.

Our first objective is addressed through the conceptual and theoretical framework analysis (following section) and the second one is achieved through the analysis of the selected samples and the related content (methodology and results).

**Conceptual and Theoretical Framework Analysis**

In this paper we focus specifically on formative assessment and feedback practices that could be applied in MOOCs for enhancing student engagement.

The proposed paper is based on the identification and the analysis of specific research and scientific papers that conclude with recommendations on formative assessment and feedback that can be applied especially in MOOCs to advance student engagement (i.e. increasing students’ activity) and acquisition of knowledge.

Although there is no evidence yet on which specific assessment and formative models can be applied in MOOCs for advancing student engagement, the research carried out by Nicol and Macfarlane-Dick (2006) was analysed further to examine whether its recommendations, if applied also in fully online eLearning environments including MOOCs, can support student engagement.

Nicol and Macfarlane-Dick (2006) argue that there are three conditions as pre-requisites for students to be familiar with in order to benefit from feedback in academic tasks, i.e. students should be familiar in advance with:

1. what good performance is (i.e. the student must possess a concept of the goal or standard being aimed for);
2. how current performance relates to good performance (the student must be able to compare current and good performance);
3. how to act to close the gap between current and good performance.

The above three pre-requisites imply that in order for students to be able to compare an actual performance (of their own or of their peers) with a standard good one and take action to close the gap, the whole training process should dedicate much more effort on strengthening the students’ self-assessment skills for better learning experiences. In this context, Nicol and Macfarlane-Dick (2006) have identified seven principles for good formative assessment and feedback that should be applied in traditional teaching environments in order to strengthen the students’ capacity to self-regulate their own performance. These seven principles, in brief, suggest that effective assessment and feedback practices should a) help clarify what good performance is, b) facilitate the development of self-assessment (reflection) in learning, c) deliver high quality information to students about their learning, d) encourage teacher and peer-dialogue around learning, e) encourage positive motivational beliefs and self-esteem, f) provide opportunities to close the gap between current and desired performance, and g) provide information to teachers that can be used to structure the teaching approach.
Similarly, other research (Gibbs & Simpson, 2004) argues that assessment has positive effect on students’ learning and engagement and proposes a set of conditions for this to happen in traditional teaching environments. In order for student engagement to be enhanced, assessment tasks should a) be sufficient to require students to dedicate appropriate study time, b) orientate students to allocate appropriate amounts of time and effort to the most important aspects of the course, c) engage students in related productive learning activities. Furthermore, feedback should a) be provided in sufficient detail and often enough, b) focus on students’ performance, on their learning and on actions under the students’ control, rather than on the students themselves and on their characteristics, c) be delivered in time for students so that it still matters for them, d) be aligned with the purpose of the related assignment e) be well received by the student and f) advance future learning and use by the student.

Additionally, according to Hew (2015), student engagement in MOOCs is defined as the level of a student’s engagement in a learning activity. The more the student is active within a course, the more engaged she/he is with this course. Furthermore, Hew reviews specific literature (Fredricks, Blumenfeld & Paris, 2004; Helme & Clarke, 1998) on student engagement and has identified its three main dimensions:

1. **behavioral engagement** referring to the learning activities that students are doing within a course such as completing an assignment, watching videos, participating in forums, etc,
2. **affective engagement** referring to the feelings that learning activities generate in students towards other colleagues, tutors, the course itself or the institution that runs the course
3. **cognitive engagement** referring to the emerging thoughts that learning activities provoke in students, e.g. cognition activity for asking and answering questions, for giving clarifications, for reasoning, etc.

Furthermore, Hew with the support of other literature (Reeve, 2012; Skinner, Kindermann, Connell & Wellborn, 2009) directly links student engagement with motivation and more specifically with Self-Determination Theory (STD) (Deci & Ryan, 1991; Deci & Ryan, 2000; Hardre and Reeve, 2003) and concludes that student engagement and more specifically

1. **behavioral engagement** is driven from the need of autonomy (the need students feel to sense they are non dependent on other peoples’ actions),
2. **affective engagement** is driven from the need of relatedness (the need students feel to connect with other people) and
3. **cognitive engagement** is driven from the need of competence (the need students feel to master specific knowledge).

Based on this conceptual and theoretical analysis, we can argue that formative feedback and related assessment methods can support student engagement as long as they follow a specific framework of requirements and conditions:

1. **Requirement 1**: The course should fulfill the need of autonomy and consequently behavioral engagement that is for example addressed through self-assessment practices (i.e. a student to assess their own work and assignments),
2. **Requirement 2**: The course should fulfill the need of relatedness and consequently affective engagement that is for example achieved through peer assessment practices (i.e. a student to assess the work and assignment of other students/peers)
3. **Requirement 3**: The course should fulfill the need of competence and in this manner also cognitive engagement through for example formative assessment and feedback (that is,
assessment specifically intended to generate feedback on performance and improve and accelerate learning)

4. **Requirement 4**: Students should know in advance what good performance is and based on that to be able to compare assessments

5. **Requirement 5**: Students should know in advance the necessary actions needed to reach good performance

6. **Requirement 6**: Formative assessment and feedback practices should help students clarify what good performance is and how much different this is with respect to their current performance

7. **Requirement 7**: Formative assessment and feedback practices should encourage dialogue around learning between peers and teachers

8. **Requirement 8**: Formative assessment and feedback practices should create positive motivational beliefs and self-esteem

9. **Requirement 9**: Formative assessment and feedback practices should encourage students to take actions in order to achieve good performance

10. **Requirement 10**: Formative assessment and feedback practices should provide information to teachers to improve their teaching approach

11. **Requirement 11**: Assessment tasks should be sufficient in order to require students to dedicate appropriate study time for addressing them

12. **Requirement 12**: Assessment tasks should orientate students to allocate appropriate amounts of time and effort to the most important aspects of the course

13. **Requirement 13**: Assessment tasks should engage students with related productive learning activities

14. **Requirement 14**: Feedback should be provided in sufficient detail and frequently enough

15. **Requirement 15**: Feedback should focus on students' performance regarding their learning

16. **Requirement 16**: Feedback should be delivered in time to students so that it still matters and it is well received

17. **Requirement 17**: Feedback should be aligned with the purpose of the related assignment and advance future learning and use by the student

The above analysis shapes the necessary framework of requirements to analyse students' reviews on highly rated MOOCs and to formulate related recommendations on formative assessment and feedback methods that can advance student engagement.

**Methodology**

**Selection Process/Sample**

In our approach, we have used a special online review platform for MOOCs, i.e. CourseTalk ([www.coursetalk.com](http://www.coursetalk.com)) and we have applied the following content analysis methodology.

1. We have collected all the responses from all the e-courses reviewed at Coursetalk that satisfy all of the following conditions based on the data available on Coursetalk on 24th November 2014:
   - they are offered for free and
   - they are offered by Universities and
   - they are top-rated, i.e. 5/5 stars and
   - they have received more than 100 reviews (in order to have a significant content to analyse)
Recommendations on Formative Assessment and Feedback Practices for stronger engagement in MOOCs

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2. Based on the above, we have identified the following 7 MOOCs and around 4050 reviews for our content analysis:

- *An introduction to Interactive Programming in Python*, offered by Coursera (1863 reviews)
- *A beginner’s Guide to Irrational Behavior*, offered by Coursera (375 Reviews)
- *Epidemics - the Dynamics of Infectious Diseases*, offered by Coursera (315 Reviews)
- *Design: Creation of Artifacts in Society*, offered by Coursera (204 Reviews)
- *Modern and Contemporary American Poetry*, offered by Coursera (170 Reviews)
- *An introduction to Operations Management*, offered by Coursera (104 Reviews)
- *Think101x: The Science of Everyday Thinking*, offered by EdX (1037 Reviews)

The main formative assessment and feedback methods that have been applied in all those courses have focused on peer-assessments and feedback through discussion forums with the participation of the instructors in some cases or of their assistants as well.

**Content Analysis Process Steps**

The total 4050 reviews include all the comments/reviews received by all participants that have mainly completed any of the seven MOOCs. Therefore, in order to analyse these reviews and conclude with specific recommendations related to feedback and formative assessment practices that advance student engagement, we have applied five specific steps:

- Step 1: filtering and selection of comments related to feedback and formative assessment
- Step 2: further selection of those comments that specifically contribute or provide some input on the recommendations to be formulated
- Step 3: Reading each one of the finally selected comments and formulation of specific recommendations based also on the requirements from the analysis of the conceptual and theoretical framework. Special attention is given so that total suggested recommendations are linked with the requirements that were identified in our conceptual and theoretical framework analysis in a previous section in this paper.
- Step 4: Re-reading each one of the finally selected comments and identification of a) how many times each review/comment was used as source for each recommendation and b) whether there were any other recommendations raised that may have been missed from the previous step or whether there were any further revisions needed. Our content analysis took place mainly at step 3 and step 4 and in order to validate its findings, two additional judges that had not been initially involved in the development process of steps 3 and 4 were engaged. They applied steps 3 and 4 in a sample of reviews in order to ascertain agreement on the findings.
- Step 5: Based on the number of reviews/comments that are used as sources for each of the formulated recommendations, we identify the significance of each recommendation and we rank them accordingly.

**Step by step Approach – Results**

Below, we outline each step in our approach and their results.

**Step 1**

Out of the 4050 reviews, we collected all responses that specifically commented on feedback and assessment methods by identifying them with the search terms “Feedback”, “Assessment”, “Peer” and “Assignment”. In total, we have collected 418 reviews.
Step 2
Out of the 418 reviews, we eliminated those that were general, either positive or negative, and were not contributing or providing any specific details in regards to feedback and formative assessment practices that have been applied in each MOOC and we were left with 237 comments/reviews in total.

Step 3
We carefully read each of the 237 comments/reviews and we used each one of them as a reference source to elaborate a specific recommendation on feedback and formative assessment for advancing student engagement. Each review was checked carefully on whether it was the source of a new recommendation or the source of an already raised recommendation from previous comments/reviews. Also each of the formulated recommendations was checked concerning whether it was related to any of the sixteen requirements from our conceptual analysis. Based on this approach, we ended up with a total of fourteen recommendations/findings which are all linked to our main requirements on feedback and formative assessment practices for higher student engagement as shown in table 1.

Table 1: Identified Recommendations on feedback and formative assessment practices for advancing student engagement and their links to related requirements

<table>
<thead>
<tr>
<th>Recommendations/Finding</th>
<th>Main Related Requirements from Section 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendation/finding 1: Assessment models, such as self assessments (students judge their own work) and peer-assessments (students judge the work of their peers) can be relatively complex in MOOCs and a comprehensive rubric should be provided in all MOOCS that involve peer assessments.</td>
<td>Requirements 4, 5, 6, 9, 12</td>
</tr>
<tr>
<td>Recommendation/finding 2: Self and peer assessments can be obligatory or penalties can be applied and should have as priority that peers examine the work of others and provide constructive feedback (furthermore, if possible, students should be able to modify their own related assignment work even after its submission based on feedback received).</td>
<td>Requirements 4, 6, 9, 14, 15</td>
</tr>
<tr>
<td>Recommendation/finding 3: Although MOOCs can automatically assess quizzes, self and peer assessments must deal with more comprehensive assignments. However, self- and peer - assessment should be formative as well, i.e. specifically intended to generate feedback on performance and improve and accelerate learning rather than just providing a mark.</td>
<td>Requirements 3, 6, 8, 9, 11, 15,</td>
</tr>
<tr>
<td>Recommendation/finding 4: Peer assessment in MOOCs does not always deliver accurate results and in many cases it creates frustrations or negative feelings since it doesn’t provide any feedback on the work assessed or there are concerns on the competencies of the peer-assessor.</td>
<td>Requirements 2, 3, 4, 5, 6, 8, 9, 14, 15</td>
</tr>
<tr>
<td>Recommendation/finding 5: Peer assessment was more welcome in those MOOCs where there was no mark given or alternatively feedback was given on the quality of the related assignment.</td>
<td>Requirements 1, 2, 3, 4, 5, 6, 8, 9, 14, 15,</td>
</tr>
</tbody>
</table>
Recommendation/finding 6: Immediate feedback mainly from automated simple but well structured quizzes is appreciated by students since it confirms their understanding about what they have learnt. The appreciation is even higher in cases in which some further feedback on the given answer or on the correct answer is provided.

Requirements 1, 3, 6, 9, 14, 15, 16

Recommendation/finding 7: No limitation on number of attempts in quizzes is appreciated by students and actually helps them to understand the material more thoroughly.

Requirements 1, 3, 6, 9, 16

Recommendation/finding 8: Feedback on assignments can be provided in time before the next assignment so that students are able to use the suggestions provided in the next one.

Requirements 1, 3, 9, 16

Recommendation/finding 9: Peer assessment can be supplemented with related forum discussions for interaction and the possibility to offer a communication channel for clarifications.

Requirements 2, 3, 6, 7, 9, 14, 15, 16

Recommendation/finding 10: A well structured course syllabus with information on what assignments are required per week/module by each participant, by when, and its related training content was appreciated.

Requirements 1, 9, 11, 12,

Recommendation/finding 11: All assignments in one course or module that are assessed by peers could be always allocated to the same peers instead of being randomly allocated, in order to enable follow up on the progress of each peer within the same group.

Requirements 2, 6

Recommendation/finding 12: The posting of comments by human experts, for instance instructors’ assistants that intervene and provide comments and views in discussion forums or even in students’ work is appreciated.

Requirements 1, 2, 3, 6, 7, 9, 10, 14, 15, 16

Recommendation/finding 13: Discussion forums are appreciated and are a very good way for students to receive support, sympathy, formative feedback and clarification as well as to share ideas on their work as long as there is an effective mechanism on managing and accessing the discussion threads.

Requirements 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16

Recommendation/finding 14: Assignments can be based on practical problems with clear expected output that give the sense of completeness to the students and are not that easy to address but are sufficiently challenging and interesting.

Requirements 1, 2, 3, 9, 12,13

**Step 4**

Then, we read again each of the 237 comments/reviews in order to a) identify how many times each review/comment was used as source for each recommendation and b) check whether there were any other recommendations raised that may have been missed from the previous step or whether there were any revisions needed on the 14 recommendations. Consequently, we haven’t identified any other recommendations apart from the 14 initial ones. Also the text of three of them was slightly revised, which is addressed above. Based on this step, table 2 was prepared, showing for each course: the total number of reviews given (Column 3), the number of potentially useful reviews (Column 4), the number of identified useful reviews (Column 5). In the same manner, table
3 shows the number of reviews used as sources for each recommendation (Columns 2- Column 15). Also the overall totals are shown accordingly. In addition, in order to avoid having the courses with a large number of related reviews to influence the final ranking of the recommendations, we have applied the weighted average method for each recommendation as is shown in the next step.

Table 2: Number of reviews per specific category and per MOOCs

<table>
<thead>
<tr>
<th>MOOC Titles</th>
<th>MOOC Platform</th>
<th>Total Reviews</th>
<th>Comments based on search terms “Feedback”, “Assessment”, “Peer”, “Assignment”</th>
<th>Useful reviews specifically on feedback and formative assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 1: An introduction to Interactive Programming in Python</td>
<td>Coursera</td>
<td>1863</td>
<td>307</td>
<td>174</td>
</tr>
<tr>
<td>Course 2: A beginner’s Guide to Irrational Behavior</td>
<td>Coursera</td>
<td>375</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Course 3: Epidemics - the Dynamics of Infectious Diseases</td>
<td>Coursera</td>
<td>315</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Course 4: Design - Creation of Artifacts in Society</td>
<td>Coursera</td>
<td>204</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>Course 5: Modern and Contemporary American Poetry</td>
<td>Coursera</td>
<td>170</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>Course 6: An introduction to Operations Management</td>
<td>Coursera</td>
<td>104</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>Course 7: Think101x: The Science of Everyday Thinking</td>
<td>EdX</td>
<td>1037</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>Total Instances</td>
<td></td>
<td>4068</td>
<td>418</td>
<td>237</td>
</tr>
</tbody>
</table>

**Step 5**

We applied the weighted average method for each recommendation. For example, for Recommendation 1, the weighted average is \((17 \times 174 + 3 \times 7 + 0 \times 4 + 7 \times 17 + 3 \times 16 + 6 \times 11 + 1 \times 8)/237 = 13\)

We have calculated the weighted average for each of the 14 recommendations as is shown on table 3 above based on the number of reviews that were used as sources for each of the fourteen recommendations. In this way, we have avoided the influence in the ranking of one course with many comments. Based on the weighted average derived for each recommendation, we have ranked them accordingly as the following chart shows (see Chart 1).

Therefore, our recommendations/ findings are ranked and provided below from the highest to the lowest significance by considering also their weighted average.

a. **Recommendation/finding 14**: Assignments can be based on practical problems with clear expected output that give the sense of completeness to the students, and are not that easy to address but are sufficiently challenging and interesting (65 reviews supported this recommendation/finding with 42 as weighted average)
Table 3: Number of reviews per specific recommendation and the related weighted average

<table>
<thead>
<tr>
<th>MOOCS</th>
<th>No. of reviews for Recom. 1</th>
<th>No. of reviews for Recom. 2</th>
<th>No. of reviews for Recom. 3</th>
<th>No. of reviews for Recom. 4</th>
<th>No. of reviews for Recom. 5</th>
<th>No. of reviews for Recom. 6</th>
<th>No. of reviews for Recom. 7</th>
<th>No. of reviews for Recom. 8</th>
<th>No. of reviews for Recom. 9</th>
<th>No. of reviews for Recom. 10</th>
<th>No. of reviews for Recom. 11</th>
<th>No. of reviews for Recom. 12</th>
<th>No. of reviews for Recom. 13</th>
<th>No. of reviews for Recom. 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 1</td>
<td>17</td>
<td>4</td>
<td>41</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>28</td>
<td>0</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>Course 2</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Course 3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Course 4</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Course 5</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Course 6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Course 7</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total Instances</td>
<td>29</td>
<td>4</td>
<td>48</td>
<td>26</td>
<td>23</td>
<td>18</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>35</td>
<td>2</td>
<td>11</td>
<td>36</td>
<td>65</td>
</tr>
<tr>
<td>Weighted Average</td>
<td>13</td>
<td>3</td>
<td>30</td>
<td>9</td>
<td>10</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>21</td>
<td>0</td>
<td>3</td>
<td>18</td>
<td>42</td>
</tr>
</tbody>
</table>

Chart 1: Ranking of each recommendation with respect to its significance/no. of linked reviews
b. **Recommendation/finding 3**: Although MOOCs can automatically assess quizzes, self and peer assessments must deal with more comprehensive assignments. However, self- and peer assessment should be formative as well, i.e. specifically intended to generate feedback on performance and improve and accelerate learning rather than just providing a mark. (48 reviews supported this recommendation/finding with 30 as weighted average)

c. **Recommendation/finding 10**: A well structured course syllabus with information on what assignments are required per week/module by each participant, by when, as well as its related training content was appreciated (35 reviews supported this recommendation/finding with 21 as weighted average)

d. **Recommendation/finding 13**: Discussion forums are appreciated and are a very good way for students to receive support, sympathy, formative feedback and clarification as well as share ideas on their work as long as there is an effective mechanism on managing and accessing the discussion threads. (36 reviews supported this recommendation/finding with 18 as weighted average)

e. **Recommendation/finding 1**: Assessment models, such as self assessments (students judge their own work) and peer-assessments (students judge the work of their peers) can be relatively complex in MOOCs and a comprehensive rubric should be provided in all MOOCS that involve peer assessments (29 reviews supported this recommendation/finding with 13 as weighted average)

f. **Recommendation/finding 5**: Peer assessment was more welcome in those MOOCs where there was no mark given or alternatively feedback was given on the quality of the related assignment. (23 reviews supported this recommendation/finding with 10 as weighted average)

g. **Recommendation/finding 4**: Peer assessment in MOOCs does not always deliver accurate results and in many cases it creates frustrations or negative feelings since it doesn't provide any feedback on the work assessed or there are concerns on the competencies of the peer-assessor. (26 reviews supported this recommendation/finding with 9 as weighted average)

h. **Recommendation/finding 6**: Immediate feedback mainly from automated simple but well structured quizzes is appreciated by students since it confirms their understanding about what they have learnt. The appreciation is even higher in cases that some further feedback on the given answer or on the correct answer is provided. (18 reviews supported this recommendation/finding with 8 as weighted average)

i. **Recommendation/finding 12**: The posting of comments by human experts, for instance instructors' assistants that intervene and provide comments and views in discussion forums or even in students' work is appreciated. (11 reviews supported this recommendation/finding with 3 as weighted average)

j. **Recommendation/finding 9**: Peer assessment can be supplemented with related forum discussions for interaction and the possibility to offer a communication channel for clarifications. (9 reviews supported this recommendation/finding with 3 as weighted average)

k. **Recommendation/finding 2**: Self and peer assessments can be obligatory or penalties can be applied and should have as priority for the peers to examine the work of others and provide constructive feedback (furthermore, if possible, students should be able to modify their own related assignment work even after its submission based on feedback received). (4 reviews supported this recommendation with 3 as weighted average)

l. Recommendations 11, 8 and 7 are not considered since they have weighted average close to 0.

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Conclusions

We have analysed existing significant research papers that deal with formative assessment and feedback methods as well as their requirements and conditions for supporting student engagement mainly in traditional teaching environments and we have confirmed their validity and applicability also in MOOCs. This is the first time that such research validation takes place for eCourses and more specifically for MOOCs, which is a relatively new field. MOOCs have unique characteristics and our research was based on new data to confirm, prioritize and also emphasize some existing pedagogical concepts valid in traditional education. Consequently, we have confirmed that specific requirements and conditions on feedback and formative assessment for advancing student engagement that are applicable in traditional teaching and learning practices, are also applicable in MOOCs. Furthermore, we have formulated and ranked fourteen related recommendations as good practices based on review comments given by students that completed any of the seven most popular courses in a specific online review platform, namely Coursetalk. The ranking was based on the frequency of occurrence of the same or similar comments given by the students and we have assumed that the higher the number of comments that support one recommendation, the higher is the importance of this recommendation.

In this way, we have concluded some very interesting findings. For example, MOOCs can really benefit and encourage students’ activity and consequently their engagement, when assignments are based on practical problems with clear expected output that give the sense of completeness to the students and are not that easy to address but are sufficiently challenging and interesting.

Also MOOC students really appreciate it when self and peer assessments deal with more comprehensive assignments and are formative as well, i.e. specifically intended to generate feedback on performance and improve and accelerate learning rather than just providing a mark.

On the other hand, some specific practices that are applied in MOOCs, do not seem to be that important for the students, for example, use of the same peers in all peer-assessment exercises, or the provision of feedback on assignments in time before the next assignment, or no restrictions on the number of quiz attempts.

The results of this research are a first attempt to shed some light on how student engagement in MOOCs can be improved via specific formative assessment and feedback practices. However, the dataset was rather limited and it was based only on the MOOC participants that provided feedback through the Coursetalk platform. Further research could focus on comments and reviews collected directly from the MOOC participants in regards to formative and feedback assessment practices and how they can affect their engagement in the course.

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References


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Using an ‘open approach’ to create a new, innovative higher education model

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Abstract
Navigating learning, formal or informal, can be overwhelming, confusing, and impersonal. With more options than ever, the process of deciding what, where, and when can be overwhelming to a learner. The concept of Open College at Kaplan University (OC@KU) was to bring organization, purpose, and personalization of learning caused by vast resources and numerous options.

Focused on organizing, supporting and providing a personalized education experience using open courses, an innovative higher education model was conceived and created. As the concept of developing a college that adapted its resources and services to the needs of the learner emerged so did the idea of integrating open courses into a formal higher education model to award college credit for open courses as well as inclusion in a degree program.

Keywords: Individual learning plan, open access, open courses, open education, open learning, open education, open learning, personalized, prior learning

Introduction
Navigating learning, formal or informal, can be overwhelming, confusing, and impersonal. With more options than ever, the process of deciding what, where, and when can be overwhelming to learners. Confusion occurs when products and services are plentiful and are disbursed without instructions or directions to help the learner navigate the maze. In addition, learning that is dictated rather than selected by the learner contributes to a lack of personalization.

Today’s learners present new challenges like we’ve not seen before both in behavior and in expectations. Technology has affected both the learner’s behavior and expectations; multitasking, always-on communication, and engagement with multimedia have become the norm (Hartman, Moskal & Dziuban, 2005). Access to technology and information 24/7 have created the desire to integrate technology into their education, the ability to control their own learning, and the desire to have personalized learning (Hartman et al., 2005). Basically, the expectation for an educational experience doesn’t differ much from their Amazon experience!

Can students have it all? Our response is yes. Yes, it is possible to have it all. For the learner, having it all means consuming what you need when you need it. The University of Central Florida (UCF) is a perfect example as Morrison (2012) suggested in his article. UCF provides choices or options that puts students in charge of "when, where and how they want to learn". Students do not present themselves to an institution as being similar but different.

OC@KU was an opportunity to make a distinctive footprint in higher education by using open resources and technology to address the new behavior and expectations while also effecting the significant barriers to education through a new approach of supporting and promoting personalized learning. The approach is ultimately flexible, aligning specific learning points to the unique needs of the learner. OC@KU represents the power of technology and open resources to increase the personalization and quality of both informal and formal higher education while reducing cost.
OC@KU, the concept

Focused on supporting and providing a personalized education experience, several years ago, a small group of people at Kaplan University began to meet around the concept of creating a college for the future. As the concept was developed, we found ourselves imagining a college that adapted its resources and services to the needs of the learner, whether the needs included a degree, informal learning, assessments or some combination of all three. A college was envisioned that met a learner’s needs without requiring admission as the price of participation. Rather than just co-opting the language, the vision was a college that was truly learning- and learner-centric.

At the same time, a trifecta of circumstances and events were occurring in higher education that was effecting learning in higher education: technology, supply and demand, and the rising cost of education (Huggins & Smith, 2013).

Technology improvements made it possible to make learning opportunities available anytime, anywhere. And as the emergence of Massive Open Online Courses (MOOCs) amply demonstrates, terrific content is readily available at low cost or for free. Place-based education, the campus, becomes an option, not a necessity. An important part of this change is its financial consequence. Technology creates a whole new level of access.

Supply and demand of skilled workers is a driver to find new ways to validate knowledge and skills. In a world of accelerating change in the workplace, there is a growing gap between the number of people with the skills needed for entry into the workforce and the number of jobs requiring those skills. Employers are unable to hire the people they need because colleges are not graduating them in sufficient numbers with the skills needed.

Rising cost of education adds to the pressure for colleges to think creatively and to act entrepreneurial to create more effective educational models.

The building process

OC@KU was launched in the fall of 2014 with the initial offering of thirteen open courses. The first group of courses that were launched were developed specifically to be delivered as free and self-paced, with no formal enrollment. The competencies and outcomes of the open courses aligned with their sister Kaplan University courses and were developed internally by credentialed faculty with subject-area teaching experience.

Using some existing best practices such as Walden University’s (2006) Concierge Service, Capella University’s (2015) Flex-Path, and Thomas Edison State College’s For Adults with Higher Expectations (2015), OC@KU strategically selected and developed open courses, placed them in an openly accessible environment with live, personal support, and a formal degree program designed for open courses.

Within months, hundreds of learners were using the open courses. Keeping the original goal in mind of organization, purpose, and personalization, the next logical step was to develop the purpose and personalization: course assessments by which learners could earn and apply college credit for the open courses toward a degree.

Since of the launch of the first OpenCourseWare project in 2002 (MIT, 2015), tens of thousands of open courses have been developed and offered in multiple formats by many vendors and schools. Collectively the Open Education Consortium (www.oecconsortium.org) and MIT list almost 40,000 courses. At the end of 2014, MIT Opencourseware published over 2,250 courses with over 1 billion page views (MIT, 2015). While MOOCs are still referred to as a trend or phenomenon in education, open courses have met diverse learner needs in ways that were as unanticipated. Just-in-time, affordable, and self-managed are the core, primary characteristics of why open educational resources

have grown in popularity. Combined, the characteristics represent a new asset for lifelong learners, putting the learner in control of their learning, formal and informal. When they are coupled with a curation of services, technologies, and assessments, open educational resources are the springboard to organized high quality learning that meets the personal needs of the individual learner.

As such, OC@KU is an example of a wholly new method of access. Beyond the actual availability of thousands of courses and services, physical access if you will, OC@KU offers access to learner-owned, personalized learning. It is a learning concierge service that puts higher education in an entirely new dimension, removing the barriers between career advancement and education. OC@KU encourages learners to chart their own paths using assessments to recognize learning, however acquired, for academic and career value.

**Multi-faceted offerings of OC@KU**

In addition to offering free, open courses developed in-house, other resources are also available for free or at a low cost. Realizing that one size does not fit all and that learners have varying needs, OC@KU provides a suite of services that learners can use to customize their learning. “Equally important, as part of this technological and web-driven disruption, learners’ capacity to develop and store evidence of learning in electronic portfolios—carefully organized around career, academic, or personal interests—has also been transformed”, as stated by the founding president of OC@KU, Dr. Peter Smith in a recent Educause article (2014). Learners can use the open courses to learn for the sake of learning, or, if a more formal goal is desired, apply their learning toward a degree.

To date, the following suite of products are available as a part of the personalized learning concierge service:

- **Open Portfolio.** The Open Portfolio is a tool that allows learners to track and manage their open courses. Built with an integrated API for Open Education Consortium courses, the Open Portfolio is a free tool for users to develop informal learning plans around personal or professional interests which can be shared or kept private. Acting as a “learning journal,” the Open Portfolio becomes a powerful tool, not simply a passive repository. [www.openlearningportfolio.com](http://www.openlearningportfolio.com)

- **LearningAdvisor.** LearningAdvisor is a free, comprehensive search tool that connects learners with thousands of open courses. This rigorous tool allows users to search for courses by subject, institution, or interest. Created for integration with the American Association of Retired People’s (AARP) *Life Reimagined* program, LearningAdvisor is focused on life transitions be they from job to job, career to retirement, and any other combination of events. [www.learningadvisor.com/courses](http://www.learningadvisor.com/courses)

- **StraighterLine.** StraighterLine provides first and second year general education courses that have been evaluated and recommended for college credit by the American Council on Education. As an OC@KU course partner, any of the courses from StraighterLine can be applied toward a degree at OC@KU. [www.straighterline.com](http://www.straighterline.com)

- **CareerJourney.** Learners have free access to CareerJourney, a self-paced course that was developed in partnership with LinkedIn, using their rich database for career planning. In a game-like environment, CareerJourney provides practical strategies to identify strengths, explore career opportunities, network with like-professionals, and to create a professional development plan. CareerJourney also includes the ability to match skill gaps to courses. [www.Careerjourney.com](http://www.Careerjourney.com)

- **CLA+.** CLA+ is a low cost skills assessment tool. For a minimal fee, learners can take an assessment that will evaluate real-life, cross-cutting intellectual skills. The skills that CLA+ test for include analysis and problem solving, scientific and quantitative reasoning, critical thinking, etc. [www.CLAplus.com](http://www.CLAplus.com)
reading and evaluation, and critiquing an argument. These are the skills which employers have overwhelmingly stated matter more to them than a particular major or GPA. Our objective in partnering with CLA+ is to provide evidence for learners and employers that the individual is ready to work effectively. www.takeclaplus.com

- **Learning Recognition Course (LRC100).** As the first open course developed by OC@KU, the LRC100 guides individuals through the process of documenting their training and experience in a portfolio which is evaluated by university faculty for college-level credit. The LRC100 is free and self-paced with personal support provided by assessment specialist that have many years of experience with adult learners. As a sense-making offering, the portfolio is a curation of the individual's prior learning, experience, and informal learning. https://opencollege.kaplan.com/events/LRC100

The unique degree program model

The Bachelor of Science in Professional Studies (BSPR) is designed with self-motivated students in mind and provides the opportunity to create a customized degree plan to meet professional goals. The open degree format provides the flexibility of learning through open courses from anywhere. The degree program is focused on professional knowledge and skills, problem solving, and strategic planning and culminates in a capstone class with a portfolio project.

Built on a proprietary platform, technology brings together the use of open courses, assessments, and other learning resources to provide learners with an Individualized Learning Plan, a customized learning path allowing the learner, with the guidance of a faculty mentor, to develop a personalized degree path.

As the name indicates, the ILP is unique to the learner and includes:

- a career goal statement which enables the student and the faculty advisor to identify potential course assessments and learning options to fulfill the degree requirements that relates to a career,
- a review of previously earned college credit,
- an analysis of previous experience that can be evaluated for college credit so that the learner does not duplicate learning that has already been acquired,
- potential open courses to meet degree requirements, and
- course assessments (credit by exam) to meet the degree program learning outcomes.

Looking at traditional education through the new lens of an open approach, learners have the opportunity of an individualized, affordable education that integrates technology, open resources, and personalized services to help them meet their career, academic, and personal goals. While this may sound like business as usual, it is not. While most of the language is not new, OC@KU is actually a unique development within the realm of higher education. The result of creating and organizing a one-stop shop for all things ‘open,’ learners are in charge of their learning, formal or informal. In an era in which curricula is easily accessible, OC@KU provides a manner in which learners can create, organize, and make sense of their learning.

The uniqueness of the open degree includes multiple features; the most outstanding is the fact that learners can use open courses—taken anywhere—to complete their degree requirements. To start the task of identifying open courses, the faculty mentor works with the learner to help them identify open course outcomes to their college credit counterpart. Because searching for open courses can be overwhelming, OC@KU strategically developed partnerships with select open course providers to develop curated course pages to help learners navigate open courses by subjects. For example, our faculty worked with Udemy to develop a customized, co-branded curated
page that organized courses according to subject. Not only did it provide learners with a list of Udemy courses organized by subject, it also gave the faculty an opportunity to select courses that best aligned with credit-bearing courses.

Another unique feature is the integration of multiple types of assessments starting with the assessment of prior learning. The open, self-paced course, the Learning Recognition Course (LRC) guides learners through the development of a rigorous learning portfolio which is assessed by faculty subject-matter experts. In addition, the LRC was reviewed by the American Council on Education (ACE) enabling learners to earn college credit for the course.

In addition to prior learning, new learning acquired from the open courses is assessed for college credit in multiple ways, through a portfolio assessment, standardized assessments, and challenge exams. The learning acquired from the open courses is assessed against the outcomes of their college-level counterparts. OC@KU has developed course assessments, partnered with Kaplan University as well as external nationally recognized challenge exam providers to be able to offer a wide range of examinations. Successful completion of the challenge exams results in credit awarded by the University toward the BSPR.

Lastly, since the degree is based on services rather than courses provided, the degree is based on a monthly subscription model. The monthly subscription includes access to faculty mentors, assessment advisors, an assessment of prior learning, and open resources curated specifically for the BSPR students.

**Individualized doesn’t have to be lonely**

For many years, the instructor was the center of the classroom, responsible for creating and maintaining the classroom community through projects that encouraged communication and collaboration and through open classroom discussions. They were basically responsible for the overall classroom community.

In recent years, the traditional instructor-centered classroom has been disrupted by the Internet and wireless capabilities and has become a mobile community. Two recent reports support the fact that various devices now play a significant role in the classroom, not replacing the instructor, but creating a new type of community. Over 82% of mobile device owners claim that they have used a table for academic purposes (Chen & Denoyelles, 2013). A Pew Research Center report states that two-thirds of Americans own a smartphone, 67% use their phone to share pictures, videos, or commentary about events happening in their community, with 35% doing so frequently (Smith, 2015). The community is no longer instructor-centered, but is now mobile.

Embracing the new community, OC@KU focused on supporting adult learners through multiple mobile-ready tools:

- **Live Seminars using Google+ and YouTube.** The Live Seminar is a unique tool that combines video, Google+, and YouTube to stream a live, real-time interaction with the instructor. Students can see and hear the live lecture and chat with the instructor at a set time. Students can access a recorded, archived Live Seminar if they miss the live version.
- **Social Media.** Some of the open courses contain social media activities. Classroom responses, communication, and feedback are delivered via social media.
- **Live support and feedback in the courses.** Even though the courses are open and self-paced, live course support is available by phone or email.
- **Forums and discussion boards.** Faculty are assigned to the open courses on a rotating schedule. They are visible, accessible, and to engage the learners in communication.
Today’s learners are savvy consumers. They demand consumer elements such as self-management, real-time access, device availability, and socializing in their educational journey. Although the learning environment is open, proven instructional strategies that provide a positive experience are part of the design and delivery of OC@KU.

To date, the evidence is positive

Since the launch of OC@KU in the fall of 2014, the outcome has been beyond expectation. With little marketing outside word-of-mouth, there is a tremendous interest in our unique model.

- Approximately 4,000 unique learners have accessed the OC@KU open course web site and have registered for 4,800 courses.
- 104 have developed and submitted a prior learning portfolios for assessment.
- Learners have received college credit for 711 courses as a result of the prior learning portfolio assessment which translates to over $1m in tuition savings at Kaplan University.
- The students currently enrolled in the BSPR are on target to complete their degree for under $10,000.
- Faculty are using the open courses as supplemental material to their college credit classroom.

Conclusion: Looking Forward

OC@KU offers a myriad of ways that learning can be supported in the era of abundant information. It is ultimately flexible, aligning specific learning points to the unique needs of the learner. At the same time, its free and low cost sense-making services provide non-judgmental diagnostics and information which assist the learner in personalizing their learning to meet their needs.

Finally and importantly, however, OC@KU represents a new method, an approach to thinking about learning environments and learning support in the 21st century. As such, it can be used in multiple delivery environments, beyond the exclusive online, self-paced model we have started with. Whether you want to support a weekend or a different low-residency model, adapt it to groups of learners using the BSPR or other degree programs and individual assessments, use it in a business environment, or put it in a blended environment, the OC@KU method will work effectively. It represents the power of technology and open resources to increase the personalization and quality of both informal and formal higher education while reducing their educational cost.

As a sense-making venture, OC@KU combines self-paced, open-access, and relevant courses with the opportunity to earn college credit in a one-stop environment, a technologically supported and andrologically appropriate learning hub. As an extraordinary driver of change, the broadening of the Internet has been a driver in how content, information, and learning is accessed and delivered; today access to resources and information is like no other time in history. A college was developed that embraced and utilized the benefits of the new information environment.

When it comes to harnessing the infinite power of the Internet to meet educational and career needs, the process can be as offensive and confusing as it is difficult. We likened the unharnessed information on the Internet to a blizzard and the unsupported user trying to organize it to a skier without goggles in that blizzard. Hence, we developed the concept of developing and offering free sense-making services. These services addressed organizing and understanding prior learning, career investigation, and the curation of informal learning as the preliminary steps to identifying a learning path forward that could be followed informally, with individual assessments, or in a degree program. To that we have added low cost diagnostics as well.
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References


Using Open Educational Practices to Support Institutional Strategic Excellence in Teaching, Learning & Scholarship

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Abstract
This paper explores the integration of Open Educational Practices (OEP) into an institutional strategy to develop distinctive excellence in teaching, learning and scholarship. The institution in the case study is a public polytechnic university serving a metropolitan area in Canada. If emerging Open Educational Practices are to flourish at our university, support for OEP must integrate with and contribute to our broader efforts to clarify and enhance our strategic position.

We have identified three focal points where our institution can focus attention in order to ensure that our use of emerging Open Educational Practices will best align with, contribute to, and benefit from our institutional strategy for distinctive excellence in teaching and learning:

- Opening up the pedagogy underlying exemplary OER, to enable a deeper faculty engagement in integrating and mobilizing diverse sources of knowledge in teaching;
- Opening up that process by which individual faculty improve teaching and learning, as a model for our students’ own engagements with knowledge;
- Opening up our collective faculty work in innovation networks, as a model for students and as a signature institutional strength and outcome.

We summarize the rationale and planned next steps for each of these focal points, which are intended to cumulatively build on each other as a value chain to support the development of distinctive graduate capabilities as signature outcomes of our teaching and learning.

Keywords: Higher Education, Open Educational Practices, Open Innovation, Teaching and Learning Strategy

Introduction
The “Open” nature of Open Education has expanded over time, in meaning and in importance. The first open institutions focused on Open Educational Access, breaking down barriers to extend opportunity to students who had been limited by traditional institutions. Open Educational Resources (OER) became a complementary strand of open education, offering the promise of reduced costs for students, reduced time required to develop and revise course offerings, and improved quality of teaching and learning leading to student success.

More recently, the notion of Open Educational Practices has been developed to frame “the next phase in OER development, which will see a shift from a focus on resources to a focus on open educational practices being a combination of open resources use and open learning architectures to transform learning” (Camilleri & Ehlers, 2011, p. 6). This larger emphasis is concerned with “how learning and teaching practices need to accommodate more open approaches to knowledge sharing” (McGill, Falconer, Beetham & Littlejohn, 2012, p. 3). The scope of Open Educational Practices continues to evolve, including concepts such as

- open pedagogies to document the rationale behind designs for learning,
- open exchange of teaching expertise, open scholarship to extend our knowledge of teaching and learning, and
In our institutional context as a regional polytechnic university—outlined in the following section—the first two elements of Open Education above are a means to fulfill our regional mandate. Opening up new access opportunities for students and leveraging open educational resources for high quality teaching and learning support our institutional mission to serve the educational needs of our region, but will be difficult to leverage on their own as a source of reputational capital for excellence in teaching and learning. On the other hand, we describe below the potential for emerging Open Educational Practices to make a more strategic contribution as a source of distinctive excellence in teaching and learning and as a direction for aligning our plans for open education and our other academic endeavours.

In this paper we report on our identification of initial focal areas for our use of Open Educational Practices, in order to test the strategic institutional benefits which they can provide for us. This account begins with outlines of our university’s context and role within our public higher education system, and of our plans in open education. We then summarize the principles underlying our academic strategy for distinctive excellence in teaching and learning, and follow that with a description, rationale and next steps around the following three specific directions:

- Opening up the pedagogy underlying exemplary OER, to enable a deeper faculty engagement in integrating and mobilizing diverse sources of knowledge in teaching;
- Opening up that process by which individual faculty improve teaching and learning, as a model for our students’ own engagements with knowledge;
- Opening up our collective faculty work in innovation networks, as a model for students and as a signature institutional strength and outcome.

This paper is written from the perspective of the two senior academic leaders—the President and Provost—and the advisors laying the groundwork for the Open Studies plan and the institutional strategy in teaching and learning. We know we must be selective in planning how we will invest in support for teaching, learning and scholarship. If emerging Open Educational Practices are to flourish at our university, support for OEP must integrate with and contribute to our broader efforts to clarify and enhance our strategic position through distinctive excellence in teaching and learning. We have determined that these three focal points provide the most potential for our use of emerging Open Educational Practices to align with, contribute to, and benefit from our institutional strategy for teaching and learning. We recognize that other institutions will find other focal points suited to their contexts and needs; our case study illustrates that a disciplined effort to integrate OEP as an aspect of institutional strategy can yield valuable results in identifying the areas of most promise on which to focus further integration efforts.

**Institutional Context**

Kwantlen Polytechnic University evolved from a university college context, and continues to offer multiple pathways leading to university credentials including certificate, diploma, and degree programs in the traditional liberal arts and science disciplines, in trades and technology fields, and in career and professional areas. As the only polytechnic university in the Canadian province of British Columbia (B.C.), we are committed to developing high quality capabilities for our graduates’ professional and trades/technology careers (as a polytechnic institution), and also for their roles as community members and global citizens (as a university). As a public institution, we have always been committed to serving the diverse needs of our region (the southern part of the greater Vancouver
area of British Columbia). Finally, our location on Canada’s west coast gives us a particular opportunity and responsibility to prepare graduates with global perspectives and competencies, and to offer a supportive learning environment to international students.

KPU’s Academic Plan 2014–2018 (KPU, 2014) proposes a strategy which reflects and invigorates our provincial mandate as a special purpose teaching-intensive university serving the southern municipalities in the greater Vancouver area (B.C. AVED, 2014). In addition to Open Studies, the Plan targets the following high priority advances in our teaching and learning environment (which includes classroom, blended, experiential and online learning opportunities):

- Enhance support for our faculty and other educators in mobilizing the emergent knowledge base for teaching and learning in their subject areas, in connecting to their larger professional communities, and in developing, adapting and evaluating new pedagogies;
- Increase experiential learning opportunities and strengthen the definition and assessment of institution-wide graduate attributes;
- Integrate curricular and co-curricular activities to ensure student success and well-being.

**KPU Open Studies**

Unlike many institutions engaging deeply with Open Educational Practices, we are not the designated “open” institution within the public higher education sector: another university is charged with providing “open learning access, including distance education and flexible degree-completion options” (B.C. AVED, 2014). Open access services at Thompson Rivers University’s Open Learning include “a continuous enrolment schedule and an open admission policy that sets it apart from other BC institutions” (TRU, 2014). In addition, support for open education, open textbooks and open practices is available through BCcampus (BCcampus, 2014), a collaboration of all the provinces’ public post-secondary institutions.

The Open Studies Plan includes components for an ongoing commitment to participate internationally in Open Educational Resources University (OERu), provincially in British Columbia initiatives in Open Textbooks, and regionally in providing open access to increase post-secondary attainment. The Open Studies Plan includes the following elements:

- Establish an annual Institutional Action Plan to define our contribution to the OERu strategy, as outlined by the OERu Council of CEOs in November 2014 (OERu, 2014)
- Within the 2015 plan, identify five courses to be developed for contribution to OERu as well as for an OERu pathway to Prior Learning Assessment and Recognition at KPU
- Develop the courses using an agile open design process, with a collaborative “course sprint” model involving instructors, library staff, technical staff and media staff
- Select OER textbook resources from the BCcampus SOL*R digital library (Porter, 2013) or other open digital collections as the basis for the development process
- Use the development process to model open educational practices with faculty and staff.
- Design, pilot and launch a “Textbook Zero” approach to program development as a key strategy for the launch of KPU Open Studies. A Textbook Zero approach (Bliss, 2015) uses customizable open resources for all courses in a first or second year program. We will also actively draw upon the resources of the BC Open Textbook Program (BCcampus, 2014)

**Emerging Principles for our Strategy of Distinctive Excellence in Teaching, Learning and Scholarship**

A strategy for distinctive excellence in teaching and learning has a number of potential benefits for our mission, our students and our region. As a relatively new university, we must compete for
attention and resources as we become one of the key assets within our public system of higher
education (and our graduates must compete with those from older universities for the best career
opportunities). Close ties with our graduates employed by regional companies and organizations
support our teaching mission by providing extensive opportunities for experiential learning. For our
region, achieving a larger measure of recognition for our exemplary teaching can increase the
benefits of our presence, including serving as a model for other regional organizations to aspire to
excellence (Carey, 2014) and bringing in new talent through students from elsewhere who as
graduates decide to live in the region (Austin, 2012).

As guiding concepts in the development of our strategy for a distinctive excellence in teaching
and learning, two principles are emerging from our study of exemplary plans from other institutions
and internal discussions with our faculty and academic leadership:

- **How we know is a key part of what we know**: As a polytechnic university, we value, develop,
  integrate and apply a full range of knowledge and ways of knowing—about our subject areas and
  about ourselves. Accordingly, in our learning, teaching and scholarship we take care to integrate a
  full range of knowledge practices as outlined above: the craft and skills of individual teachers, the
  professional knowledge of our broader teaching communities, and evidence from scholarly research
  and our own data analytics.

  KPU is in the process of revitalizing our Institute for Innovation and Scholarship in Teaching and
  Learning (INSTL) through campus-wide consultations aimed at identifying precise needs, current
  challenges and sector-wide advances that may inform and enhance our teaching mandate. INSTL’s
  mandate is to promote exemplary teaching practices and connect our faculty and students to the
dynamic global arena of teaching and learning. INSTL’s varied activities will support our academic
goal to

  recognize, nurture and promote exemplary teaching with the following range of knowledge practices:
  - the practical skills and craft for our teaching work...
  - the breadth and depth of understanding for our teaching as knowledge professionals...
  - the creative discipline needed for the work of teaching as inquiry and innovation

  (Kwantlen Polytechnic University, 2014 p. 8)

  We know this will be a challenge for learning and development that we must address in enacting
  our Academic Plan. As a consequence, in our consideration of Open Educational Practices we will
  be seeking ways to systematically support our teachers in developing their own craft and skills for
  teaching, in learning about the professional knowledge base for teaching in their subject areas and
  in creative inquiry and disciplined innovation. The result must be a way of knowing, doing and being
  that reflects their individual identity as teachers and at the same time is embedded in and committed
to our larger professional communities of teaching knowledge, practice and scholarship (Kreber,
2010).

- **How we teach is a key part of what we teach**: As a teaching-focused institution, rich interactions
  amongst faculty and students are one of our signature characteristics. We want to leverage this
  strength through the insight we have quoted here from Parker Palmer’s *The Courage to Teach*
  (Palmer, 2010). For us, “how we teach is a key part of what we teach” goes beyond the original
  intent that our engagements with students model the capabilities and commitments we want them
to develop (e.g., that we must demonstrate in class the respect for diversity and cultural differences
that we want to see in our graduates). Our polytechnic university conception of knowledge practices
within our teaching activity therefore goes beyond supporting students interactions with subject
matter knowledge, to also include serving as exemplars for our students’ own engagements with
knowledge in their professional careers (and also in their other roles as community members and global citizens).

Accordingly, in our consideration of Open Educational Practices we want to include in “how we teach” ways to make transparent how our faculty members (and other educators) engage with knowledge and knowledge communities in their instructional design activities to advance teaching and learning. This has led us to expect that ‘how we learn (as teachers) will become a key part of what we teach...and what students learn’.

**Connecting with emerging developments in Open Educational Practices to support these principles**

As noted in section 2 (about institutional context), our involvement with Open Educational Practices is a means to support our university’s educational mission, not an end in itself or a signature characteristic of our mandate within the province’s public sector of higher education. However, we know that we will be able to provide more support for Open Educational Practices when those practices and principles align with and support the principles and directions for our institutional strategies as outlined in the previous section (Carey & Hanley, 2008).

*How we know is a key part of what we know:* as one example of the links between our OEP commitment and our strategy for teaching and learning, we are exploring how we can engage our faculty in applying multiple kinds of knowledge in creation, adaptation and use of Open Educational Resources—and how the competencies and dispositions developed in our OER work can be leveraged in support of broader change in teaching and learning. These online interactions around open, reusable resources form a basis for new open knowledge practices (Littlejohn & Pegler, 2014). The infrastructure to enable such interactions, across our campuses and with wider discipline communities for professional teaching, is continuing to evolve.

For example, an open course framework (Wiley, Bliss & McEwen, 2014) for teaching with online learning consists of a set of shared online learning activities and resources for learning in a topic area, along with module and course designs using and adapting the shared resources for different contexts. We are exploring how our faculty can create deeper knowledge integration to contribute and enrich the rationale presented for particular designs and adaptations, as they create and adapt OER materials.

Another emerging infrastructure development promises to go further: a course ecosystem is intended to contain the elements of an open course framework community while also addressing the larger issues of changes in policy and practices, “including how best to provide incentives and rewards for faculty who contribute to a multi-institutional project, how to promote a culture of innovation, and how to structure investments to take full advantage of present and future technology” (APLU, 2014).

We believe the evolution of these enhanced knowledge practices and knowledge sharing infrastructure associated with open course frameworks and ecosystems has potential as a major ‘generational change’, on the order of the shift from learning objects to open educational resources (Lane & McAndrew, 2010), and we want to be sure our faculty contribute to this progress and leverage the emerging open knowledge communities and practices to improve student success.

*How we teach is a key part of what we teach:* we expect that the use of open educational practices will in many cases lead to innovation in teaching methods and resultant changes to student learning activity: for students as for faculty, “working and learning in open networks is qualitatively
different from conventional practice” (Littlejohn & Pegler, 2014, n.p.). For example, the work in the European COLEARN project used open educational practices to develop students’ competencies for co-learning and co-inquiry (Okada, Rabello & Ferreira, 2014). As a local example from our university community, a faculty member drew parallels for us between his professional practice as a music producer and the emerging practice of teaching at KPU—as an open and collaborative exercise that reflects nascent Open Educational Practices while enabling a collective (student-faculty) agency in learning, creativity, engagement and cooperative knowledge acquisition.

We can also see ways to use our OER involvement to engage students as partners in developing and adapting new learning resources and teaching practices (Carey, Harrigan, Palmer & Swallow, 1999), an approach that is being incorporated elsewhere into institutional strategy for teaching and learning (e.g., the Students as Academic Partners program at Birmingham City University (CELT, 2014)). The benefits students receive from this experience are typically focused on their experiences as learners in our programs, including deeper knowledge of subject area concepts in the OER, stronger sense of control or autonomy in their education, and an appreciation for the complexities of teaching and learning (Cook-Sather, Bovill & Felten, 2014; Hockings, Brett & Terentjevs, 2012).

In our context, we want to explore how students’ engagement with OER can impact their knowledge practices beyond their time as students, as a model for the integration and mobilization of knowledge to improve practice in future professional careers. We are therefore exploring ways in which our faculty members’ engagement in the creation, adaptation and application of OER can be shared with students to increase their understanding of the integration and mobilization of knowledge to improve work practices and performance.

We would also like our students to perceive these changes in their teaching and learning environment as innovations in work practices, and to reflect on their reactions to the changes as an experiential learning opportunity to prepare them for development and dissemination of innovative practices in their future career roles. We expect all of these emerging developments to help move us further as an institution toward distinctive outcomes of excellence in teaching and learning.

**Focal points for integrating OEP with institutional strategy for teaching and learning**

The investigation outlined in the previous section resulted in our identification of three specific focal points in which we could derive the most benefit from the integration of our use of emerging Open Educational Practices with the development of our institutional strategy for distinctive excellence in teaching and learning:

i. Opening up the pedagogy underlying exemplary OER, to enable a deeper faculty engagement in integrating and mobilizing diverse sources of knowledge in teaching;

ii. Opening up that process by which individual faculty improve teaching and learning, as a model for our students’ own engagements with knowledge;

iii. Opening up our collective faculty work in innovation networks, as a model for students and as a signature institutional strength and outcome.

We summarize next the rationale and planned next steps for each of these focal points, which are intended to build on each other as a value chain to create distinctive graduate capabilities as signature outcomes of our teaching and learning environment. Amongst the many advantages which Open Educational Practices bring to teaching and learning, we identified only a select few as having high potential to contribute to our institutional strategy for distinctive excellence. These select focal points for Openness in our own teaching and learning practices will guide our efforts to follow up on strategy development with more concrete plans (Martin, 2013).
i) Opening up pedagogy, to integrate and mobilize diverse knowledge in teaching

There are many proven advantages to institutional use of Open Educational Resources which we also intend to leverage as part of our Academic Plan, such as lower costs to students, and faster accelerated development of new courses and programs. However, these benefits do not directly support our emerging institutional strategy for distinctive excellence (e.g., removing barriers to access by holding down costs does not translate into a signature strength by which our graduates can stand out).

In contrast, the analysis in the previous section highlights the potential contribution of OER use to our distinctive role as a polytechnic university which values and mobilizes multiple types of knowledge and diverse sources of knowledge. This leads us to focus on OER products and processes which cause us to think more deeply about pedagogy, to incorporate additional approaches to exemplary teaching, and to contribute our own insights and expertise in turn.

As our future plans begin to sharpen their focus on these aspects of OER, there can be multiple implications for the decisions we make. For example, in developing plans for our course contributions to OERu, a higher priority can be given to opportunities to leverage and adapt open educational resources from elsewhere which have rich explanations of the pedagogical rationale, underlying context and supporting data. We can particularly benefit from pedagogical explanations using multiple types of knowledge, e.g., design-based research that systematically builds on craft knowledge in teaching, evolving knowledge from the professional teaching community adapted to reflect local context and needs, and rigorous studies of more mature approaches. Currently, our course planning has not considered the nature and extent of this supporting pedagogical knowledge supporting OER in choosing which courses should have higher priority for development as open educational resources.

ii) Opening up individual faculty work to improve teaching, as a model for students

The support infrastructure for the knowledge practices outlined in the previous paragraphs will also support the opening up of faculty work as a model for students’ own engagement with knowledge, such as the open course frameworks and course ecosystems mentioned above. However, we will need additional methods in order for our students to build awareness of the knowledge practices that faculty are using to improve teaching practice. We will need to go beyond documenting the rationale behind open products to documenting the processes by which a particular teaching approach or learning resource was shaped to meet the needs of the students.

Our initial plans for this area are expected to centre on pilot projects in curriculum areas where these processes to improve teaching practice have a natural affinity with student interests (e.g., in our School of Design). We can build on past examples of documenting and sharing the process of improving teaching and learning, such as the Carnegie Foundation’s Gallery of Teaching and Learning (Carnegie, 2006) which used multimedia Course Portfolios to document the ways faculty members engaged with knowledge of diverse types to improve student success in particular courses. These approaches also reflect the tradition of Narrative Inquiry as a way to advance teaching practice (Lyons & LaBoskey, 2002).

Further experimentation will be required to develop ways to share with students these processes of knowledge mobilization applied to improve teaching. Some pilots may use resources such as Course Portfolios as outlined above; others may be much less formal, such as an introductory reflection before students undertake a learning activity, or as preparation for a student-faculty partnership to evaluate or extend an innovation in teaching (Cook-Sather et al., 2014; Healey, Flint & Harrington, 2014).
Opening up collective faculty work in innovation networks, as a model for students

Going forward, we can also see that our participation in emerging networks for open educational practices can be an exemplar for our students of Cooperative Open Innovation Networks as an organizational structure for leveraging complementary strengths within and across organizations. Cooperative Innovation Networks have demonstrated multiple benefits to participants:

- “pursuit of innovations across [organizational] boundaries through the sharing of ideas, knowledge, expertise, and opportunities” (Ketchen, Ireland & Snow, 2007, p. 371)
- a focus on “something more ambitious than we could do with our internal resources” allowing us to “transcend the old boundaries and rethink roles and the way they are organized” (Jarvenpaa & Wernick, 2012, p. 18)
- “a collective...pooling of diverse and complementary resources to stimulate and accelerate innovation...[for] dynamic, collaborative and far-sighted research that leads to wide dissemination and exploitation” (Jarvenpaa & Wernick, 2012, p. 17)

We are still in a very preliminary stage of thinking through how this kind of work by our faculty with Open Educational Practices can be developed as a signature institutional strength, and in turn leveraged to produce signature learning outcomes for our students. All three of these elements of Open Educational Practices will be explored further as part of the development of our institutional strategy for distinctive excellence in teaching and learning.

Impacts of engagement with OEP on other aspects of institutional strategy

We noted above that our approach to open educational practices at Kwantlen Polytechnic University reflects our particular mission and context. In this we are not unique: the journey to Open Educational Practices has been highly contextualized for all institutions taking this path (McGill, Falconer, Dempster, Littlejohn & Beetham, 2013).

In our case, we expect the impacts of our OEP commitments to extend beyond knowledge practices in teaching and learning to include our relationships with other organizations and institutions. For example, we have not yet begun to explore how we can link our Open Educational Practices with the “applied research to serve the needs of our region” that is part of our institutional mandate.

We have close ties with many local organizations through their professional staff who work with us as part-time faculty, and many of our full-time faculty members continue to engage regularly in professional practice.

Our draft institutional Research Plan begins to address similar questions to those we have discussed here regarding the plans for teaching and learning—e.g., “what is distinctive about KPU’s contributions to solving complex human problems” (Kwantlen, 2015, p. 5)—and the answers emerging align with open educational practices as a signature institutional characteristic (e.g., “the overarching aim is to bring together the players, actions and mechanisms needed to... share ideas and discoveries”).

For us, this creates distinctive opportunities in the future to include open educational practices in our activities with regional organizations to develop their capability for integrating and mobilizing knowledge to improve practices, products and policies. We see an opportunity (and a need) to explore further how participation in Open Educational Practices can develop our institutional capability for engagement in this kind of collaboration with our regional partnerships for applied research, and serve as a model to help our students understand the benefits and challenges of such collaborations.

We will be looking for additional ways to apply the principles and lessons from Open Educational Practices in our research context, to replicate the benefits observed from OEP in our teaching and...
learning environment, including “greater external engagement. . .new partnerships, better relationships with existing agencies, new levels of understanding about collaborative working, improved dissemination, networking and learning opportunities” (McGill et al., 2013, p. 8).

Our engagement with Open Educational Practices can bring both practical lessons and an enduring cultural shift to support these research interactions. As an example of a practical lesson from such collaborations, a recent study of open educational partnerships (between higher education institutions and community organizations in Scotland) concluded that

the evidence emerging from what is now a sequence of diverse partnership developments is that these relationships enable each OER project to be more than simply robust development of content, but also a way of facilitating use by actors in the network (Cannell & Macintyre, 2014, p. 5).

As an example of a longer-term cultural shift in these partnership relations, the same study noted the growing awareness of the importance of integrating “processes of identification and co-construction of content with context-specific understanding of social relationships and networks”.

Conclusions

These examples of our initial work show the potential for a deeper integration of our engagements in Open Educational Practices as elements of our institutional strategy, with more to come. We have been particularly encouraged by recent reports of similar impacts noted at other institutions: “Evidence suggests that engaging with OER and open practices more broadly has led to a reconsideration of strategy, policy, processes and practice” and that many OEP projects were able to “align their work with key strategic agendas, such as widening participation, employability, or flexible curriculum approaches” (McGill et al., 2013, p. 8).

Kwantlen Polytechnic University’s roots as a community college (pre-2008), created to increase access to the fastest growing region in British Columbia, continue with our expanded vision: to be an “open” institution, accessible to all learners while focused on serving our geographical region. With some exceptions, admission is still open to all high school graduates, with various pathways of qualifying studies. There are still, however, many un-met needs, especially among learners with time and other constraints, and it is clear that simply offering more of our past teaching models and infrastructure will not suffice for us to meet these diverse demands.

Instead, new and innovative approaches to curriculum, learning resources, outcomes-based assessment, the recognition of prior learning, and judicious use of technology will be needed, to enrich the learner experience and to meet the needs of traditional and non-traditional and adult learners (and in addition to improve the cost-effectiveness of our educational methods). Open Educational Practices have the potential to help us meet these needs, in ways that also address “the social, cultural and material barriers to participation in learning” (Cannell & MacIntyre, 2014).

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References


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Learning from the innovative open practices of three international health projects: IACAPAP, VCPH and Physiopedia

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Abstract
Open educational resources and open educational practices are being increasingly used around the globe to train and support professionals in areas where funding and resources are scarce. This paper evaluates the open educational practices (OEP) of three global health projects operating outside academia—the International Association for Child and Adolescent Psychiatry and Allied Professions (IACAPAP), the Virtual Campus of Public Health (VCPH), and Physiopedia. Each project aims to pool and share professional expertise, to the particular benefit of practitioners in low-income countries. This form of online knowledge-sharing appears to offer huge advantages to the health/public health sector, especially when conducted in the open, at a time when there is a huge global shortfall of healthcare workers and a need for cost-effective, high quality training.

We evaluated the three projects using two frameworks—the OPAL open educational practices maturity matrix, and Vrieling’s OEP social configuration framework. We identified numerous innovative OEP from which academia, and indeed public health professionals around the world could learn, for example IACAPAP’s open textbook, VCPH’s trilingual OER repository, and Physiopedia’s wiki and use of open badges. However, some OEP—for example localisation of resources—are not accommodated by either of the frameworks we used. We argue that an extended OEP evaluation and impact framework is needed in order to better encompass OEP outside formal education.

Keywords: Open educational practices; open educational resources; public health; public open scholar; professional bodies

Introduction
The World Health Organization (WHO) estimates that the world will be short of 12.9 million healthcare workers by 2035; in 2013 the shortfall was already 7.2 million (World Health Organisation, 2013). This “crisis in human resources” (Aluttis, Bishaw & Frank, 2014) in the health sector has been described as “one of the most pressing global health issues of our time”. The shortage of health workers has the greatest impact in low-income countries where insufficient public investment results in too few people being trained. In addition, vacancies in high-income countries are attracting health-care workers from low- and middle-income countries, further exacerbating the problem. Aluttis et al. (2014, p. 1) warn that “a global undersupply. . . threatens the quality and sustainability of health systems worldwide”.

Open educational resources (OER) and open educational practices (OEP) are being increasingly used around the globe to train and support professionals in areas where funding and resources are scarce. The 2013 report by the Hewlett Foundation (The William and Flora Hewlett Foundation, 2013) touches upon the massive potential for OER use and production beyond higher (and formal) education when stating that “by enabling virtually anyone to tap into, translate and tailor educational materials previously reserved only for students at elite universities, OER has the potential to jump start careers and economic development in communities that lag behind” (p. 4). Additionally, the UK-based OER4Adults report (Falconer, McGill, Littlejohn & Boursinou, 2013, p. 46) recommended that the OER movement should “encourage OER development by organisations and communities
outside mainstream education”. However the open education movement, with its research expertise, has tended not to research open practices outside academia, instead concentrating on looking inwards and researching OER and OEP within formal education.

Since 2011, we have been seeking to address the apparent marginalisation of OER and OEP from outside academia by developing and piloting a new role for open academics, which we have named “the public open scholar” (Perryman & Coughlan, 2013). The role involves open academics working with online communities outside formal education who might benefit from OER, identifying members’ expressed needs and then sourcing OER to meet those needs (see Figure 1).

We conceptualised and developed the public open scholar role when working with volunteers, parents and carers in health and wellbeing-focused online communities, aiming to increase awareness of open educational resources within these communities, and to share with academia information about the resource needs of people beyond the academy who could really benefit from OER. While the public open scholar role demonstrates how OER and open practices can be deployed on an individual scale for the benefit of health communities we are now looking at the mass use of OER and OEP by organisations, drawing on insights into those practices we gained when developing and performing the role. For example, we learned about a wealth of open resources and large-scale collaborative open educational practices emanating from outside formal education, including voluntary sector organisations, government departments and professional bodies. Learning about these resources and practices inspired us to evaluate them in order to (1) identify what the open education movement might learn from them, and (2) extend understanding of how OER and OER
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can be used globally to help increase social and economic equality. We have based our evaluation on three case studies that we encountered during our public open scholar research and which, on first glance, appear to feature innovative OEP. These case studies, discussed in detail below, all operate in the global health sector.

This paper reports the findings of our evaluation and is structured as follows:

- **Literature review**: Review of literature related to OER and OEP outside academia, online knowledge sharing, and the potential of OER in the context of global health.
- **Methods**: Discussion of the case studies and rationale for the case study approach; outline of methodology and methods.
- **Findings**: Results of our evaluating the three case study projects against our chosen frameworks.
- **Implications**: Limitations of existing OEP analysis frameworks for capturing OER localisation and the impact of openness.
- **Conclusion**

**Literature review**

Despite the massive potential benefits of studying open educational practices related to global health our study is located in a research-poor field. While research into OER and OEP within formal education is ever-growing (e.g. the work of the OER Research Hub - www.oerresearchhub.org), research into OEP in professional communities outside academia is scarce. However, a related body of literature examining the role of online communities in professional knowledge sharing has informed the current study, even though this literature does not focus on open practices. For example, Evans (2015, p. 32) gives an insight into the ways in which online communities are changing the nature of professional knowledge from “stable “bodies” of knowledge to more contingent and fluid forms of professional knowledge-in-practice that is mirrored in the informal complexities of learning communities and networks”. Evans explains that in online communities knowledge is generated through “social sharing and refining ideas in a network or community with a common domain of interest”, rather than being transmitted by institutions. Mairs, McNeil, McLeod, Prorok, and Stolee (2013, p. 269) cover similar ground, but focus specifically on online knowledge transfer in health/public-health-related professional contexts. They observe that online knowledge transfer amongst health professionals is “most often targeted at the sharing of literature or other practice-based information to and between researchers and/or clinicians”—a strategy that is “especially advantageous as it facilitates collaboration of individuals who are often geographically dispersed”. Mairs *et al.* (2013) are clear about the benefits of online knowledge management strategies, giving evidence that they can “support the development of clinical practice and... enhance care when used by clinicians”. In addition, such strategies can be particularly cost-effective, they argue, explaining that “cost, as a barrier to attending distant conferences or meetings...was eliminated through the use of an online knowledge transfer strategy”. Service users also benefit from such strategies, they propose, in that these strategies provide “a mechanism to connect patients not only to health-related information but also to health services and educational resources to support disease prevention, treatment, and management” (p. 270).

Each of the case studies featured in our own research shares an aim to increase health professionals’ access to high quality resources in low-income countries. In locating our own research in the health sector we are building on existing work on the impact of OER in this field, particularly
in relation to public health. Angell, Hartwell & Hemingway (2011, p. 549) speculate that “there would appear to be an inherent link between OER and public health in terms of their philanthropic aims and contribution toward reducing learning and health inequalities”, proposing that public health OER may be seen as an affordable and credible means to “reduce the growing disparity in health between developing and developed countries” and, as such, “may offer a means of extending public health education in deprived areas and developing countries, where access to public health education is limited by lack of teaching facilities and resources” (p. 552). Angell et al. (2011, p. 552) suggest that “quality and updating of resources [are of] particular significance, due to the risks involved in health professionals learning from incorrect or out-of-date resources”. Our research builds on the literature on (public) health OER, extending it to include exploration of open educational practices (rather than just resources).

**Methods**

Our research is case study-based. Our decision to adopt a case study-based research approach was driven by our research questions. Yin (2009, p. 9) states that “...how” and “why” questions are...likely to lead to the use of case studies...because such questions deal with operational links needing to be traced over time, rather than mere frequencies or incidence", adding that case studies are “preferred in examining contemporary events” (p. 11). Our study of how three global health projects are using open practices to benefit global health/public health practitioners, and their motivations for doing so, aligns well with a case study approach. We have used three data collection methods which Yin (2009, p. 11) identifies as being central to case study research—“interviews of the persons involved in...events”, document analysis and “direct observation of the events being studied”.

**The case studies**

The selected case studies are the International Association for Child and Adolescent Psychiatry and Allied Professions (http://iacapap.org), the Virtual Campus of Public Health (http://www.campusvirtualsp.org), and Physiopedia (www.physio-pedia.com). They share four characteristics:

- They are embedded within a specific health profession, and have links with other professional bodies;
- They use volunteers, are not-for-profit, and aim to collaboratively pool and share professional expertise;
- They play an international role and are based outside higher education, although all have links with universities;
- They use Creative Commons licences and social media.

The International Association for Child and Adolescent Psychiatry and Allied Professions (IACAPAP) was established in Europe 75 years ago, although its membership now comprises 63 Latin and North American, European, and Pacific Rim-based organisations. IACAPAP advocates for the promotion of mental health and development of children and adolescents through policy, practice and research. Campus Virtual de Salud Pública—The Virtual Campus of Public Health (VCPH) was launched in 2003 and is now a network of more than 140 partner institutions and organizations across Central and South America that share courses, resources, and other education services with the common purpose of improving public health practices and workforce skills. Physiopedia is a non-profit company established in the UK in 2009. Physiopedia is building an evidence-based
knowledge resource for physiotherapy and physical therapy professionals throughout the world, and aims to be a place where all physiotherapists and physical therapists can participate by contributing, sharing and building knowledge to develop a united profession and a global understanding.

**The interviews**

We conducted Skype interviews with key personnel in each project in order to get an understanding of the ways in which the projects work, the impact of openness on both professional practitioners and end-users, and the challenges of meeting the diverse needs of a global audience, especially practitioners in low-income countries. We used semi-structured interviews in order to capture the full breadth of three quite different projects, and to capture the individual perspectives of the interviewees. Appendix 1 lists the main questions asked, mapped against the analytical frameworks discussed below.

For IACAPAP, we interviewed Professor Joseph M Rey—a Professor and Head of Psychiatry at Sydney Medical School, Notre Dame University, Australia, and founder of the IACAPAP Textbook of Child and Adolescent Mental Health, discussed further below. For VCPH, we interviewed Republic of Panama-based Edgardo de Gracia, the National consultant at VCPH in charge of technology development and a system analyst and designer at the Ministry of Health of Panama. Finally, for Physiopedia we interviewed physiotherapist and Physiopedia Co-Founder and Executive Director Rachael Lowe. The evaluation of the three projects, including the Skype interviews, was conducted during December 2014 and January 2015.

**Observation, and document analysis**

To complement the data collected through interviews we analysed resources produced by the three projects in addition to observing online activity taking place in online spaces connected with each project (for example, the Physiopedia wiki). Appendix 1 maps the observation and document analysis process against the analytical frameworks discussed below.

**Analytical frameworks**

Our evaluation of IACAPAP, VCPH and Physiopedia draws on two OEP analysis frameworks. The comprehensive and influential OPAL “open educational practice maturity matrix” (Andrade et al., 2011) was our starting point (see Table 1), and has been the dominant OEP analysis framework since its development in 2011 in connection with the Open Education Quality Initiative. The horizontal axis of the OPAL matrix represents levels of OER use, with ‘high’ indicating extensive OER re-use and creation. The vertical axis represents levels of openness in learning architecture, with ‘high’ indicating open pedagogy whereby autonomous learners govern learning methods and pathways.

During our analysis it became apparent that the pedagogy and object-focused OPAL framework is not sufficiently comprehensive to cover the open collaboration featuring in our case studies. We therefore extended our evaluation to include the four dimensions identified in the OEP social configuration framework developed by Vrieling, Van den Beemt and De Laat (in press; but see also Schreurs et al., 2014): practice, domain, collective identity and organization. Schreurs et al. (2014) explain each dimension:

- **Practice:** “The extent to which the group knowledge is integrated into day-to-day activities”
- **Domain:** “The shared area that inspires the participants to share, broaden, or deepen their knowledge and skills within the group”
Appendix 1 maps the elements of the two analytical frameworks against the data collection methods.

**Findings**

**Mapping the projects onto the OPAL matrix**

IACAPAP, Physiopedia and VCPH all use both OER and open learning architecture to various extents. Table 2 shows the three projects mapped onto the OPAL matrix. We rated IACAPAP and Physiopedia as ‘medium’ users of OER and OEP, so they appear in the central box in the grid. We did not rate them higher as neither are entirely open; for example they both keep some business objectives private, and also use non-OER. We rated VCPH highly on both use of OER and on open learning architecture, for having open objectives embedded within its policies, and for its high use of OER: 14 OER courses plus 5800 OER library items.

Looking at the case studies and their practices in more detail reveals areas of distinct open innovation from which academia might learn.
IACAPAP is a traditional professional body that began adopting open practices in 2011 after a distinguished 70-year history. It is now well-known for its open access (CC-BY) online journal Child and Adolescent Psychiatry and Mental Health, and its open access (CC-BY-NC) online Textbook of Child and Adolescent Mental Health. The 49-chapter textbook is a remarkable collaborative achievement by over 100 contributors from 24 countries spanning 5 continents, with five chapters now being offered in French alongside English. The textbook is fully interactive, featuring video-clip links and hyperlinks to freely available measuring instruments, websites and publications. In the first 32 months after publication the textbook was visited 59,118 times, an average of 60 visits per day (Joseph Rey & Omigbodun, 2015, p. 6). Everyone involved in the IACAPAP textbook project has contributed their work for free. The textbook has a Facebook page to enable readers to make comments and suggestions to the editor and contributors. IACAPAP are also developing more self-directed learning activities, self-assessment exercises and teaching materials, including a MOOC (Massive Open Online Course) entitled Essentials of child and adolescent mental health across the world.

While the use of OER in IACAPAP was easy to map onto the OPAL matrix, the open textbook development process maps less easily, as the OPAL matrix focuses on teachers and teaching rather than professional collaboration. In interview, Joseph Rey explains that the textbook is developed through global collaboration operating on a model similar to that featuring in open access journals:

"I am the nerve centre of the whole process. Everything comes to me. However, different organisations or individuals will recommend specific persons who take responsibility for a particular topic. That content is then circulated to a board of experts for review and then it is put together. This is very much a cottage industry but one that has global reach".
Joseph Rey points out that relationships with contributors do not tend to end once they have produced content for the IACAPAP textbook:

“We are now asking contributors for more materials, particularly self-assessment exercises, to add to the interactivity of the textbook. Also, we are preparing powerpoint slides so that experts in low-income countries can use them in their lectures. The chapter authors stay in touch with us and will contact us if they think a particular chapter looks out of date. We get suggestions about new chapters too. For example, this year we are going to have several new chapters on the history of child psychiatry”.

VCPH

VCPH maps fairly well onto the OPAL matrix, due to its extensive use of OER, its provision of MOOCS and self-directed open courses and its open policies. VCPH is a collaboration between over 100 institutions and organizations and since 2003 has assembled a multilingual online library of 190,000 items in total, with 5800 identified as OER (see Figure 2).

Figure 2: The VCPH virtual health library

VCPH’s Edgardo de Gracia explains that openness is embedded within VCPH:

“We use open practices to promote equity in health, to combat disease and improve the quality of lives of people of the Americas. While openness is not all-pervasive in public-health institutions in Central and Southern America VCPH hopes to change the culture and while some institutions do not share resources, every year we have new institutions joining VCPH so every year more and more resources are shared”.

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VCPH have also developed 14 OER courses delivered free through a Moodle platform, again in three languages, whilst also providing links to nine courses hosted elsewhere. VCPH also runs a successful Facebook page in Spanish with 5200 likes (subscribers). Edgardo de Gracia explains how the open courses work:

“We have self-learning courses and some courses with tutors; 1 tutor to 15 participants. 60% to 75% of applicants successfully complete the tutored courses. On the self-learning courses, the numbers are different; sometimes 1000 start, but less than 50% complete. Participants of our courses are carefully selected from a long list of applicants. The PAH office in each country chooses individuals from those who apply for courses, selecting those who will benefit most. Students demonstrate that they have achieved the learning objectives by making a project in their workplace”.

Physiopedia

Several elements of Physiopedia map onto the OPAL matrix—namely its wiki, open courses and badging. Physiopedia is the most recent project amongst our case studies and has used web 2.0 tools from the outset. Physiopedia currently offer a small number of open courses, including a MOOC: Physiotherapy Management of Spinal Cord Injuries which runs annually and last attracted 3,500 registrants from over 120 countries. However, above all Physiopedia is characterised by the wiki that is at the heart of the project, currently containing over 1400 articles and attracting more than 150,000 users from over 200 countries each month. The Physiopedia wiki is offered under a GNU Free Documentation License (GFDL) coupled with a Creative Commons CC-BY-NC-SA license (the same pairing as Wikipedia), and users are encouraged to discover new ways of using it.

Mairs et al. (2013) observe that several wikis currently exist within the health field, including the ‘Flu Wiki’ which was created to help local public health communities prepare for avian influenza pandemics, ‘Wiki Surgery’ which is a free surgical encyclopaedia for surgeons and their patients, and RadiologyWiki.org which is used as an online radiology educational resource (p. 273).

Rachael Lowe discusses the background to Physiopedia: “As a physiotherapist, I was newly introduced to wikis at an e-learning conference; we followed the wikipedia model. A benefit of the web is making things open so that’s why we did it that way”. Mairs et al. (2013, p. 273) add that “one unfortunate downfall of wikis and blogs is that with virtually anybody able to alter, edit or contribute to these collaborative ‘webpages’, it can be problematic to gauge the reliability and accuracy of such resources”. Addressing this point, Rachel Lowe explains that while the Physiopedia wiki is completely open, editing is restricted to professional physiotherapists who also act as an accuracy check for their peers:

“People are both using the content ‘as-is’ and modifying the content. Without that, the site wouldn’t evolve. They may correct content that is outdated or inaccurate or add new content. Either way, everyone can see when we have something that’s not quite right on there; there’s quality control issues and things need to be updated regularly. But that’s a learning point. Clinicians need to be aware and educated in how to critically assess anything they find on the web”.

Physiopedia’s ‘medium’ rating for open learning architecture on the OPAL matrix is in part due to its pioneering use of Mozilla Open Badges to reward volunteer contributors and course participants (see Figure 3).
Open badges are “digital tokens that appear as icons or logos on a web page or other online venue which are awarded by institutions, organizations, groups, or individuals, to signify accomplishments” (Casilli & Knight, 2012, n.p.). Law, Perryman and Law (2014, p. 6) suggest that “badging offers a way of reconciling informal learning and the demands of employers”, and that “the provision of a public-facing profile that acknowledges both formal and informal learning and can be shared through social media networks, is both achievable and desirable”. Physiopedia’s Rachael Lowe explains that:

“We decided to use open badging for Physiopedia because we wanted to certify peoples’ involvement in the project, and their learning and professional development. It has worked really well, especially for our volunteer programme; it’s very motivating for them. Everyone has a profile page where they can add their CVs and their contribution to the wiki is detailed. We’ve had experience of people who’ve got jobs as a result of including their Physiopedia involvement in their CV”.

Extending the analysis using Vrieling’s framework

Structured courses, teaching and publications such as those described above fit in well with the OPAL matrix and inform our placement of the three case studies in Table 2. However, the OPAL matrix does not give the full picture of the OEP taking place in the three case studies. For example, it tells us little about the behaviour of the participants, for example their collaborative practices. We therefore applied to the three case studies the OEP social configuration framework developed by
Vrielings et al. (in press) in order to extend our evaluation. As detailed in the Methods section above, the four dimensions of the OEP social configuration framework are:

* Practice
* Domain
* Collective identity
* Organization

**Practice**

All three projects rate equally highly on this dimension, as would be expected from occupational bodies. Discussing VCPH Edgardo de Gracia comments:

"We have achieved rapid growth through openness, allowing us to reach more people and make a positive impact on professional practice. The self-learning courses attract massive numbers, so we are reaching health workers across the region and they are improving the quality of health for the people they serve. Many participants are quite senior, key people in the health institutions in the different countries; for example one became health minister in his country and he applied the final project of his course in the ministry, making a huge impact".

The IACAPAP textbook is very much the product of the group’s shared knowledge, is a continuous endeavour and has extensive impact on practice. Joseph Rey comments on its scope and impact:

"In Yale University it is being used for training child psychiatrists as reference materials. I also know that it is being used in Brazil, Nigeria, Ethiopia, Lithuania…they are just a few examples…In Nigeria, the medical profession are achieving, in two or three years, things that has taken the rest of the world 30 years to achieve and our textbook is part of this; it is helping to achieve changes in professional practice at a very fast rate, faster than ever before".

**Domain**

An online shared area for participants is not a big feature of IACAPAP, whose members tend to communicate through email, journals and face-to-face conferences, so IACAPAP rates low on this dimension. VCPH achieves a medium rating for its repository, and Physiopedia rates highly for its collaborative wiki.

**Collective identity**

Again, Physiopedia rates highly for its collaborative wiki-building and maintenance, with collective identity being closely linked to participants’ professional identity as physiotherapists. This dimension is reinforced through the open badging, which explicitly recognises people’s roles in the community. Rachael Lowe explains that:

"The content is created by physiotherapists all around the world. There are small groups of people who develop specific aspects of the content, such as a special interest group from one of the professional associations. They’ll be tasked with creating content within a specific area".

IACAPAP rates lower for collective identity as although its members collaborate when producing content for the textbook, this collaboration tends to be conducted through topic specialists, rather than as a community-based knowledge sharing. VCPH does not prioritise Collective Identity for its individual users, as its structures and practices reflect the needs of their largely institutional membership. However, individuals are enthusiastic about their involvement, as described by Edgardo de Gracia:
“People are really proud to be part of VCPH. They are proud of their certificates, and some government institutions give money incentives to participants. VCPH is a brand known in the different health disciplines throughout the region. The experience of sharing and collaborating through VCPH is changing the culture of professional health workers, and mostly this is the first time they have studied a virtual course, with synchronous online tools such as Blackboard collaborate. They are really happy to be part of our project”.

Organisation

The pattern of dimension 3 (collective identity) is repeated here. Physiopedia rates highly for its wiki, which is clear evidence of a ‘shared interactional repertoire’ while IACAPAP and VCPH rate low on this dimension for individuals but would rate more highly if this were applied to institutional members.

Applying Vrieling et al.’s (in press) framework did not draw out many differences between the three case studies, so did not significantly add to our insight or evaluation. We did note that Vrieling et al.’s category 2 -domain- is similar to OPAL’s learning architecture axis.

Implications

Our evaluation of IACAPAP, VCPH and Physiopedia highlights both innovative practices and the fact that current OEP evaluation frameworks are not sufficiently comprehensive nor nuanced to capture all of these practices; indeed, the models reduce the three case studies to appearing very similar. Physiopedia is pioneering in successfully engaging professional practitioners in contributing to an open wiki. The Vrieling framework captures this type of activity particularly well and, of the three case studies, Physiopedia -due to its emphasis on Web 2.0 practices- is the best fit with both evaluation frameworks. However, neither evaluation framework captures the institutional collaboration that is such a feature of both IACAPAP and VCPH, or the localisation that VCPH successfully achieves and IACAPAP is working towards. A more detailed examination of these aspects of the two case studies shows their importance as OEP and the problem of their not being accommodated in the models.

Localisation and translation

The 49 chapter open IACAPAP textbook has been collaboratively developed by over 100 contributors, from 5 continents, and is used extensively around the globe and especially in the developing world. Discussing the localisation of the IACAPAP textbook for different global contexts Joseph Rey explains that to date most requests for localisation of the textbook have focused on its scope, rather than the detail of its content:

“Here’s one example. In western countries epilepsy is not considered a part of child psychiatry, but is part of neurology. However, in low-income countries epilepsy is an important part of child psychiatry. So we have people developing those chapters that would otherwise not be in the textbook. AIDS, also, is a children’s problem in low-income countries while for the rest of the world it is not such an issue in child psychiatry”.

IACAPAP members’ commitment to IACAPAP, and their willingness to give their time freely for the greater good, are central to the localisation of the textbook, says Joseph Rey:

“We couldn’t have such impact in low-income countries without the generosity of members. For example, a trained psychiatrist colleague is currently in Ethiopia spending a year’s sabbatical there teaching. She is going to try to see how our textbook can be used in that context, in a place where there are very few professionals to teach and to extend knowledge. Hopefully that will help us in learning from her experience and supporting adoption of the textbook elsewhere in Africa”.
Of the three case studies, localisation and translation is perhaps the most central to VCPH. The VCPH collaboratively developed library of 190,000 items, including 5800 OER, is offered in three languages, Spanish, English & Portuguese, and has been localised to meet the needs of culturally and linguistically diverse users. Edgardo de Gracia explains:

“Most of the OER allow changes and improvements to the content. Some countries take an entire course and change it to the context of their country. Countries also have their own tutors, who adapt the resources for their own country. Most of the courses were originally in Spanish, but there are increasing demands for English to meet the need of Caribbean countries, and Portuguese for Brazil. The courses have rooms that operate alongside one another in the different languages”.

Joseph Rey acknowledges that language barriers are present for users of the IACAPAP textbook, particularly in low-income countries in Africa and South America. He reports that some users are translating the textbook into other languages on an ad hoc basis, though not to the extent of VCPH.

**Measuring impact (and the impact of openness)**

Another weakness of the OPAL and Vrieling Frameworks is that they do not allow for the evaluation of a project’s impact on practitioners or end-users, nor indeed the specific impact of openness, again missing an important aspect of understanding the open educational practices that are taking place outside academia and from which academia could learn. Discussing the impact of openness for VCPH, Edgardo de Gracia identifies “a multiplier effect of using OER” whereby “educational resources reach more people. People improve their skills, and consequently the quality and equity in health is improved”.

Addressing the impact of openness in IACAPAP, Joseph Rey and Omigbodun (2015, p. 5) explain that “the rationale for providing open terms of both access and use is that free access offers the literature to students, clinicians, researchers, patients and their families whether they can afford to pay or not”. Additionally, “granting readers full reuse rights unleashes the full range of human creativity for translating, combining, analysing, adapting, and preserving the scientific record; thus, hopefully, multiplying the book’s impact”. In interview, Joseph Rey expands on these points, noting that the impact of the open IACAPAP textbook is particularly great in low-income countries:

“The main thing is that it facilitates access. In many countries, if child psychiatrists don’t have access to open resources like our textbook they don’t have access to any resources at all. It’s not merely a case of saving money. It’s having nothing, or having something. In any case, IACAPAP didn’t think that content restrictions would be helpful. IACAPAP is an NGO with very few financial resources. It did not make sense to put barriers that we could not enforce or monitor anyway”.

Rachael Lowe makes a similar point about the impact of openness for Physiopedia:

“Without openness Physiopedia wouldn’t exist. If we put it behind a closed paywall the people who we’re trying to reach wouldn’t be able to access the knowledge. A lot of people who use our content don’t otherwise have any access to this kind of information—they’re in low-income countries and don’t have access to physiotherapy textbooks or courses. Being open enables these people to use up-to-date resources and achieve impact on clinical practice. And it’s more than just access to content. The format of Physiopedia allows people in low-resource countries and high-resource countries who otherwise wouldn’t connect, to network with each other through the discussion forums that we run”.

**Relationships or learning objects?**

Our research has also identified a commonality between the three case studies that sets them apart from many open projects—the fact collaboration in each project is largely focused around an object (a textbook, wiki or open resource) rather than around developing relationships between members.
For example, discussion forums are not prominent in any of the case studies, which are more like repositories than online communities. Physiopedia does have a discussion forum for fee-paying members but this is not open. This actually maps quite well with the OPAL matrix, which is also object focused. Arguably, though, the online world for these projects is mirroring the offline world. For example, the offline world of physiotherapy features skeletons, pictures of muscle groups and techniques, and these are arguably more important than relationships (in comparison with a discipline such as psychology, where relationships are central). Interestingly though, the discipline of psychiatry does have a relationship-focused open presence, evidenced in the many Facebook groups of psychiatrists. Physiopedia also have a strong Facebook presence, apart from their wiki. The social layer is thus separated from the object layer. Extending our own research could perhaps involved looking beyond objects to evaluate open professional projects focusing on relationships. Relevantly Bitz (2013, p. i), discussing education, observes that “the literature finds that teachers who collaborate online are engaged with the group, develop a sense of community, improve their knowledge of subject and pedagogical content, and intend to modify their instructional practices accordingly”, adding that “the online environment enables teachers to access and share knowledge in a timely and comprehensive manner”.

Conclusion
It is apparent that for the health/public health sector online knowledge-sharing offers huge advantages, especially when conducted in the open. Mairs et al. (2013) conclude that:

Knowledge translation is becoming a critical component of the healthcare field, and online technologies are emerging as a key facilitator of efficient and timely knowledge exchange. Through online technologies, it is possible for stakeholders to share health knowledge regardless of geographical constraints, thus encouraging the advancement of knowledge in health and other fields (p. 274).

Clearly, there is much to learn from studying OEP outside formal education, especially in terms of collaborative approaches to knowledge creation, resource sharing and the ways in which a sense of collective identity can traverse geographical borders. OER and OEP could have huge implications for the global shortage of well-trained healthcare professionals in terms of the provision of professional development, peer-support, up-to-date learning materials and resources localised to meet the needs of diverse contexts.

However, our study indicates that the open education community does not currently have suitably flexible and comprehensive mechanisms for capturing and learning from innovative open practices and therefore may be missing opportunities to do so. For example, influential frameworks such as the OPAL matrix, with its language of teachers, courses and educational institutions, are overly narrow and do not map easily outside academia. Additionally, while the Vrieling framework works well for the activities of individuals it does not easily accommodate the practices of professional consortia, which are common in the vocational world. We argue that an extended framework is needed in order to:

(1) Better encompass vocational and lifelong learning;
(2) Better evaluate the ultimate application and impact of knowledge and OEP outside the formal classroom (for example in clinics or community centres);
(3) Allow for consideration of localisation practices;
(4) Better integrate social learning, open collaboration, localisation, object use and re-use, and open learning architecture in a single set of evaluation criteria.
Learning from the innovative open practices of three international health projects

Our own research is limited in that we have only looked at one sector - health - and we strongly encourage other open academics to identify, evaluate and share open practices outside academia in their specialist fields, especially those which unite globally dispersed participants and which operate on a social justice agenda.

Acknowledgement

This paper was presented at the 2015 Open Education Consortium Global Conference, held in Banff (Canada) in April 22nd-24th 2015 (http://conference.oeconsortium.org/2015), with whom Open Praxis established a partnership. After a pre-selection by the Conference Programme Committee, the paper underwent the usual peer-review process in Open Praxis.

References


## APPENDIX 1: Mapping the data collection methods to the analysis frameworks

<table>
<thead>
<tr>
<th>OPAL - OER use</th>
<th>OPAL Social Practices</th>
<th>Vrieling</th>
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<tbody>
<tr>
<td>OER creation</td>
<td>OER use</td>
<td>OER re-use</td>
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<td>x</td>
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<tr>
<td>What is the background to your using open practices (incl CC licence) in the project?</td>
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<td>Are there any more dimensions of * other than that which is publicly viewable on the website?</td>
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<td>Could you say something about the relationship between institutional members and individuals in your project...E.g. who is your main audience...Who is prioritised...</td>
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<td>In what ways do people collaborate in your project?</td>
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<td>In what ways do people involved in your project display a sense of collective identity?</td>
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<td>Could you tell us how people use your content? e.g. do they share, reversion, print, use in teaching, translate, localise in some other way, discuss etc...</td>
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<tr>
<td>It's clear your project has a global reach. Will you describe how you localise content for diverse users around the world.</td>
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<td>What do you see as the advantages and disadvantages of open educational resources for projects such as yours (for institution, practitioners and end-users)?</td>
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<td>What is the impact of your project on professional practice?</td>
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<td>Could you give any examples of the impact of your project on end-users? Could you direct us to any case studies?</td>
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<td>Why did you decide to use open badging for Physiopedia? Have you any evidence of its impact on practitioners/participants?</td>
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<td>Overall, what is the impact of openness on the project? (for example, the advantages &amp; disadvantages)</td>
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<td>What would you suggest to anyone who follows the same journey</td>
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<tr>
<td>Other methods</td>
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**Notes:**

- **OPAL - OER use**
  - x: Yes
  - : No
- **OPAL Social Practices**
  - OER: Open Educational Resources
  - Co-creation
  - Sharing
  - Open pedagogy
  - Practice
  - Domain
  - Collective identity
  - Organisation
- **Vrieling**
  - x: Relevant
  - : Irrelevant
Book review of The Battle for Open: How openness won and why it doesn’t feel like victory


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Has the openness movement won the battle to transform itself into a mainstream phenomenon in higher education? If the answer is yes, does this mean that the disputes with other educational technological solutions, in particular restricted, have definitively ended? Or rather is it only the beginning of a long confrontation to take center stage in a digital ecosystem that is increasingly more nuanced, where the number of actors keeps growing and the limits on what is open is ever more diffuse?

In this new book, Martin Weller attempts to find answers to these questions. To do so, he introduces a group of quite varied subjects on evolution and the current state of higher education. As such, his contribution turns into an authentic reference manual for everyone who has an interest in the digitization of education.

For years, and since its beginning, the open movement has generated multiple tensions and provoked conflicts in the status quo in academia. To understand the idiosyncrasy and reach of the conflicts, Weller begins by describing three of the main settings where the battle of open is being waged:

1) The conflict between different visions of what open is. There is a battle between, on the one hand, those who defend free access to educational materials, to reuse them and develop new work methods and, on the other, those who view openness as a way of attracting public to platforms that represent a limited work environment.

2) The spoils won in successive victories. There exists an estimate by governments of growing expenditures on education, especially in developing countries, which allows expected profits by the publishing industry, which has been working in this sector for many years, to be quantified.

3) The decisive battle for who is able to establish the hegemonic narrative of the facts; a matter of great importance given that, as Weller reminds us, history is written by the victors. The key principle to a narrative is found in its capacity to influence and intervene in the progression of events and become a self-fulfilling prophecy, making sure that the desires and ideas expressed end up becoming reality. The tension between narratives is seen at least between two opposing visions. On one side, we find an interpretation of the facts known as “the Silicon Valley narrative”, which repeatedly states that the current educational model is broken as a consequence of the digital revolution, and affirms that its restructuring is fully dependent on it being able to incorporate a whole series of disruptive technologies that radically transform the educational space. This interpretation looks for endorsement by proposing the introduction

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of measures following the same prescription that has previously been used in other business sectors, such as music or publishing. Opposing this narrative is strong criticism that points to this as an intervention in the system that leaves the main agents in the educational system pushed aside, that the proposals leave the axis of action on technology and do not take into account the true social implications implied by digital change on the entire educational space. This technologically skewed narrative does not take into account the opportunities that digitization can offer the educational community in terms of interconnection, access to knowledge, experimentation, methodological innovation and for the training of students, all members of the educational community and, most notably, of society itself.

Once the scope and major arenas where the battle is being waged are identified, the author analyzes in great detail various specific fields of the open movement that are generating tensions within academia:

- Open Access Publishing.
- Open Educational Resources.
- Massive Open Online Courses (MOOCs).
- Open Scholarship.

In each of these fields, a series of principles in higher education are being consolidated that make the battle worth the effort. Weller mentions these principles in his analysis, and also makes reference to the circumstances that explain why open approaches prevail over restrictive. The description is so exhaustive that by the end of the journey the reader fully understands the keys behind the main disputes in academia since, at the beginning of 2000, the Creative Commons open licenses appeared and the Massachusetts Institute of Technology decided to offer, open and free of charge, a large part of its lecture material on the OpenCourseWare site.

The author documents clearly and constructively a wide group of situations in which open operates. He does this using precise but very clear language that is especially useful when subjects of certain complexity are developed.

An example of simplicity and precision is his analysis and description of the field of open access publishing. The subject of open access has been considered the exclusive domain of publishers and librarians, and as such its arrival has been habitually stained with all types of technicisms surrounding author’s rights, the publishing chain or production costs. Despite these types of analysis being correct from a formal point of view, paradoxically it is certain that the technical complexity in the publishing world—with the corresponding absence of content producers and users of the documents—has kept reflections on open access at a distance from researchers, professors and students. It is precisely the collectives with greatest interest in widening the diffusion of their work and openly using scientific and study resources that end up being totally forgotten in the discussion on open access. Weller’s great achievement in this book consists in avoiding mere technical description and presenting directly and accessibly the casuistry that surrounds the routes towards open access—Gold & Green route—and how the relationship between author and editor changes as a consequence of the ability to finance the publication of an open text. With these barriers surmounted, the book focuses on openly presenting the multiple contradictions associated with a model still under construction. On one side, Weller reviews how the Gold route, which puts the emphasis on journals, does this at the cost of taking funds away from researchers and institutions. On the other, how the Green route underlines the role of open access repositories, but compensates publishers by putting an embargo on articles, which at the same time diminishes reader interest in open publications. In between both models, a series of initiatives of interest are mentioned that are
differentiated from the previous basically because they apply principles from the digital economy, mostly absent from conventional approaches proposed by academia or the publishing industry.

The same constructive approach is applied to analysis of MOOCs. The objective in this case is not so much to detail the history and evolution of open courses in-depth, but rather to show the evident contradictions hidden behind their current formulation. The disputes surrounding MOOCs take up two chapters: first a tour is taken that underlines their initial connection with open educational resources and experimental pedagogy. Then later the evolution towards the commercial and directly restricted sphere—according to the parameters that measure educational openness—is shown, until finally arriving at a review of how their current global presence and the ensuing media attention is serving to introduce a biased discourse in favor of the technology industry, which seeks to enter higher education institutions, fundamentally tossing aside its protagonists. As happens with the rest of the subjects, the interpretation of events related to MOOCs cannot be considered in isolation, which encourages a reading of the history of open to be done while considering the rest of the levels involved in the battle.

In 1993, the Nobel Prize winner Leon M. Lederman turned to a well-known aphorism to title his scientific book on particle physics: *If the Universe Is the Answer, What Is the Question?* Weller seems to confront a similar dilemma when he proposes a hypothesis that establishes a direct relationship between open education and education. For Weller, open education cannot be considered a subset of education, but rather should be understood in a broad sense as a general characteristic of education. So if someone is interested in education, they should be equally concerned with the direction the battle for open takes. Given that the evidence shown in the book fully validates Weller’s initial hypothesis, it can then be correctly affirmed that the result of the open battle hides the solution to the dilemma: if education is the answer, what is the question?