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A Meta-Analysis of Open Educational Communities of Practice and Sustainability in Higher Educational Policy

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A Meta-Analysis of Open Educational Communities of Practice and Sustainability in Higher Educational Policy

1. Introduction

Debate surrounding Open Educational Practices (OEP) has tended to focus more "on the search for a business model that can sustain these projects" Wiley (2007: 7), than on social factors. As many initiatives are funded via seed money (Wiley, 2007), economic sustainability is often a concern, and many funding bodies require a description of how sustainability will be achieved. Sustaining cultures of open sharing remains an important challenge for teachers, researchers and policymakers.

The term "sustainability" has gained considerable currency, with Google Trends revealing steady interest in the search term over the last decade, much from Australia, however, a 2015 UK survey from the Environmental Association for Universities and Colleges (EAUC) reports wide variation in perceptions of and resourcing for sustainability across higher/further education. Uses of "sustainable" or "sustainability" in higher education (HE) range from "sustainable assessment" (cf. Boud, 2000), taking into consideration students' future needs, to notions of cost effectiveness, accessibility, and environmental footprint, synonymous with economics and ecology.

Heron, de la Tour and Riva (2015) point out the importance of considering terminology in facilitating conversations within the university about engagement with the theory and praxis of teaching and learning. In this article, we draw upon Fien's (2001) pillars of sustainability to perform a meta-analysis of policy, in order to address the sustainability challenges facing OEP communities of practice (CoPs) in a principled way. Grgurovic, Chapelle and Shelley (2013) describe such an approach as suited to investigating not only specific variables, but broader educational policy questions (see Oswald & Plonsky, 2010).

CoPs are defined as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise by interacting on an ongoing basis" (Wenger, McDermott & Snyder, 2002: 4), and are "the basic building blocks of a social learning system" (Wenger, 2000: 229). Koohang and Harman (2007) argue that because CoPs are "characteristically decentralized", they can improve the scalability of open projects. Schaffert and Geser (2008) recommend policy support not only individual content creators, but also CoPs. However, as Heron et al. (2015) point out, a quarter of those working in HE indicate their institutions do not have any plans, projects or campaigns in this area, something this paper aims to investigate in terms of policy.

Wiley (2007: 5) states sustainability might be defined as the ability of a project to continue its operations (...) However, we cannot place value on the simple ongoing machinations of a project and staff who produce nothing of value (...) the definition of sustainability should include the idea of accomplishing goals in addition to ideas related to longevity.

Clear standards for measuring sustainability from the perspective of "accomplishing goals" are needed, and the extent to which institutional, individual educators', and educational researchers' goals overlap requires investigation.

In a presentation on education and sustainability, Reid (2013) asked "Sustaining what?" and "What is education for?". We seek to examine the social dynamics of sustainability in OEP, and ask "Sustainable for whom?". A number of answers are possible: for the learner, in terms of lifelong learning; for the teacher, in terms of production, implementation and sharing of good practice; and for the institution, in terms of economics and ecology (which may include...
reputation, hoped to translate into revenue). While these all overlap and serve as motivating forces, disparate discourses and actions can constitute barriers to OEP, within and across institutions. Heron et al. (2015) also list "Sustainability: for whom or what? By whom? To what end?" as foremost among the issues upon which they seek to open up discussion. With sustainability ranking fourth on UNESCO's list of top concerns for the international OER (Open Education Resources) community (D'Antoni, 2008, cited in Friesen, 2009), well ahead of technology, and the Leeds Manifesto (SCORE, 2010) echoing similar themes, we posit "sustainability" as an important trigger of, and obstacle to, sustainable OEP CoPs. Social presence, motivation, and collaboration have been identified as key factors contributing to the success of any CoP (Lave & Wenger, 1991), and we, as well as, increasingly, funding bodies, view sustainability as one indicator of success in educational projects. As a result, in this paper we seek to investigate notions of OEP and sustainability in HE policy.

1.1. Education and Sustainability

"Sustainability" often appears in the context "education for sustainability" (EfS) (cf. Fien, 2001; PCE, 2004), emphasising the role schooling plays in informing young people of environmental challenges (cf. UNESCO, 1997: 15, cited in Fien, 2001). Fien describes EfS as "a vision for society that is not only ecologically but also socially, economically, and politically stable" (2001: 1), requiring the promotion of policies encouraging this broader interpretation of sustainability. These areas make up his four pillars of sustainability. We contend (and indeed our data shows below) that university policy tends to use the terms "sustainable" and "sustainability" primarily in economic and ecological senses.

According to New Zealand's Parliamentary Commission for the Environment (PCE) report, over 1,000 university presidents and vice-chancellors have signed commitments to sustainable change, however, "including near neighbours such as Australia, there has been very little research on education for sustainability in New Zealand's tertiary education sector" (PCE, 2004: 75). The report states that while issues relating to sustainability are gaining momentum, they remain on the fringes of most tertiary organisations with individuals left to push for change, mirroring the challenges faced by OEP champions. Furthermore, the report flags language as a major influencing factor, citing the argument that "Calling a forest 'timber', fish 'resources', the wilderness 'raw material' licenses the treatment of them accordingly" (Suzuki & McConnell, 1997: 201-202). We question whether "educational resources" and "teaching materials" license a similar view of education as packaged and delivered content rather than learning as a process which requires active human engagement and interaction (see Dewey, 1913).

We contrast Education for Sustainability with the Sustainability of Education, and contend that holistic approaches to OEP and the sustainability of education in general are linked.

Table 1–Education for Sustainability contrasted with Sustainability of Education.

<table>
<thead>
<tr>
<th>Education for Sustainability (EFS)</th>
<th>Sustainability of Education (SOE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Encourages ecologically sustainable behaviour via education</td>
<td>• Concerned with the ongoing ability of an educational endeavour to meet its goals</td>
</tr>
<tr>
<td>• Also known as Education for Sustainable Development (ESD) (Ryan &amp; Tilbury, 2013), or Education for a Sustainable Future/New World Order (PCE, 2004)</td>
<td>• Has generally been considered in relation to assessment and feedback (Boud, 2000; Hounsell, 2007, and Carless, Salter, Yang &amp; Lam, 2011)</td>
</tr>
</tbody>
</table>

As outlined above, Wiley provides a broad definition of sustainability in OEP as a project's "ongoing ability to meet its goals" (2007: 5). Koohang and Harman (2007) identify four issues: instructional design, cost of support, production and maintenance (many analogous to issues facing the development of new products) and finally, the scalability of CoPs (which the authors view as more likely to drive open practice than resources, and which, they note, Wiley (2005) asserts decentralization improves.

Projects must find a way to sustain the production and sharing of resources (the "real costs" in making/distributing OER), and the (re)use of resources (platform-independent open formats that can be modified/adapted). Importantly, Downes notes that breaking down provider/user/
organiser/sponsor roles provides greater scope for creativity and development, moving from "knowledge for all" to "construction of knowledge by all" (UNESCO, 2005, cited on page 38). The OLCOS (Open eLearning Content Observatory Services) roadmap (Geser, 2007) highlights the importance of practice.

1.2. Sustainability of Open Educational Practice

Rolfe (2015) defined sustainability as embedding a "spirit of open" and viewing open practices as part of what you do, with buy-in from students and departments, benefits for partners, good technological solutions, global reach, and benefits to teaching and research. Vulnerability involves reliance on champions and infrastructure, policy embedding without ownership, staff turnover, target-driven rather than open-focussed priorities, and a lack of time. Sharing of language teaching and learning resources through repositories has proven more problematic than expected, with case studies collected by Heaven, Comas-Quinn and Sawhill (2013) revealing that, despite benefits, the sustainability of such practice is called into question due to short-term funding and reliance on a collaborative work ethic. This flags the relevance of the CoP to the sustainability of OEP.

Much debate surrounds the word "open" according to Downes (2007), who cites Walker's (2005) definition of open as "convenient, effective, affordable, and sustainable, and available to every learner and teacher worldwide", and Daniel et al.'s (2006) "accessible, appropriate, accredited and affordable". For Downes, however, "open" entails "no cost to the consumer or user" (2007: 32), citing the Public Library of Science which emphasises "free" access. Notably "free" is not synonymous with "free of charge". Freedoms were identified: freedom to copy, modify, redistribute, and redistribute with modifications. (Fierro, Kissenger & Greene, nd). See also Wiley's five Rs, including "reuse", vital to sustainability, in Zourou (2016), this issue. Many authors distinguish between "commercial" and "open" even though some commercial organisations make freely available resources and some non-commercial organisations publish resources for a fee. In a keynote speech at OER15 Weller defined free software as emphasising freedom, and open source as emphasising efficiency. Empowering OER users to contribute back to the community, exchanging time, is also a recommendation for the sustainability of OER made by OLCOS (Geser, 2007). It is possible to conclude that it is unclear whether the requirement of some sort of payment (subscription fees, contribution in kind, even user registration) ought to be called "open". Given our focus on sustainability, the current paper is aligned with a view of OEP that emphasises maximum freedom for teachers and students to reuse, remix, and redistribute. However, we do not seek to impose any single definition of OEP on the corpus of policy documents analysed, recognising that different academic cultures have different attitudes towards sharing (cf. Kurek, 2016, this issue). McGill and Gray, describing a project which adopted ideas and practices from outside HE, note that as "other staff have taken on the role as champions of the classes and the approaches, [the project] is likely to be more sustainable than relying on one individual" (2015: 5).

Friesen (2009) provides a timeline of discontinued projects, observing that, while differing in their approaches, none prioritised the collection of Creative Commons (CC) content or focused on a specific subject/community, and half appeared to encounter sustainability challenges relatively early. Viewing this as the first lesson of sustainability, Friesen argues the second is the importance of community, as highlighted in the UNESCO report.

The question of sustainability in relation to open education appears prompted by definitions such as "open sharing of one's educational resources" which Larsen and Vincent-Lancrin (2005) suggest imply knowledge is made freely available and on non-commercial terms. Even though a resource may be free to the end user, it is not necessarily free to create, maintain, distribute or modify. As Wiley states, "Sustaining work whose efforts are given away freely is difficult… However, difficult and impossible are two very different things" (2005: 19), with Downes highlighting the need for volunteers, incentives, communities, partnerships, co-production, sharing, distributed management and control (2007: 29).
1.3. Community and Policy

The importance of social interaction and community in OEP is highlighted in Wiley's statement that through "increasing the value inherent in participating (...) for staff, teachers, and learners, we may be able to decrease the amount of extrinsic incentives (such as money) that are necessary" (2007: 6-7). This is key given the large proportion of the funding dedicated to staffing, and especially as true costs in terms of labour are likely higher given the primarily volunteer nature of many initiatives, and as training costs are often overlooked (COL, 2004). While not all costs are avoidable (and cost reduction should not be the main goal of a CoP), some of the unavoidable expenses may be reduced if shared across institutions.

Open education has been largely driven by volunteers rather than benefitting from the hiring of dedicated staff which raises a new set of considerations. Staff may be motivated by altruism, promotion, tenure/recognition, which often require a community (Downes, 2007: 39). A community model (where reputation is a natural outgrowth of social interaction) and an emergent model (where reputation mechanisms such as those used on the consumer auction website on eBay are required) are cited by Downes (2006). Reputation is important in fostering quality also, as Atenas and Havemann (2014) claim, indicating authorship of resources is vital for motivating OER use/reuse, and not only does OEP represent a technological toolset to be mastered, but a cultural shift.

Jisc notes cultural change at the level of the institution, department or subject community is necessary: "support at a strategic management level can be very useful to obtain 'buy-in' from others within an institution" (2014). In the context of EfS, Fien claims "Reorienting education for sustainability does not require large additional sums of money; it does require political will" (2001: 33). We argue the same may be true of OEP. O'Reilly, in an editorial for a series of longitudinal studies of open practice, asks: "How do we ensure we can suitably pace ourselves for on-going and sustainable improvement to practice?" (2014: 2). Policymakers may need to address this if we are to build upon the "worthy changes" identified by Orlando (2014). Prompted by Wiley's calls for HE institutions to ask "what can we do to provide incentives for faculty to participate" and "what current institutional policies create obstacles for faculty who wish to open access to one or more of their courses?" (2007: 8), we examine to what degree policy includes notions of sustainability in relation to OEP by reviewing the circulated use of these terms in public documents. Furthermore, we ask questions around the relevance of the CoP to any such policies.

2. Method

2.1. Aim

We aim to analyse current policy in Australian universities relating to the notions of openness and sustainability by performing a meta-analysis of the available published policy documents. We seek to respond to the following research questions.

1. To what degree do university policies address notions of sustainability and open education?
2. To what extent do these notions overlap in existing policies?
3. What concepts of sustainability in relation to learning, culture, and social interaction are reinforced by policy?

2.2. Policy identification and retrieval

Norris and Ortega cited in Grgurovic et al., (2013) identify three defining features of a research synthesis, namely, a clear statement of how the literature was searched and the selection undertaken, a focus on variables and data in the primary research, and drawing conclusions based on data and methods that cut across studies. Although the last two points apply to surveys of empirical studies rather than policies, the current paper draws upon guidelines from Grgurovic et al. (2013) regarding document identification and retrieval.

In order to examine how open educational practices/resources and "sustainability" are conceived of in university policy in Australia, we identified the publicly available policy
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"banks"/"libraries" of 39 institutions listed by the Australian Education Network (OEN) at http://www.australianuniversities.com.au/rankings/, and performed an extensive keyword search. In the first search, "sustainable" and "sustainability" were searched for. In the second, "open education", and "open educational" were searched for (resulting in instances of open education(al) practice and open education(al) resources).

The search was conducted mid-2015, utilising the policy bank/policy library's own search function wherever available. Where such provisions were not made or errors encountered, Google Advanced Search was used to explore the relevant (sub)domain. As some search engines treat "sustainable" and "sustainability", or "education" and "educational" as variants of the same word and group their results together while others do not, both were searched for, and as a result, overlap is present in the data. Overlap in results also occurs where a single policy document contains both of the words "sustainable" and "sustainability" or both "education" and "educational". However, we are not interested in drawing quantitative comparisons between these two terms, but rather, investigating the contexts in which they are used, and instances are analysed individually below. In addition, the OER Policy Registry (nd), a registry dedicated to current and proposed open education policies worldwide, was searched for the terms "sustainable" and "sustainability" to provide global context.

2.3. Policy document coding

Across the 39 policy banks examined, a total of 152 policy documents containing "sustainable" and 160 containing "sustainability" were identified. All policy banks were also searched for reference to "Open Education" or "Open Educational" in order to find OEP/OER related policies. Only three policy documents in total were identified (although one guideline document was also found), all of which used the term "Open Education Resources" (OER). Although our searches retrieved a number of guidelines, white papers, and other documents, collection was limited to policy documents.

Documents were included if:

1. they were housed in the university's official policy bank;
2. they included one or more of instances of the keywords;

and excluded if:

1. they were labelled as guidelines, whitepapers, any other type of document other than "policy", or lacked labelling;
2. they only included instances of the keywords in links or "breadcrumbs" to other policy documents in side or top menus.

The next step involved separating the policy documents for textual analysis. After retrieval, policies were coded as Education-related or Non-Education-related on the basis of the overarching policy categories in which they were housed (eg Health and Safety, Teaching and Learning, etc.), or the policy owner(s) (eg Dean of Education, Manager of Facilities). The location of Non-Education-related policies that mentioned sustainable/sustainability were recorded in a table (eg Human Resources, HR; Finance), and Education-related policy documents were downloaded for textual analysis. Of the 152 documents containing "sustainable", only 21 were Education-related policies (131 documents were coded as Non-Education-related), and of the 160 to contain "sustainability", 20 were Education-related (and 140 were Non-Education-related). All of the policies to mention "open education" were, unsurprisingly, educational policies.

Qualitative coding of the Non-Education-related policies which mentioned "sustainable"/"sustainability" resulted in the emergence of seven key themes: Human (including HR, health and safety, staff/student conduct, and recognition), Financial (funding, fees, grants, budgeting, investing and procurement), Technology (excluding those already counted under procurement), Spaces (physical assets, buildings and facilities), Research (conducting/disseminating research including intellectual property, IP, centres and
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institutions, but excluding those already counted under funding or grants), Governance (general institutional/top-level policies) and Environment/Sustainability (generic policies on sustainability/the environment). A small number unrelated to any of these categories were coded as "other". Importantly, four of these themes relate to Fien's four pillars: Social (Human), Economic (Financial), Political (Governance) and Environmental (Environment). While policies under the three remaining categories of Technologies, Spaces, and Research may relate to one or more of these themes, they are comparatively less common (with the exception of Governance). Following this initial coding, a second coder coded the same data, and the coding was discussed and clarified.

For the Education-related policies, we used the concordance software Antcon to examine environments in which the selected words were found, including a token count of "sustainable" and "sustainability", and collocated words, concerned with how many times "sustainability" and its variants appeared in these documents as well as the context in which these words occurred. Prior studies have linked sustainability in the university domain to economics and ecology. This study sought to understand whether the same might be true in the Australian policy context.

3. Results and Discussion

Fewer than 10% of university policy bank searches returned hits for "Open Education" (three policy documents in total, although one guideline document was also found), all of which used the term "Open Education Resources (OER)". Despite its infrequent mention, two uses can be identified: (1) OER as external resources, defined in policy relating to external educational technologies (EETs), or the recognition of prior learning, and (2) as something which might be internally produced, defined in relation to IP and copyright. The University of the Sunshine Coast (USC) encourages staff to make non-commercialised content created in the course of their employment open access and promotes the sharing of knowledge and the creation of Open Educational Resources (OER) and open-source software. Staff and students of the University are encouraged to use open access content in the development, production, reproduction or delivery of materials (USC, nd, Intellectual Property Rights Policy).

The term "Open Education(al) Practice" was not found, and perhaps unsurprisingly, few policy documents address the sustainability of open education through social uptake. How these terms are utilised in policy will be addressed in the following sections.

3.1. Open Education and Sustainability

Only one document housed in the policy banks was found to utilise both "sustainability" and "OER", a set of guidelines at Charles Sturt University (CSU). The guidelines note the need to take advantage of the opportunities presented by EETs, "while ensuring we do not compromise the student experience or our sustainability", and considers "sustaining and managing external educational technologies" as the third of three phases relating to good practice in the use of EETs.

This is not to suggest that OEP and OER is not on the agenda of other Australian universities. A number of universities provide information on CC for OER while others have begun open education initiatives via Massive Open Online Courses (MOOCs) or iTunesU, or celebrated Open Access week. Federation University's BOLD standards framework for effective learning and teaching explicitly mentions OER. Additionally, several Australian universities are OERu (nd) Partners. This list is partly indicative of the attention paid to OEP in Australian HE, although given our focus on policy, an exhaustive listing is beyond the scope of the current paper.

Table 2–Illustrative examples of OEP and OER activity in Australian universities.

<table>
<thead>
<tr>
<th>References to OEP and OER in Australian universities</th>
<th>URLs</th>
</tr>
</thead>
<tbody>
<tr>
<td>The eLearnings Meanderings blog at Monash</td>
<td><a href="https://blogs.monash.edu/elearnaccfin/">https://blogs.monash.edu/elearnaccfin/</a></td>
</tr>
</tbody>
</table>
An additional search on the OER Policy Registry for policies tagged "Australia" reveals a proposed policy and procedure for IP at the University of Canberra which encourages the use of open standards "to help ensure the quality and sustainability of work published through the institution of research and education's platforms", and, in a separate section relating specifically to educational resources, states that "This policy seeks to promote the use and development of open educational resources."

A search for the term "sustainable" on the Registry returned five hits, two of which were policy hits, and for "sustainability", three, one of which was a policy document (all from the US). An additional policy document mentioning "sustainable" was added in late 2015. In one of these documents, "Projects that are designed to significantly increase efficiency in the use of time, staff, money, or other resources in order to improve results and increase productivity. Such projects may include innovative and sustainable uses of technology, modification of school schedules and teacher compensation systems, and use of open educational resources (as defined in this notice), or other strategies" are listed as a priority. A more recent (2013) policy similarly states:

The Assistant Deputy Secretary for Innovation and Improvement establishes a priority that funds projects that (...) identify strategies for providing cost-effective, high-quality services (...) making better use of available resources. Such projects may include innovative and sustainable uses of technology, modification of school schedules and teacher compensation systems, use of open educational resources.

Importantly, demonstrating the social element of sustainability, it is reported that:

One commenter supported our decision to include sustainability as one of the selection criteria. This commenter also recommended that we add to the sustainability criterion a requirement that the applicant support the project's participants after the grant period.

Finally, the US Open Government Partnership policy document, dated October 2015, provides a clear indication of the social importance of open education:

Open educational resources are an investment in sustainable human development; they have the potential to increase access to high-quality education and reduce the cost of educational opportunities around the world" (Open Government Partnership, 2015: 3).

3.2. Sustainability in Educational Policy Documents

The current paper is most critically concerned with sustainability in educational policy in relation to the notion of CoP in university contexts. In this section, we continue our analysis to provide a more thorough understanding of the assumptions underpinning how "sustainable" and "sustainability" are used in educational policy documents.

"Sustainable" and "sustainability" appear a total of 69 times across the examined policy documents. The current study's findings appear to mirror prior work linking the use of the term "sustainability" primarily to economics and ecology. Yet, a closer look at Australian HE policy documents reveals two more nuanced findings. Firstly, a few universities show a top-down concern with student engagement with sustainability, although, often with little definition of sustainability or what constitutes engagement with sustainability. This hints at a second and more substantial difference in the use of "sustainability" (and its variants) across the policy documents. In reference to economics, uses of "sustainability" in education policy range...
from the vague to the punitive. Teachers are encouraged to maintain sustainable assessment, but little is done to explicate what constitutes sustainable assessment or how it might be created. Policy prescribes that courses must be sustainable to be accredited/re-accredited but sustainability criteria are vague or absent. In other words, policy wields sustainability in this sense as an administrative obstacle rather than an opportunity. This economic notion of sustainability sits in stark contrast to the way in which the term is used in ecology. Ecological uses of sustainability within educational policy are positive, explicit and implicate a long-term orientation for the university as a global institution, with aspiration for its graduates to be global citizens.

3.2.1. "Sustainable" Community

In total, there are 28 instances of the word "sustainable" across educational policy at the 39 Australian universities. Five of these tokens are in reference to traditional senses of environmental sustainability. Yet, most tokens of "sustainable" related to courses/curricula or student experience/outcomes as members of the university community. Most of these tokens in turn relate to the approval, design, review and/or maintenance of course structure and curricula. However, the concerns raised for these courses and curricula through the use of the term "sustainable" are varied and vague. For instance, educational policy sometimes flags the need for "sustainable" assessment, or the need for academic programs to select nomenclatures which will be consistent with, and "sustainable" in, national and international communities, with little or no guidance given for what constitutes "sustainable".

Vague and varied approaches appear rather endemic of most uses of "sustainable" across university policies. Although we did not explicitly search for the verb "sustain", this variant appears to be used in a similar sense in relation to course (re)accreditation, framed as contingent upon the availability of university resources to "sustain" the course. In such cases, there appears to be an implicit focus on the availability of university resources rather than the sustainable development of resources. In other words, to paraphrase Wiley (2007: 5), the policy expresses "ideas related to longevity" but does not "include the idea of accomplishing goals" to achieve longevity. Similarly, discussion of the role of the university in sustaining a community of free thought, enquiry and mutual respect is not necessarily coupled with reference to goals for achieving such sustainability. Regardless, possible concern for sustainable community, and a stronger concern for sustainable curriculum, is evident.

3.2.2. "Sustainability" as a Process

As with "sustainable" above, some universities acknowledge "sustainability" to be a process and focus on its nuances within the education process. For instance, La Trobe University policy explicitly encourages lecturers to engage in a reflective process about student progression. Like James Cook University (JCU), La Trobe stipulates that lecturers should adopt a proactive approach to "sustainability" within the teaching domain, and should "provide a rationale for the effectiveness, efficiency, and sustainability of the main teaching, assessment, feedback and academic support strategies, approaches and/or technologies to be used".

However, the general pattern across universities appears to show that little guidance on what constitutes sustainability in the education space is provided, coupled with infrequent acknowledgment of the need for investment or other strategies for achieving "sustainability" in HE policy. In other words, at this point, we can posit two prevailing patterns which emerge for the use of "sustainability" and its variants in the education realm. Firstly, most universities use the term rather loosely and with little guidance, even where the intention is not directly financial, but rather education-focused. Secondly, and most directly linking with our wider argument, "sustainability" is often presented as an obstacle through which one is punished for not having achieved or made an argument for the likelihood of longevity, in stark contrast to the vision presented by Wiley (2007) wherein "sustainability" would serve as a series of goals for achieving longevity.

We turn our attention at this point to other uses of "sustainability" in policy documents, and posit a few positive micro-trends. A pair of universities account for the majority of the uses of "sustainability" in educational policies, and notably neither's tokens are in explicit
reference to economic considerations. Rather, both universities show a concern with fostering positive CoP around "sustainability", albeit in very different domains. Firstly, Southern Cross University (SCU) accounts for 10 of the 41 tokens of "sustainability" and notably positions "sustainability" as one of its "Graduate Attributes": "Ethical practice: a commitment to sustainability and high ethical standards in social and professional practices" (our emphasis). Although we encounter a certain (unavoidable) generality, we interpret the inclusion of "sustainability" positively due to the fostering of a "community" around "sustainability". Graduate Attributes are considered core components of an Australian university's educational policy. For instance, Monash policy stipulates each of its units must be designed and delivered with these in mind and Graduate Attributes are listed on each unit's guide. Therefore, the listing of "sustainability" as a Graduate Attribute seemingly puts the onus on educators to foster a "community" of graduates concerned with "sustainability". While on the one hand, centralizing a practice sits in opposition to the "de-centralized" notion of a CoP, we view "sustainability" as a centralized underpinning for many, varied and de-centralized joint enterprises as positive. When used in such contexts, "sustainability" is posited as an opportunity rather than an obstacle.

Victoria University (VU), also a prolific policy user of "sustainability" with 15 tokens, provides an explicit and concrete series of goals in relation to the concept, and shares SCU's concern for fostering a community of "sustainability". However, VU's policy appears to emerge directly from the EfS movement mentioned in section 1.1., which emphasizes the role schools play in informing people of environmental challenges. This might, at the onset, seem unrelated to our current focus on education and OEP save that in relation to the ecological use of "sustainability", universities commonly outline environment charters and committees. VU has established an "Education for Sustainability Committee" with members from each faculty, tasked with integrating "sustainability for Education" into all aspects of the university's courses, in terms of a series of goals, and a process. A number of universities have similar initiatives, eg the Monash [University] Sustainability Institute.

A macro-level approach to "sustainability" might seem unremarkable and not entirely unlike the policy around economic sustainability discussed above. However, when it comes to environmental sustainability, university plans operate also at the micro-level, including outlining goals for the reduction of consumable goods (eg paper) and natural resources (eg water) as well as maximal reuse of such goods and resources where possible. This contrasts with the use of the terms "sustainable" or "sustainability" in course and curriculum-related educational policy, where we found no concrete evidence to suggest these concepts are thought of in connection with the reuse of learning/teaching resources. Such plans also include actively promoting awareness, behavioural change, and the sharing of knowledge and experience, with a focus on community and social interaction, fostering CoP par excellence, with all stakeholders encouraged to engage in a "joint enterprise" (environmental sustainability). This enterprise is outlined as a highly reflexive and interactive "mutual engagement" (sharing knowledge and expertise), in turn, informing a "shared repertoire" of positive practices with long-term orientation for having a positive impact on the environment. Where "sustainability" is an obstacle in the economic approaches to education policy above (where economic sustainability of courses is often the only kind of sustainability mentioned in relation to education), in EfS, it is framed as an opportunity.

4. Conclusions

One of the key findings outlined above is that while goals for economic and environmental sustainability are comparatively well-defined in HE policy, references to "sustainability" in social and knowledge-based senses appear vaguer. When used in educational policy, "sustainability" is often synonymous with cost-cutting, and little acknowledgement of investment is made. It is likely that institutions which see their knowledge creation as being "in the world, for the world" (Barnett, 2011) will most strongly resonate with embracing OEP. Although sustainability in environmental contexts is frequently cast in a positive light, references to the terms "sustainable" and "sustainability" in educational settings are more often
framed as obstacles, something courses have to demonstrate in order to continue running, rather than part of the everyday practice of an institution's culture. And while environmental references to sustainability may be accompanied by long-term goals, the terms "sustainable" and "sustainability" do not yet appear to be used in relation to the development of reusable resources and OEP, or the fostering of lifelong learning.

4.1. Learning about Education for Sustainable Development, but little Development of Sustainable Education

As Fien (2001) and the PCE report (2004) among others demonstrate, the literature relating to the notion of "sustainability" in learning and teaching contexts often refers to EJIS and ESD, while the word "sustainable" appears less frequently in relation to other pillars. These patterns in the literature appear to be mirrored in current policy.

According to Vare and Scott, ESD learning may be divided into two complementary approaches: ESD1 "the promotion of informed, skilled behaviours and ways of thinking, useful in the short-term where the need is clearly identified and agreed" and ESD2 "building capacity to think critically about what experts say and to test ideas, exploring the dilemmas and contradictions inherent in sustainable living" (Vare & Scott, 2007: 191). They argue that policy makers have tended to take ESD1 approaches, even though too much ESD1 success in isolation could reduce capacity to manage change, making us less sustainable.

Our analysis of Australian HE policy above suggests that two such approaches may be identified in relation to the use of the term "sustainability" in other areas, inverting the acronym ESD to form DSE (Developing Sustainable Education). While there appears to be evidence to suggest that environmental and economic references to sustainability in policy incorporate not only the promotion of specific behaviours such as water-saving and reductions in paper use (ESD1), but long-term goals relating to equipping students with the capacity to explore sustainable ways of living (ESD2), the use of the term "sustainability" in the educational realm has tended to refer not to the development of reusable resources or the fostering of lifelong learning (DSE2), but short-term course reviews (DSE1). How clearly the need for sustainability is identified is also somewhat questionable in the realm of DSE, suggesting that in some cases, perhaps even DSE1 has not been fully achieved.

4.2. OEP and Teaching Materials vs Learning Processes

As noted in section 1.1., the PCE report lists language as a major influence on sustainability, arguing some words such as "resources" and "raw material" rather than "fish" or "the wilderness" contribute to shifts in understanding (2004: 104), and describes consumption and the rise of a consumer society in terms of people learning to become consumers. We find it useful to problematize the conceptualisation of learning/teaching which centres on "materials" and "resources" at the expense of "processes". To be considered sustainable, Downes (2007) states that OER are frequently described as needing flexible content (Walker, 2005), and can be viewed as tantamount to "reusable". Iglesias, Mora and Leeming, writing in the context of OER production by Spanish language students, postulate that the resources produced could be polished and uploaded to Language Open Resources Online "for other teachers or learners to use or reuse" (2013: 157) highlighting the importance of removing teacher/learner, producer/user barriers.

The importance of communities in conjunction with open educational resources and sharing practices was recently highlighted in the case of the European migrant crisis, with non-profit EDUin, in Prague, working with the Czech organisation of civic education teachers to respond to student questions. "This activity shows that open educational resources can help react to a new situation very quickly in a way traditional textbooks cannot", said EDUin's open education program coordinator, Tamara Kováčová, in comments published in a Creative Commons post by Gondol (2015).

Because of fast distribution, materials get to schools around the country in a matter of days. Teachers get support in time when they need it and teaching is up-to-date. Furthermore, it's possible to join several school subjects together on phenomenon based learning principle.
As previously mentioned in section 1.3., although a large portion of the funding in many OER projects for teaching and learning surveyed appears to be dedicated to funding staffing, the true costs in terms of labour may be higher once the efforts of staff whose workloads do not directly take into account OEP activity are considered, and when oft-overlooked costs such as staff training are considered (COL, 2004). As Kernohan (2015) emphasises, having space and time in one's workload is vital. Between workload creep and reliance on volunteer champions, it may be difficult to quantify savings or goals in this area, in comparison to, for example, the reduction of water consumption or printing, which may go some way to explain the difference in the articulation of goals between ESD and DSE described above.

4.3. The Culture of OEP Communities and Scalability

As stated earlier, CoPs are "characteristically decentralized" and thus can improve the scalability of OER projects. They draw on Ostwald's (1996) definition of a CoP: "A group of practitioners involved in a common activity." Essential characteristics include not being defined by organisational mandate but rather the ways people work together, emphasising the importance of a working culture, the existence of many roles as opposed to a flat structure, and an ongoing flux of members who enter from the periphery and gain status and knowledge through participation. Members must have freedom to participate, to join or leave, and an interest in the creation/sharing of knowledge (Bailey & Hendrickson 2004; Davenport & Prusak, 1998). Wenger's (1998) definition includes three dimensions of a CoP—what it is about (the joint enterprise), how it functions (mutual engagement) and what capability it has produced (the shared repertoire). Whyte (2016, this issue) highlights the importance of local CoPs, finding little evidence of engagement with wider CoPs outside the circle of course members studied.

According to Rolfe (2015) policy-embedding without ownership is the antithesis of sustainable culture. Given the extremely limited reference to OER and the seemingly absent use of OEP in Australian university policy, in spite of the abundant web pages on university sites dedicated to the topic, it appears safe to say that this is not happening. While it may be beneficial for the use of the term "sustainability" in relation to education to be used in more positive senses, as is the case with references in relation to the environment, we were unable to find any instances of institutional mandates to participate in OEP CoPs, although we did find multiple references to OEP/OER and community in individual blogs, research profiles, and other sites attached to universities. Additionally, we are aware of many non-education specific platforms, including social media such as Pinterest, increasingly used to foster informal connections between educators at various institutions.

Ubiquitous technology use, the development of social sharing and mobile technologies enable teaching and learning practitioners to connect and engage with geographically remote communities to form distributed networks of knowledge sharing which benefit academe. More so, and relevant to the current discussion, it enables the formation of CoPs. Pervasive learning facilitated via social sharing in such a way offers learners flexibility in terms of community, autonomy, geographical location and relationality. The increased professional adoption of social media by HE practitioners is described by Seaman and Tinti-Kane (2013: 19), who state that "[s]ocial technologies can provide new opportunities to engage learners and many educators are discovering impactful strategies for using them." A focus on OEP within trusted educational networks (TEN) is described by Pawlowski and Clements (2013: 9), providing a list of knowledge business advantages including opportunities for creating new global connections. When analysing the affordances of computer-mediated communication, specifically social media, in facilitating knowledge worker interactions, Majchrzak, Faraj, Kane and Azad (2013) note that the unbounded nature of interaction is widely seen in a positive light, citing for example IBM, which "considers its use of social networking tools among its 400,000 employees to be absolutely germane to its dual focus of enterprise-wide collaboration and innovation" (Majchrzak, Cherbakov & Ives, 2009). This interest-driven, authentic knowledge sharing extends the reach of corporate communication and fosters reputational advantage as it broadens the base of the institutional ecosystem. The
practical advantages for social dynamics fostered in this way are substantial, decentralising the knowledge sharing process and extending engagement in business-critical knowledge construction. It is acknowledged that traditional approaches to institutional communications management are challenged and opportunities arise to re-examine assumptions.

4.4. Social Sustainability and Sustainable for whom?

At the outset of this paper, we asked "Sustainable for whom?", querying the social dynamic of OEP and positing that a number of answers were possible: sustainable for learners in terms of lifelong learning, for teaching staff in terms of development, use, and sharing of good practice, and a culture of collaboration for both teachers and learners, and finally, sustainable for the institution economically, and, often tied to this, for society more broadly in terms of environmental sustainability. One of our major findings is that the term sustainability appeared to be a euphemism for financially viable when used in relation to many teaching projects, which appears to align with Wiley's (2007) claim that most conversations regarding sustainability and OER have focused on finding a business model to sustain such projects long-term. Despite the large amount of scholarship and discourse produced on the economic sustainability of OER, this is not just a question of financial resources but about incentives more generally (Wiley, 2007: 6). Within the policy domain, incentives for students and staff to participate in OEP, and by doing so, form OEP CoPs, largely appear yet to be defined. Consequently, OEP sustainability sometimes remains an individual rather than a social, communal endeavour in policy.

If we accept that reputation is a natural outgrowth of social interaction (community model) and as mediated via reputation mechanisms such as points systems and star ratings (emergent model), it is apparent that there is some scope for policy, particularly in large institutions, to ensure appropriate mechanisms are in place to recognise OEP activities. What we are proposing here could be classed as a "commons thinking" approach (see Kenrick, 2009), drawing together university's wider role in stewardship of knowledge creation and the academic discourse which facilitates it through recognising OEP and the value of workload considerations, which appear to be one of the biggest barriers for staff currently, in order to foster a culture of collaboration. Creating the space for mass OEP engagement through top-down policy will support the bottom-up formation of CoPs, and a collective OEP effort, and, in turn, more successful and sustainable outcomes.

Références

Bibliography


A Meta-Analysis of Open Educational Communities of Practice and Sustainability in Higher Education


Website


Notes

1 In order to contextualise and better understand the findings from examining university policy documents, we have included in our paper voices from practitioners and members of the open education community. Many of these individuals and organisations publish their thoughts openly through online blogs and presentation recordings which contribute to an emerging body of open scholarly discourse described by Martin Weller, Professor of Educational Technology at the Open University in the UK, as "digital scholarship". He says: "A digital scholar need not be a recognised academic, and equally does not include anyone who posts something online. For now, a definition of someone who employs digital, networked and open approaches to demonstrate specialist knowledge in a field is probably sufficient for progress" (Weller, 2011). The specialisms demonstrated by those whose voices have been included is widely acknowledged by their peers and bring important insights into emerging practice in teaching and learning in Higher Education.

2 https://www.google.com/trends/explore?q=sustainability&cmpt=q&tz=Etc%2FGMT-11

3 https://www.plos.org/

4 Formerly Joint Information Systems Committee, a not-for-profit company providing digital solutions for UK education and research.

5 https://en.wikiversity.org/wiki/Intellectual_Property_-_proposed_policy_and_procedures_for_Australian_research_and_education

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Pour citer cet article

Référence


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Droits d'auteur

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"Sustainability" has gained substantial currency in education internationally and is an important motivation for open educational practices, although the definitions educators attribute to this term may differ from what is meant institutionally. Uses of "sustainable" or "sustainability" in higher education range from taking into consideration students’ future needs, to notions of cost effectiveness, accessibility and environmental footprint, synonymous with economics and ecology, and viewed as a business model. The future brings many as yet unknown challenges which will certainly require access to lifelong learning opportunities for growing populations.

Learning and teaching are human activities which take place through communities of practice, often but not exclusively formal institutions such as schools and colleges. In higher education and beyond, knowledge sharing is no longer limited exclusively to academic publishing and conferences. Technological developments have enabled social interaction through social media tools which are rapidly changing the way we live and work, providing new networks for learning. In this article, we explore the assumptions underpinning the terms "sustainability" and "open education" as they are utilised in current university policy via a meta-analysis of published policy documents. We posit that notions of "sustainability" are simultaneously one of the most important triggers of and obstacles to Open Educational Practices, and examine to what degree Australian (and international) university polices address these issues.

Méta-analyse des communautés de pratiques éducatives libres et de la durabilité dans les politiques de l'enseignement supérieur

Le concept de "durabilité" a gagné du terrain à l'échelle internationale dans le domaine de l'éducation et est devenu un facteur important de motivation pour les pratiques pédagogiques ouvertes, bien que les définitions que les enseignants attribuent à ce terme diffèrent de sa définition institutionnelle. L'emploi du terme "durable" ou "durabilité" dans l'enseignement supérieur est très vaste, allant du concept de la prise en compte des besoins futurs des étudiants aux notions de rentabilité, d'accessibilité et d'impact environnemental, qui sont des notions économiques et écologiques prévalant dans la sphère commerciale.

L’avenir est plein de défis que nous ne connaissons pas encore, mais ce dont nous pouvons être sûrs c'est qu'un nombre croissant de personnes devra pouvoir accéder à la formation continue. Apprendre et enseigner sont des activités humaines pratiquées au sein de nos communautés, souvent mais pas exclusivement dans des établissements scolaires tels que les écoles, collèges et lycées. Dans l'enseignement supérieur, publications et conférences universitaires ne sont plus les seuls moyens disponibles pour partager des connaissances. Le développement technologique a facilité l'interaction sociale grâce à ses outils de réseaux sociaux qui transforment notre façon de vivre et de travailler, en nous donnant accès à de nouveaux réseaux d'apprentissage. Dans cet article, nous explorons les idées qui sous-tendent l'utilisation des termes "durabilité" et "pédagogie ouverte" dans les politiques universitaires par le biais de la méta-analyse disponible dans les publications de politiques universitaires. Nous proposons que les notions de "durabilité" sont à la fois les facilitateurs les plus importants mais également des obstacles majeurs aux pédagogies ouvertes. Nous analysons dans quelle mesure les politiques universitaires australiennes (et internationales) abordent cette question.

*Entrées d'index*

**Mots-clés** : interaction, apprentissage tout au long de la vie, durabilité, ouverture

**Keywords** : interaction, lifelong learning, sustainability, openness

**Thématiques** : open educational practices

**Rubriques** : Points de vue / échanges