Open education: Design and policy considerations

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Introduction

Higher education operates within a rapidly changing sociotechnical context characterized by ubiquitous connectivity, a shift from knowledge scarcity to knowledge abundance, and a move from hierarchical toward more networked forms of social organisation. Concepts such as the network society (Castells, 2010), networked individualism (Rainie & Wellman, 2012), and participatory culture (Jenkins, Ito, & boyd, 2015) seek to characterize this paradigm shift. In recent years, a growing number of critical theorists have added nuance to these analytical frameworks by also exploring how power and privilege operate in networks and the implications for individuals, institutions, and society. Without doubt, however, networked and open forms of information access and social learning have challenged and continue to challenge the role of higher education institutions as traditional providers of knowledge. Multiple other challenges facing higher education include reductions in public funding, rising costs, increasing numbers of students, a new competitive landscape, and the imposition of market mechanisms and managerial control. Within this increasingly complex and difficult environment, higher education policy makers, managers, educators, and students seek to fulfil their sometimes contradictory goals with respect to teaching and learning.

Open education initiatives – including open access (OA), massive open online courses (MOOCs), open educational resources, and open educational practices – aim to utilise the affordances of open digital networks to improve educational access, effectiveness, and equality. Many individual educators have also begun to teach and interact with students in open online spaces, for example offering students opportunities to create and collaborate on the open web, or to integrate their formal and informal learning practices and identities. Moves towards more open education are often met with resistance or suspicion, however, which may be due to lack of awareness or understanding, lack of the requisite skills and tools, lack of time, lack of trust, and/or incompatibility between existing institutional cultures and the philosophy of open education.

This chapter explores the use of open educational practices in higher education, the tensions posed by all forms of openness within the academy, the importance of critical approaches to openness, and specific policy considerations to facilitate open education approaches in the curriculum.

Open education

Open education is not just a digital innovation. The concept, philosophy, and practice of open education is built on a long history of social, political and education movements seeking to widen access to education and reduce inequality. During the 20th century, openness as an ideal became more prevalent with increased advocacy for access to education and rights to knowledge. The growing impetus for open education in the 1960s and 1970s reflected the educational mindset and wider political movements of that time, e.g. advocating for human rights, decolonisation, and social justice (Hayes & Jandrić, 2014; International Commission on the Development of Education, 1972). Open education initiatives that emerged during this period were often conceived as 'reform projects' with the aim of liberating education from all forms of oppression (Deimann & Sloep, 2013; Lane, 2009). In general, these open education initiatives focused variously on universal access to education, changing the relationship between learners and teachers, and empowerment of learners.

The definitions of *openness* and *open education* remain multiple and contested. In reviews of the literature in the 1970s, open education was defined as 'flexibility of space, student choice of activity, richness of learning materials, integration of curriculum areas, and more individual or small-group than large group instruction' (Horwitz, 1979, pp. 72–73). Open educators saw 'the teacher as facilitator of learning [and] the development of student responsibility for learning' (Marshall, 1981, p. 183). Moving forward, open educators found common cause with social constructivist and connectivist educational thinkers, emphasizing that participation and social interaction were critical to learning, and that the internet provided multiple new opportunities for learners to engage.

Throughout the 1990s and 2000s, open education evolved in parallel with developments in digital, mobile, social and participatory media and technologies. Open educational resources and open educational practices emerged as a two key areas of development within open education.

Open educational resources

The term 'open educational resources' (OER) was coined in 2002 to define teaching, learning, and research resources released under an open license to permit free use and repurposing by others (Hewlett Foundation n.d.). The granularity of OER can vary from individual items such as images, videos, or documents, to entire open textbooks or open courses. The open license for each OER (typically a Creative Commons license) can be configured and assigned by the copyright holder in order to grant users specific rights for re-use. Openness in OER is thus focused on freedoms, but the degrees of freedom available within a particular license can vary, thus the level of openness varies (Lane, 2009; Losh, 2014).

Five years after OER were first defined, an international gathering of open educators met in Cape Town to deepen and accelerate efforts to promote the use of open educational

resources, producing the Cape Town Open Education Declaration 2007 (http://www.capetowndeclaration.org). The declaration had three main strategies: (i) further creation, use and distribution of OER; (ii) changes in policy to support open, participatory culture; and (iii) changes in the relationship between teachers and learners, in support of open educational practices (Winn, 2012). In 2012, with the OER movement one decade old, UNESCO and Commonwealth of Learning produced the 2012 Paris OER Declaration, specifically referencing article 26.1 of the United Nations Universal Declaration of Human Rights: 'everyone has the right to education'. The Declaration also called on governments worldwide to openly license publicly funded educational materials for public use.

Open educational practices

Beginning in 2007, the concept of 'open educational practices' (OEP) was defined with the intention of moving the focus from content to practice and pedagogy (Andrade et al., 2011; Beetham et al., 2012; Ehlers, 2011; Geser, 2007; Hodgkinson-Williams, 2014). Simply put, OEP combines the use of OER, open pedagogies, and open, transparent teaching practices with the goals of improving access, enhancing learning, and empowering learners.

Conceptualisations of OEP vary widely, ranging from those centred primarily on the creation and use of OER to more expansive conceptualisations that encompass open content but also allow for 'multiple entry points to, and avenues of, openness' (Cronin & MacLaren, 2018). As with OER, the granularity of OEP can vary, from a teacher carrying on a conversation with students in an open online space, to the design of a completely open (and openly licensed) online course such as (but not limited to) a MOOC.

More recently, conceptualisations of OEP have adopted a more critical approach, with the aim of challenging traditional educational practice and power relations. These open educators acknowledge the need for diverse and inequality-focused perspectives, and recognise that the apparently open spaces of the world wide web produce new power relations as well as reproducing and sometimes challenging old ones (Cronin & MacLaren, 2018; Hodgkinson-Williams & Trotter, 2018; Lambert, 2018).

Open pedagogy and practice

In practice, educators have a wide range of 'open' opportunities available when they are making decisions about curriculum. They can intentionally choose to use OER in a course – as some or all of the course readings, or even as a course textbook. Open textbook initiatives have proven to be an important means of cost savings for students, with associated increases in recruitment and retention (Arcos et al., 2015; Jhangiani et al., 2016), but there are many more motives for their use. Like all forms of OER, open textbooks are openly licensed, allowing them to be adapted, e.g. for specific geographic locations, disciplinary contexts, student cohorts. Furthermore, use of OER and open textbooks can help to challenge traditional relationships between students and teachers, and between students and knowledge itself. Students can edit, amend, and create OER and open textbooks. Such forms of open pedagogy facilitate sharing ownership of the curricula, democratising learning, and shifting attitudes towards knowledge (Ferguson et al., 2017; DeRosa & Robison, 2017; Karunanayaka et al., 2015). Reflecting on an open textbook project that she designed for an undergraduate course, DeRosa (2016) noted

that a student-developed open textbook 'allowed for student contribution to the 'master text' of the course, which seemed to change the whole dynamic of the course from a banking model… to an inquiry-based model.'

In addition to considering multiple ways of using OER and associated open pedagogy, educators can choose many other forms of OEP to open their curricula and their teaching. Course discussions can be made open or partially open through the use of course hashtags, open tools (e.g. blogs, Twitter) and/or open course environments. Educators can facilitate engagement beyond the bounds of the classroom (physical or digital) by inviting experts, including authors whose work is studied in a course, to engage in open discussions; facilitating peer-to-peer connections with students and educators in other courses, institutions, and countries; and inviting participation from interested learners in any location who have access to the internet but may not be enrolled in formal education. In a review of MOOCs developed at the University of Cape Town, Czerniewicz, Deacon, Walji, & Glover (2017, p. 380) found 'large numbers of diverse, "non-traditional" learners who entered the space. This resulted in practices and design choices to which diverse learners responded, and this learner-centred approach impacted the way educators thought about teaching their subject.'

The use of OEP can help students to engage on the open web as learners, researchers, creators, soon-to-be professionals, and citizens. To facilitate students' open practices, educators who use OEP often support students in creating and managing their digital identities, developing their digital literacies, and ensuring their and others' digital well-being (Alexander et al., 2017; Jisc, 2016). The use of OEP can help students not only to navigate but also to confidently learn and interact on the open web, sharing their work and building a digital presence.

Risks and challenges of open

Through the use of open educational practices, open educators aim to acknowledge the ubiquity of knowledge across networks and to facilitate learning that fosters agency, empowerment, and global civic participation. However, OEP present challenges and contradictions as well as opportunities when they are introduced into higher education.

The rapidly evolving norms of open practice, including open scholarly practice, are diametrically opposed to the widely-understood norms of many established academic practices, e.g. academic publishing. Whatever the aspirations, many practices of a 'knowledge scarcity' culture remain, e.g. conventions for owning and sharing intellectual property, academic publishing norms, and use of bounded learning spaces. A 'pedagogy of abundance', associated with open education, meets institutional environments and policies still rooted in a 'pedagogy of scarcity' (Weller, 2011). Thus, moves towards open education are often met with resistance or apathy.

Uptake of OER in higher education globally, while increasing, continues to be low and uneven. Multiple studies have shown that teaching staff in higher education have relatively low levels of awareness of OER, copyright and licensing issues; have concerns about the quality and relevance of OER, including the time investment required; and work in contexts in which there is no incentive to use OER. Furthermore, the additional visibility accorded to open materials, often requiring additional quality criteria, often acts as a further barrier to releasing open content (Cronin, 2018; McGill et al., 2013).

Academic staff often experience tensions not only in finding time to engage in OEP but also in navigating this new terrain, including continually negotiating their own rules, boundaries, and networked identities (Lanclos & White, 2015; Stewart, 2015). A recent study found that educators in higher education experienced a number of tensions associated with using OEP, and even with *considering* the use of OEP. These included feeling overwhelmed (by heavy workloads, multiple demands on their attention, and myriad choices of digital tools), under pressure to make decisions regarding openness, fearful about the consequences of openness, and experiencing value conflicts in relation to openness (Cronin, 2018).

Academic staff who choose to use OEP do so in different ways and for a variety of reasons. But how do students respond to academics' invitations to engage in open practices? The propensity to be distracted due to mobile devices and the 'always on' nature of the internet has arisen in some studies of third-level students, albeit in ways that are context-specific. In Selwyn's (2016) study at two Australian universities, 25% of students reported finding technology to be a distraction and source of procrastination – particularly smartphones, social media, and other students' use of digital devices in lectures (Selwyn 2016). In Newman and Beetham's (2017) analysis of data from Jisc's Student Digital Experience Tracker (a survey at 74 UK universities), 24% of students reported being easily distracted when 'digital technology is used on my course' (Newman & Beetham 2017: 21). Yet in a South African study where mobile phone ownership was ubiquitous among students but few had exposure to computers prior to coming to university, many students were found to use their phones strategically for academic purposes (Czerniewicz & Brown, 2013). In analysing students' digital mediated practices in context, Czerniewicz and Brown (2013) concluded that institutions could engage in mobile learning opportunities to a greater extent, particularly within 'educational contexts faced with social and digital inequalities.' (p. 52).

Further studies have shown that undergraduate students tend not to use social media in the context of formal education, citing worries about grades and perceptions of the internet as 'too open and loose, generating anxiety and uncertainty' (Kuhn, 2017, para. 1). However, Facer and Selwyn (2010) have claimed that 'learners need to practice and experiment with different ways of enacting their identities, and adopt subject positions through different social technologies and media' (p. 166). Overall, previous research with respect to students and OEP highlights two key findings: the importance of context and the necessity of acknowledging and building on students' existing concerns and practices, or 'technological habitus' (Czerniewicz & Brown, 2013). This understanding provides a foundation for educators to support students' capacities to make use of their own tools and technologies, as well as those they will encounter at university.

Overall, tensions and perceived risks associated with openness may be exacerbated where students and staff are unsure of their institution's position regarding the use of OER, open tools (such as blogs or social media), or OEP in general. In institutions without open education policies, academic staff may feel they are operating without a safety net. It is precisely because of the tensions and perceived risks associated with openness that individuals require critical approaches and strong organisational policies to support them.

Critical approaches to openness and open educational practices

Openness, for both teachers and learners, is not a one-time commitment. It is a succession of personal, complex, and nuanced decisions. When using social media and other open tools, academic staff tend to manage personal-professional boundaries with a keen awareness of their potential audiences, e.g. colleagues, students, family, friends, the wider public (Veletsianos, 2016; Veletsianos & Stewart, 2016). Such boundary-keeping involves considerable thought and maintenance work and questions arise regularly: Will I 'friend' my colleague/line manager/student? Will I tweet professionally/personally/both? Will I openly share my research/teaching materials/ideas? Thus, the use of open educational practices is '*complex, personal, contextual, and continually negotiated*' (Cronin, 2017), highlighting the need for critical approaches to openness to emerge.

Critical approaches to openness and OEP are informed by critical theory, the core concern of which is power relations in society. Critical analyses of open education ask questions such as: Who defines openness? Who is included and who is excluded when education is 'opened', and in what ways? And, can open education initiatives, in practice, do the opposite of what they are intended to do? Edwards (2015) articulates a key question; not simply whether education is more or less open, but what forms of openness are worthwhile and for whom; openness alone is not an educational virtue' (p. 253). Gourlay (2015) notes a tendency toward idealism in many forms of open education, where the workings of systemic power and privilege around race, gender, culture, class, location, and sexuality are absent or ignored. Many Global South scholars have highlighted how alienation and epistemic inequality arise from narrow, Global North-centric conceptions of open access (Czerniewicz, 2013; Nobes, 2017; Piron, 2017). Overall, optimistic or naïve assumptions about open education serve to divert attention from structural inequalities, and so may inadvertently support rather than challenge them.

In recent years, critical theorists have added nuance to and sometimes challenged the conceptual frameworks underlying open educational practices by exploring how power and privilege operate in networks – and the implications for individuals, institutions, and society. One compelling avenue of critical analysis has highlighted the limitations of the network episteme itself (Light, 2014; Mejias, 2013). Mejias's critical theorisation of networks includes the concept of the 'paranode', defined as that which fills the interstices between the nodes of a network and resists being assumed by the network: 'it is only the outsides of the network where we can unthink or disidentify from the network, from the mainstream' (Mejias, 2011, p. 49). Light's (2014) theory of disconnective practice asserts that disconnection is an active part of engagement in social networking sites.

Engaging in paranodal or disconnective practice does not demand wholesale rejection of networks such as social media and social networks (an unrealistic option for most). Rather, it entails critical questioning of the terms of engagement within networks and enactment of creative and alternative modes of being within and beyond networks.

The suppression of privacy lies at the heart of the business models of most digital and social media platforms – which rely directly on the appropriation of data for profit (Srnicek, 2016; Zuboff, 2015). The challenge for educators, and particularly for open educators, is clear. Many of the tools and platforms we use to engage in social connection and open educational practices have bias and inequality built into them – they are designed to allow and encourage forms of participation, and prevent others (Gilliard & Culick, 2016; Marwick, 2013;).

Open education policy considerations

Several recent studies have suggested that institutional context, in the form of both policy and culture (Corrall & Pinfield, 2014; Cox & Trotter, 2016) are important factors for supporting open educational practices. Several open education researchers have used Margaret Archer's (2003) social realist theory to analyse academics' use of OER. Archer's theory provides a useful framework within which to consider the various ways that context operates in individual academics' choices regarding openness. Archer identifies three interdependent strata of reality: *structure* (e.g. institutional systems, policies), *culture* (e.g. norms, ideas, beliefs), and *agency* (individual freedom to act), the interrelations of which occur over time. The powers of structure and culture exist, but are activated only when human agents seek to act. Human reflexivity is the mechanism that mediates between structure and agency, moving from confronting constraints to elaborating a course of action (Archer, 2003). Open education researchers who have used Archer's framework to analyse academics' use of OER, for example, have found that the absence of open education policy can act as a constraint to OER awareness and use (Cox & Trotter, 2016; Hodgkinson-Williams, 2010). A similar constraint effect appears to apply with respect to OEP, as outlined above (see 'Risks and challenges of open').

There remains a widespread lack of open education strategy and policy within higher education (Corral & Pinfield, 2014; Inamorato dos Santos et al., 2016; van der Vaart, 2013). While most higher education institutions now have Open Access policies and respositories for storing and sharing scholarly outputs, far fewer have institutional policies that support the creation and sharing of OER for teaching or use of other open educational practices by teaching staff. Following are two examples of institutional open education policies regarding Intellectual Property (University of Cape Town) and Open Educational Resources (University of Edinburgh).

Intellectual Property policy

Intellectual Property (IP) policies at higher education institutions typically state that all work arising from the course of employment remains the intellectual property of the institution. Copyright is one specific form of IP, the operation of which prevents the open re-use and sharing of materials. The University of Cape Town's (2011) IP policy is an example of institutional policy that intentionally supports open educational practice. The UCT IP policy explicitly states its commitment to the sharing of teaching materials as OER: 'UCT supports the publication of materials under Creative Commons licences to promote the sharing of knowledge and the creation of OER'. In addition, the policy specifically makes clear that the copyright of course materials is retained by the creator, rather than by the university. UCT thus provides to staff and students a clear statement of the university's position regarding the use, reuse, and sharing of the scholarly mataerials *and course materials* that they create, or co-create. All can be openly licensed and shared, thus facilitating open practice at individual, disciplinary, and institutional levels.

Open Educational Resources policy

Open.Ed, the open education initiative at the University of Edinburgh (2018), provides another example of institutional policy regarding OER and OEP. Open.Ed includes an institutional OER policy as well as an array of supporting resources for learning and teaching using OER. The policy is rooted in a vision for OER that encompasses 'education,

research collections, enlightenment and civic mission.' The University of Edinburgh's (2018) OER policy is explicit in its advocacy: 'Creation of OER has big benefits to individuals, educational institutions and society as a whole. If you are an educator it makes sense to create and use OER'. While the university's OER policy focuses, in name and detail, on the creation and use of open educational resources, it also facilitates broader open educational practices. Campbell and Farley (2018), of the university's OER Service, have highlighted a range of benefits of using OER for learning and teaching that move beyond a focus on licensing and resources: these include developing digital skills, student co-creation of open resources, creative and playful learning, fostering knowledge exchange, and contributing to equality and diversity.

Cox and Trotter (2016) have argued that while some open education policies may act simply as a hygienic factor (i.e. a necessary but not sufficient variable in promoting OER or OEP), others might act as a motivating factor (i.e. incentivizing OER/OEP either among individual academics or the institution as a whole). The key determination in whether a policy acts as a hygienic or motivating factor depends on the type of institutional culture into which it is embedded. This means that the success of proposed open education policy interventions will be mediated by institutional culture – an institution's existing policy structure and prevailing social culture, as well as academics' individual agency. While openness may be a strategic objective at the institutional level, it cannot be mandated at the individual level. Individual members of staff and individual students must be supported and enabled to engage in open practice, but more importantly, supported in making their own decisions about whether and how to engage in open practice. Some students, based on personal experiences or circumstances, or their marginalised position within society, their community, or even their class, may not be willing to engage in OEP. Some members of staff, based on their personal experiences or circumstances, their employment situation, or their personal or professional values, may not be willing to engage in OEP. The benefits and risks of open practices are continually evolving and are always mediated by individuals in specific contexts. Ideally, higher education institutions should engage in positive but sensitive approaches to open practices.

Conclusion

The deceptively simple term 'open' hides a 'reef of complexity' (Hodgkinson-Williams & Gray, 2009, p. 114), much of which depends on the particular context within which open education, OER, and OEP are considered. Critical approaches to openness enable us to focus on issues of participation, risk, and power.

Open educators' use of OEP is complex, personal, contextual, and continually negotiated within sometimes supportive, sometimes unsupportive institutional policy contexts and cultures. The European report 'Opening up Education: A Support Framework for Higher Education Institutions' (Inamorato dos Santos et al., 2016) makes a strong case for the strategic 'opening up of education by higher education institutions' (p. 6) in order to address issues of vital local, national, and international importance such as enhanced workforce skills, access to job opportunities, community engagement, and personal growth of citizens. Open education is not only a tool for social change, however, but also of transforming higher education itself:

> Open Education... nourishes a participatory culture of learning, creating, sharing and cooperation and it is therefore a vital and natural training ground for current and future researchers and educators, turning them into confident users and designers of open approaches in research and higher education (van der Vaart, 2013, p. 52).

The challenge for institutions is to engage with open education strategically, while also catering for an already broad range of institutional needs. Culture change is required. While higher education policy makers cannot effect such change, they can support, facilitate, and incentivise actions that encourage change in academic practices and culture (Corrall & Pinfield, 2014).

In conclusion, individual teachers and learners adopt open practices all the time, and these practices may turn out to be highly resilient and adaptive – both in learning, and in the world of work beyond. However, they are currently not being valued, recognized or rewarded in many higher education institutions. Institutions should recognize the complexities and risks of openness, as well as the benefits, and should create clear open education policies and practices. While the ideas of open education are not new, approaches to open education are continually evolving, bringing with them new opportunities and risks. By definition, these practices aspire to cross institutional boundaries. Therefore, as well as seeking to influence institutional strategies in this space, open educators must build their own networks, and develop their own democratic, flexible, strategic, and critical approaches.

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