Attributes of Open Pedagogy: A Model for Using Open Educational Resources

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Open Educational Resources (OER) have swept in on a tide of digital information and brought sweeping changes to learning and teaching. In this article, the author establishes a rationale for the term *open pedagogy*, and, using current research, presents eight attributes of open pedagogy grounded in the concept of openness and Open Educational Practice (OEP). Participatory technologies present many challenges for educators, who may not know how to use them appropriately to effect change in the new culture of learning that is evolving. The question is, how can an open pedagogy benefit learners and teachers alike, and precipitate creative and inclusive communities in an OEPosphere?

Wiley's Law: You should never use "open" as an adjective unless you can clearly describe how the "open" thing differs from the normal thing. (David Wiley, 9 June 2014; Twitter: *https://twitter.com/opencontent/status/476149397307138048* .)

Introduction

In this article, I propose a model for an open pedagogy, with eight interconnected and dynamic attributes (see ***Figure 1***). The ability to freely access resources and Reuse, Revise, Remix, and Redistribute them (known as David Wiley's four Rs, 2013) defines them as Open Educational Resources (OER). OER in the truest sense is essential for these attributes to be enacted as an integral component of an open pedagogy. Each of the attributes for open pedagogy, as shown, can arguably occur separately and without being linked to open pedagogy, but in this model they are interconnected and grounded in openness, contributing holistically to Open Educational Practices (OEP).

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A Brief History of Openness

The Internet is a disruptive "global platform" that has significantly changed how learners and teachers access and share information and materials. This led to the development of Web 2.0 tools and approaches from the mid-2000s, facilitating an even greater global sharefest of resources and knowledge created by educators (Brake, 2013). The Open Educational Resources (OER) movement is considered to thrive on "distributed collaboration" using mobile, Internet, and social media applications and the consumption and production of artifacts for learning (Conole, de Laat, Dillon, & Darby, 2008, p. 511). The status quo has changed and, as a result, teachers and learners are able to interact more easily, share their work, and collaborate in connected learning environments.

As a result of this change, a new culture of learning, described by Thomas and Brown (2011) as "arc-of-life" (p. 19) learning is emerging "where play, questioning, and imagination are pivotal to the continual quest for knowledge. The key is that learning occurs seamlessly between the classroom and everyday activities" (Hegarty, 2014b, para 10). Accordingly, I define arc-of-life learning as: a seamless process that occurs throughout life when participants engage in open and collaborative networks, communities, and openly shared repositories of information in a structured way to create their own culture of learning.

This new learning might be formalized and embedded in qualifications, but more often than not it is comprised of informal learning, where participants choose and create the environment and resources most optimal for them. Readily accessible materials (e.g., OER) and practitioners willing to become immersed in open educational practices (OEP) are needed. Learning is facilitated not only by teachers but more often than not by peers. Immersion in using and creating OER requires a significant change in practice and the development of specific attributes, such as openness, connectedness, trust, and innovation. When in place, these attributes translate into open educational practices. Five principles of openness are considered by Conole (2013) to be necessary for OEP, comprising open tools and processes that promote:

(1) collaboration and sharing of information;
(2) connected communication about learning and teaching;
(3) collectivity to grow knowledge and resources;
(4) critique for the promotion of scholarship; and
(5) serendipitous innovation. (Conole, 2013)

The message in these principles acknowledges that open practices are more likely when tools and resources

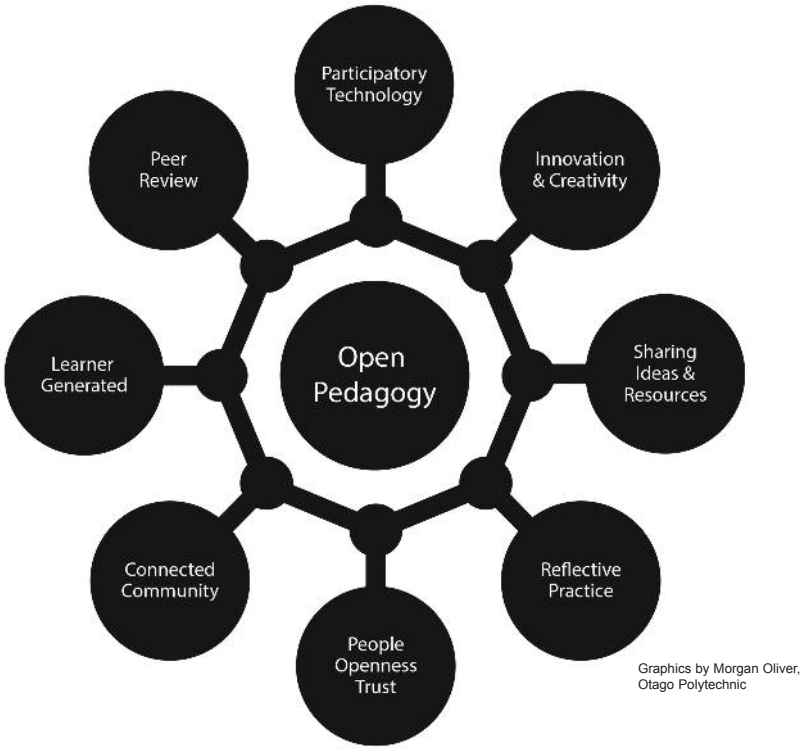

Figure 1. Eight attributes of Open Pedagogy, by Bronwyn Hegarty, based on Conole (2013).

are easily accessible and in common use, and that connected practitioners are more likely to be responsive to new ideas and thinking and to share their knowledge. A huge number of technologies are now available via the Internet to facilitate openness, when practitioners are willing to engage with multiple functionalities and approaches. Changes to the digital landscape are escalating at a rapid pace, and educators who are able to survive the disruption require a new set of skills and attitudes, if they are to contribute successfully to an open pedagogy.

Definition of Open Educational Practices

An understanding of what is meant by open educational practices must begin with a definition. "Open Educational Practices (OEPs) constitute the range of practices around the creation, use, and management of open educational resources with the intent to improve quality and innovate education" (OPAL, 2011a, p. 4). This definition was developed through the OPAL project (2011b), seeking evidence of emerging practice to authenticate and develop guidelines around quality and practice for helping individuals and organizations use OERs more effectively. Several case studies were compiled to illustrate the dimensions of OEPs globally. From these case studies, eight dimensions emerged that are used to describe strategies and policies for encouraging the organizational uptake of OER within an open learning design; the intention being to promote and implement practices that transform learning. These dimensions are considered by OPAL (2011b) as the foundations of successful organizational learning and teaching using OER. Three of the main dimensions are:

- **Use of OER and open learning architectures:** degree of using and repurposing OER, processes for creating and sharing OER, and open educational practices, such as free licensing schemes, across an organization.
- **Vision of openness and a strategy for OEP in an organization:** how organizations perceive the relevance of OEP, existing strategies and policies, and the development of an organizational vision and business models and partnerships for OEP.
- **Implementing and promoting OEP to transform learning:** intellectual property and copyright regulations, motivational frameworks for ensuring buy-in by students and academics, OEP usage as an embedded practice, tools that support OEP, quality issues, development of skill and knowledge, and digital literacies and support mechanisms. (OPAL, 2011b, p. 3)

I believe that for educators to have a chance to become open practitioners and change the direction of education, they must engage with eight specific attributes within an open pedagogy.

Eight Attributes of Open Pedagogy

The evidence surrounding each of the eight attributes (listed in ***Figure 2***) associated with an open pedagogy and their contribution to the model are considered and

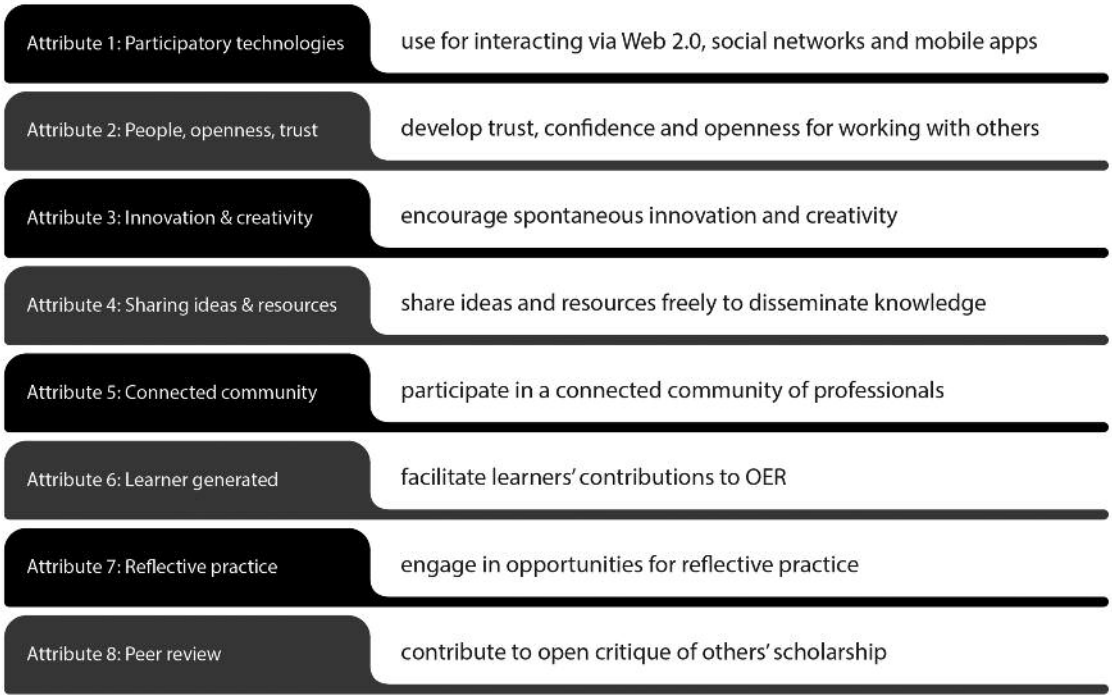

Figure 2. An initial description of eight attributes associated with open pedagogy.

deconstructed along with links to open educational practices. I consider how essential each attribute is for successful contribution to an open pedagogy.

Attribute 1: Participatory Technologies

OER in itself does not guarantee the development of what I regard as a participatory culture, one where people are connected through social networked media to share their ideas, knowledge, and resources. More specifically, it is the media used to create the OER that are important, as well as how content is shared, and the technologies used to promote participation. "Technically speaking it is the use of blogs; wikis; video, photo, and audio sharing sites; forums, chats, and even email, that combine into what more interestingly becomes socially constructed media" (Blackall, 2011a). This form of media and online communication by a generation more familiar with these technologies, according to Blackall (2011a), leads naturally to the production of learner-generated content, with implications for teachers and their institutions. Not only are learners exposed to ideas and experts beyond their institutional walls, but also to diverse modes of sharing and collaboration, as well as to different forms of digital information.

Engaging in a participatory culture is regarded as a creative endeavor, whereby more experienced contributors are able to mentor less experienced peers in a supportive and socially connected community (Jenkins, Clinton, Purushotma, Robinson, & Weigel, 2006). This leads to "peer-to-peer learning, a changed attitude toward intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship" (Jenkins *et al.*, 2006, p. 3). Four components are needed:

1. *Affiliations*—memberships in formal and informal online communities centered around different types of media including social media and online games.
2. *Expressions*—production of "new creative forms," where media are used collaboratively and re-arranged to create new digital materials (e.g., mash-ups).
3. *Collaborative problem-solving*—formal and informal work done by groups of people "to complete tasks and develop new knowledge" (e.g., Wikipedia).
4. *Circulations*—manipulation of media to distribute information (e.g., podcasting and blogging). (Jenkins *et al.*, 2006, p. 3)

These components support the view that in a participatory environment, resources need to be freely accessed and shared so they can be reused, revised, remixed, and redistributed; a phenomenon, as noted earlier, known as David Wiley's four Rs (Wiley, 2013). More flexible licensing is required, for example, Creative Commons by Attribution (Blackall, 2011b; Siemens, 2003). I regard these aspects of a participatory culture as an integral component of an open pedagogy. Materials simply cannot be shared and used adequately in an open learning and teaching environment unless they can be modified to suit the context (Hegarty, 2014c; Siemens, 2003).

Also, sharing and re-use relies on people contributing to openly accessible file sharing sites and repositories of material (e.g., Slideshare, YouTube, Scribd, Flickr, Picassa, Wikipedia, Wikibooks, Merlot, etc.) (Hegarty, 2014c). Copyrighted material can be added to some of these sites, but it doesn't comply with the four Rs of openness.

Even though many repositories have been developed over the years for open resource materials, not all of them encourage users to share their wares in a fully open and participatory manner. One of the most famous and earliest of these is the Massachusetts Institute of Technology Open Courseware Repository (MIT OCW) (Butcher, 2011). Courseware in this repository is regarded as OER because individuals and organizations can use their curricula free of charge. Is this open pedagogy? No. Materials compiled by instructors in PDF form for download cannot easily be re-constructed to fit specific contexts, nor does this model encourage other ideals embedded in the eight attributes. The model is in stark contrast to an OER produced collaboratively by many peers and held in, for example, WikiMedia Foundation repositories collectively known as WikiMedia Commons. Here contributors are connected to thousands of others and encouraged to openly comment on, edit, and share each other's work.

Also, differences exist in the licensing systems upheld by MIT OCW and the WikiMedia Foundation. MIT OCW materials have copyright licences, such as Non Commercial and Share Alike, thus imposing restrictions which can limit reuse (Blackall, 2011b; Blackall, 2011c). WikiMedia Foundation materials, in contrast, use a system to ensure "content is freely distributable and reproducible" through using Creative Commons Attribution-Sharealike 3.0 Unported License (CC-BY-SA) and the GNU Free Documentation License (GFDL) system (Wikipedia, 2014). Even so, this could still be construed as restrictive, since "the use of the Creative Commons Attribution license enables the most flexible and open sharing and re-use of resources" (Blackall, 2011c).

In an open educational environment, attention not only needs to be given to the licensing of content, but also the means of sharing, and technologies that encourage this, must be chosen.

According to Cocciolo (2009) "…Web 2.0 technology supports a participatory culture when the technology allows users to share their unique contributions and have [them] received by members of the community… interested in them" (p. 8). His two-year study was restricted to a single homegrown Web 2.0 tool called PocketKnowledge, designed specifically for the university where the study took place. A total of 2,580 students, faculty, and staff in a community accessed the technology during the study. Contributions were made by 27.9% of the users, and 16.7% participated in networks to share their knowledge; a much higher rate than generally made to public sites such as YouTube (<0.001%). He concluded "…the Web 2.0 technology…examined in this study facilitated the formation of a participatory culture by making the cultural, intellectual, and creative work of its community visible, and that visibility in-turn encouraged individuals to participate" (p. 114). In a later article, Cocciolo (2010) compared participation rates of PocketKnowledge with a non-Web 2.0 system and found a "9,728% increase" contributing in the PocketKnowledge community (p. 7).

Although participatory technologies can be used to encourage interaction in learning and teaching, high participation rates are not guaranteed. In contrast to the previous example, studies undertaken by Cochrane between 2006 and 2011 using mobile Web 2.0 technologies leveraged high levels of engagement with the development of supportive communities of practice made up of students and their lecturers (Cochrane, 2014). The difference here lies with the open nature of the technologies that were used, the mobility, the development of Communities of Practice, and the freedom given to students to construct their learning experiences. Key to the success of using mobile technologies appears to be the inclusion of authentic learning activities and assessments embedded in a social constructivist pedagogy, using an heutagogical approach to facilitate student-generated content (Cochrane, 2014). Students in his studies created "…Web 2.0 portfolios made up of a mash-up of Web-based productivity, collaboration, and communication tools with accounts created by each student who then invited their peers and lecturers into these spaces" (Cochrane, 2014, p. 69). He emphasizes the importance of adhering to six critical success factors, one of which includes creating a supportive learning community (Cochrane, 2014, p. 73).

Cochrane (2014) has shown that his methods transform the practices not only of learners but also teachers, and can transform the learning culture of organizations. Whether his approach can be regarded as an open pedagogy is debatable, primarily because students tended to invite their peers into the Web 2.0 spaces they created to share content, indicating that openness was restricted to the classroom participants and their lecturers and was not extended to the global community. Even so, the use of Web 2.0 and mobile technologies is an important component of an open pedagogy that relies on strong support and convergent communities that interact in a respectful community.

Attribute 2: People, Openness, Trust

In open networks, Mak, Williams, and Mackness (2010) consider that students' willingness to learn is fragile, with participation and interactions unlikely to flourish unless an element of trust can be built. In the

Connectivism and Connective Knowledge MOOC, they found that the blogging environment was preferred over forum interactions, due to negative experiences encountered by participants. This reduced opportunities for engaging in an open, trusting, and diverse learning environment, and interactions in the course became less engaging as more and more participants became blog refugees (Mak *et al*., 2010).

Negative experiences in an open environment can be counter-intuitive and crush confidence in not only the technologies, but also in co-learners. According to Kop, Fournier, and Mak (2011), "The type of support structure that would engage learners in critical learning on an open network should be based on the creation of a place or community where people feel comfortable, trusted, and valued, and where people can access and interact with resources and each other" (Kop *et al.*, 2011, p. 88). They consider that connectivity in a social network needs to be optimally leveraged for the value it can provide for peer learning and support, since anyone can be a facilitator, and as such mentor other learners (Kop *et al*., 2011). For this model of learning, "learner dialogue" is central to beginning the process of inquiry, leading to re-purposing and sharing of resources for the sole intention of obtaining feedback from supportive peers within a personal learning network (Kop *et al*., 2011, p. 77). Such scaffolding within a trusting environment was considered especially essential for people new to open environments, if they were to develop autonomy and a high level of self-efficacy in using participatory technologies (Kop *et al.*, 2011).

Building confidence and independence in an open learning situation would seem a logical step towards motivating people to find their inner creative self and become trendsetters. How we can encourage mainstream educators to enter this fast-moving stream is a secret yet to be unlocked.

Attribute 3: Innovation and Creativity

According to the 2014 NMC Horizon report, key trends for emerging technologies include various social media, mobile learning, open content, open licensing, and anything that enables innovation (Johnson, Adams Becker, Estrada, & Freeman, 2014). The report acknowledges that social learning is on the rise, with students increasingly using social media to become creators rather than receivers of information. Knowing how to use these tools effectively is essential for both current and future teachers (Johnson *et al*., 2014). But simply using technologies because they are there and fashionable is not sufficient reason to deploy them. Changes to pedagogy must also occur, if students are to participate more meaningfully in their education (Johnson *et al*., 2014).

Cochrane (2014) has shown how mobile learning can be used to support socially connected learning communities and spontaneous innovation. The teachers he worked with learned to design more creative teaching strategies that encouraged and supported learner-driven innovation and open ways of working together.

In the 2015 NMC Horizon report, the emphasis is on using educational technologies to develop innovative models of learning that personalize experiences and incorporate new opportunities for using the dearth of open accessible content and informal learning opportunities (Johnson, Adams Becker, Estrada, & Freeman, 2015). Increased opportunities for learning in the workplace and obtainment of qualifications through assessment of existing competency and knowledge presented in portfolios are considered viable outcomes for personalized learning. This approach requires creative thinking and facilitation. Athabasca University offers qualifications through assessment of prior learning through its Centre for Learning Accreditation. A homegrown example is CapableNZ, where this form of learning is endorsed. Imagine if an open pedagogy were to be used; these models could become a global phenomenon overnight.

The "meteoric rise" of MOOCs is regarded in the 2015 NMC Horizon report as an ongoing challenge to traditional institutions that will require visionary leadership to offer competitive and effective online learning (Johnson *et al*., 2015). A short-term trend driving the adoption of educational technologies over the next one to two years is the increased adoption of blended learning (face-to-face and online). The report suggests that cloud-based audio and video tools (e.g., VoiceThread) could enable "faculty to capture important human gestures, including voice, eye contact, and body language, which all foster an unspoken connection with learners" (p. 16). The use of social media and networked learning for peer learning is also acknowledged (Johnson *et al*., 2015).

Over the next three to five years, OER is predicted to become more prolific, with increased awareness of OER and integration (Johnson *et al*., 2015). The 2015 NMC Horizon report also indicates the need for more understanding about the term 'open' regarding freedom of use, "ownership and usage rights" (Johnson *et al*., 2015, p. 14). No mention is made about open educational practices or the factors associated with an open pedagogy. Even so, the trend is towards more independence for learners and the use of a host of technologies that have the potential to connect users in a plethora of networks (Johnson *et al*., 2015, p. 35). Whether this trend is embraced by the educational sector is yet to be seen, and to do this effectively more emphasis needs to be put on choosing digital technologies and methods that encourage the sharing of knowledge and resources.

Attribute 4: Sharing Ideas and Resources

My discussions over the years with teachers in higher education about sharing resources and using OER have

generated questions such as: "What's in it for me?" "I don't feel comfortable putting my work on the Web." "I don't want to have my work judged, as it might not be good enough." "Why should I do all this work so others can just take it?" These are perfectly reasonable questions, and the benefits of OER and OEP are not always immediately obvious to teachers. I have encountered diverse views about OER and OEP. Some people are very happy to share their work, as they access and use OER materials regularly and like to give back to the community. Others haven't really thought about sharing their resources, even though they are regular users of OER, and others for many reasons are not comfortable with putting their materials on open platforms.

When developing Models of Open Education for Otago Polytechnic, Blackall and Hegarty (2011) found that teachers with a strong Internet presence and identity (e.g., maintained a blog or ePortfolio or wiki and used a variety of other social media in their practice) could openly discuss their subjects and more easily engage in networked learning with others. Through sharing their knowledge and ideas, and actively asking for assistance within a socially networked community of peers, they were exposed to effective practices in open environments. If these practices were supported by the organization, teachers found they had greater confidence to develop more creative learning and teaching environments.

The flow-on effect that occurs through sharing resources is regarded by Conole (2013) as a conduit for expanding the personal knowledge and skills that teachers hold. This open process can enhance not only the quality and diversity of learning and teaching materials through OER, but also teaching methods and the design of learning environments. In open environments, the production of user-generated content, sharing, and active participation in the learning process is more likely to be encouraged (Conole, 2013). An open pedagogy as previously discussed needs peers to share willingly within a connected and trusting professional community.

So what are the benefits for teachers when they share resources, ideas, and knowledge? Firstly, to facilitate personalized learning, educators need to be able to access, re-use, and change learning materials to make them relevant in specific contexts (Siemens, 2003). Compare 12 online information literacy modules (*http://oil.otago.ac.nz/oil/index/Modules.html*) produced for free distribution. Access to an online editor (Magnolia) enables users to change them to suit their educational contexts. In contrast, Flexible Learning Toolboxes, although freely available once users register, require payment if users need to modify them.

Sharing resources provides a wider and richer array of material for educators and learners to access, and strengthens the learning experience. The possibility that peers will scrutinize resources that are shared may result in better quality and more valuable resources being made available. Also, pedagogical innovation is more likely when alternatives to development are available and when people can see what is possible, and how easily it can be done (Educause, 2010).

Bryant, Coombs, and Pazio (2014) found that teaching staff at the University of Greenwich, United Kingdom were reluctant to share their student-created material and teaching approaches outside the institutional Virtual Learning Environment (VLE). They supported projects teams of teaching staff to use social media, hoping to encourage openness, connectivity, and innovation by getting them to "experiment and play with content creation, sharing, and collaboration in an open environment" (Bryant *et al*., 2014, p. 1). As part of the University strategy, the researchers' ambition was to encourage and facilitate peer networks among a variety of stakeholders (Bryant *et al*., 2014). Teachers voiced concerns that the scope of their innovations was too simplistic, and expressed a lack of confidence in students' abilities to produce quality outputs, thereby putting the institution's reputation at risk. The researchers recommended that developing "capacity for sharing, critiquing, and remixing content" through having a "a safe space to experiment, have fun, and play" would be more likely to be successful in changing practice towards openness (Bryant *et al*., 2014, p. 6). They also concluded that the adoption of institutional-wide open educational practices would only succeed when academic staff were supported and rewarded at a strategic level. This fits with OPAL's (2011b) recommendation for the adoption of institutional open educational practices, as mentioned earlier. The concepts of having "time and permission to play, openness, and learning from play" also emerged from a 2011 case study research project conducted into digital information literacy (Jeffrey, Hegarty, Kelly, Penman, Coburn, & McDonald, 2011, p. 394). We found that self-efficacy in using technologies and digital information increased when these conditions were present.

Sharing resources has been shown to save time and money in development and in the promotion of educational products (Blackall & Hegarty, 2011). However, it is at minimum a two-way affair; if you take, you should also contribute, and collaborative media-sharing sites and models of production have increased over the years. Guiney (2014) describes a number of government-driven global collaborative initiatives that sprung up in the early days of eLearning across the higher education sector. Open licensing of the outputs of these initiatives was variable and dependent on the preferences of project leaders. According to this report, "the UK government provided more support for OER initiatives than the other governments" (Guiney, 2014, p. 11). The UK OER

program fully supported open repositories of material and learning activities that met their definition of OER: "…teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others…." (Thomas, Campbell, Barker, & Hawksey, 2012, p. 15)

Massive Open Online Courses (MOOCs) are a contemporary and prominent example of big-scale collaborations. However, they do not always adhere to an open pedagogy. Sir John Daniel (2012) discusses the metamorphosis of the MOOC, from a participatory and connected phenomenon (cMOOC) that included opportunities for working in a fully open environment, to the more traditional information transmission and behaviorist model (xMOOC) that now exists. In this latter model, participation tends to be restricted to accessing freely accessible pre-packaged materials; although called OER, they generally cannot be re-purposed and re-distributed. Also, participation in social networked communities of learners is not always a component of the learning design; therefore, the xMOOC pedagogy is considered dubious and not always of high quality (Daniel, 2012), and it does not appear to be compliant with many aspects of an open pedagogy. (For more information about MOOCs, see Milheim, 2013.)

Attribute 5: Connected Community

A connected community is not only essential for collaboration and sharing resources, but also it is an indication of a participatory culture. To participate in a connected community, the conduit of social media or other technological system is needed. According to the 2015 NMC Horizon report, over the next four to five years students will be able to connect at will to a global network—termed the "Internet of Things"—and this will have implications for education as we know it (Johnson *et al*., 2015, p. 46).

Participation rates can be an indication of connectivity, as shown by Clow (2013), who found that participation rates were consistently low across three different open learning sites (MOOCs)—*iSpot*, *Cloudworks*, and *OpenEd* (2.3%, 1.0%, 1.3%, respectively (p. 186). Using learning analytics, he examined "the funnel of participation," measuring each stage of a user's contribution to the MOOCs, the initial visit to the site, registration, activity on the site, and progress (Clow, 2013, p. 3). Each of the three learning sites used different technologies and facilitation methods: *iSpot* was peer facilitated, *Cloudworks* was a professional learning community for peer collaboration, and *OpenEd* was a free facilitated open online course using Web 2.0 tools.

In a 2010 study, Galley, Conole, and Alevizou investigated experiences of users during a literature review project within *Cloudworks* regarding collaboration and the evolution of community. Although results indicated that the approach was successful in supporting the endeavor of sharing and collaborating, participation was not widespread, and COP development did not eventuate (Galley *et al*., 2010).

All of these projects sought to develop connected communities, but the low participation rates may indicate reluctance on the part of contributors to fully engage. Perhaps they did not enjoy using Web 2.0 tools (Galley *et al.,* 2010) or had a "fear of rejection," a phenomenon that Cocciolo (2009) found could be mitigated by peer influences and involvement within a community (p. 120). He recommended that a culture of openness could be developed by "designing open ICTs that connect users to communities that are meaningful to them [and] can encourage their participation" (p. 120). Cochrane (2014) obtained similar results. He found that the use of mobile learning and social media within a learning community encouraged not only connectivity and sharing of resources and knowledge, but also the development of content by students.

Attribute 6: Learner-Generated

When considering how OER can move into the OEPosphere (Open Educational Practice sphere) a willingness to manipulate learning experiences to suit an openness philosophy is key (Ehlers & Conole, 2010). This requires 'opening' up the process to empower students to take the lead, solve problems, and work collectively to produce artifacts that they share, discuss, reconfigure, and redeploy (Ehlers & Conole, 2010). When students are encouraged to become fully involved in the learning process, something "magical" happens and some imaginative work can be produced.

Girvan and Savage (2010) scaffolded student projects in the virtual world *Second Life* (SL) to develop "a dynamic and adaptive course," one based on a political issue where students could interact and collaborate (p. 347). They used an SL "island" to produce a book for subsequent student visitors. Groups of student avatars shared their published work using the building tools in SL. A Communal Constructivist pedagogy supported learners to use their environment with others to construct and publish knowledge collaboratively for others in the learning community (Girvan & Savage, 2010).

SL as a social learning space has aspects of openness. Although "the game engine is hosted by Linden Labs on their servers, …the client used to access [SL] is open source and freely downloadable" (Warburton, 2009, p. 423). Multiple communication tools in SL help users to build relationships between people and objects, as they work on a shared interest through interactions in the close proximity of a virtual social space. Students can be totally immersed in a collaborative endeavor (Warburton, 2009).

From my perspective, building relationships is paramount in an open pedagogy and illustrated when groups

of learners work collectively, with reflective learning and peer review as natural outcomes.

Attribute 7: Reflective Practice

Teaching practice is changing from the broadcast model to one of curation in our digital information-rich world, where learners with access to the Web can access a myriad of resources (Phillips, 2012). Social curation appears to be more applicable to education and is described as "the discovery, collection, and sharing of digital objects like links, pictures, and videos by an individual for a social purpose" (Seitzinger, 2014, p. 414). It can be construed that reflective practice is an integral part of teachers selecting OER resources for their students and vice versa (Phillips, 2012).

Reflection was also part of the COP model used in 35 mobile Web 2.0 projects led by Cochrane, investigating whether wireless mobile devices could "support learner interactivity, collaboration, communication, reflection and interest" (2014, p. 68). He found that by assisting students and teachers to collaborate in partnerships, he was able to facilitate "deeper pedagogical reflection" as well as greater levels of student engagement (Cochrane, 2014, p. 78). The COP model encouraged ongoing reflection about practice as the lecturers developed new pedagogical approaches using mobile devices and social media applications and shared their experiences.

Co-constructing professional knowledge through facilitated and shared reflective practice is also recommended by Alevizou (2012), as it leads to innovation and change in curriculum design. Through accessing and uploading OER within media-sharing communities, teachers engaged in dialogue with others and reflected on both the suitability and the quality of not only the resources they found, but also those they produced. In other words, the likelihood of public scrutiny was a springboard for reflective practice (Alevizou, 2012).

Using reflective experiences can mitigate the risks for higher education that are associated with embarking on an OER journey (Glennie, Harley, & Butcher, 2012). We cannot simply assume that this new trend will be beneficial for education without supporting evidence. Critical reflection and collaborative modification of curriculum materials is more likely to occur when they are openly licensed, because more groups and individuals access them and share their expertise (Sapire, Reed, & Welch, 2012). By using a combination of collaborative curriculum design (internal and cross-institutional teams) and reflective practice, Sapire and colleagues were able to induce time savings for the production of OER. Their process contributed to development of a community of practice and encouraged increased use of OER (Sapire *et al*., 2012).

A vital component of reflective practice is feedback from peers, which if exploited can lead to transformational change. Peer review is a natural consequence of such a community and facilitates the integration of professional learning and reflection into everyday activities leading to intuitive, reflective practice (Hegarty, 2014a).

Attribute 8: Peer Review

Technologies representative of the social participatory Web naturally lead to more open practices that inspire learner-generated content, peer critique, and collective aggregation, where the material collated or created by individuals can be augmented by the wider community through peer feedback, tagging, sharing, and modification (Conole, 2014). Both tight-knit COPs and more loosely-functioning 'gatherings' or networks are forming to share knowledge and comment on each other's work. Conole (2014) has integrated the trend for openness into her 7C learning design framework using OER and collaborative practices. She sees learners as publishers and users of a range of open tools, with peer interactions and critique embedded in the learning experience. Even so, designing for a socially connected learning experience, as discussed earlier, does not necessarily lead to full engagement or participation.

Fear of criticism from peers has been shown to inhibit engagement in an open learning community (Cocciolo, 2009). Teachers may not be comfortable being judged by their colleagues or by people they regard as experts, and this may become an insurmountable barrier to participation. Open peer review is considered fundamental to performance in a participatory culture (Conole, 2012). Also, teachers need to be able to see that the quality of the OER they select is first-rate, an issue identified by Richter and Ehlers (2011) in a study conducted with European teachers. The accuracy of ideas portrayed in learner-generated content was a concern with this group, and highlighted another potential barrier for teachers. They also found that teachers were concerned about the lack of a quality-monitoring body for OER materials, indicating a lack of understanding about the value of peer networks.

Conclusion: Is Open Pedagogy a Realistic Term?

In writing this article, I have found it challenging, in fact almost impossible, to separate the components of an open pedagogy into neat, segregated dimensions. Components in each of the eight dimensions overlap in many ways. It is impossible to discuss participatory technologies without mentioning innovation, trust, sharing, collaboration, connectedness, peer interaction and review, learner contributions, or reflective practice. We are all learners in this new culture of connectedness and transmission models, where teachers who simply share OER as part of a course experience are being relegated to the 'back benches' or the ordinary. An emerging model of Open Educational Practice

(OEP), as described by Ehlers (2011), regards the sharing of freely accessible resources as integral to collaborative practice. He also describes learning designs that endorse interaction and resource creation and sharing among peers. From his perspective, education needs to move from immersion in an OER model to an enactioned OEP one. He defines OEP as: "…practices which support the (re)use and production of OER through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path" (Ehlers, 2011, p. 4).

His model of OEP relies on accessing, modifying, re-using, creating, and sharing OER to change how students learn, and it goes beyond simply providing access to open learning platforms, since learners are expected to construct their knowledge and seek peer review of their work. This model fits with Wiley's (2013) discussion of an open pedagogy. Ehlers believes that OEP can change learning environments so that "knowledge is co-created and facilitated through mutual interaction and reflection" by teachers and students alike (Ehlers, 2011, p. 4). In doing so, practitioners are more likely to recognize how OER use brings innovative value to their organization. Accordingly, this interpretation by Ehlers (2011) about OEP aligns with the eight attributes of open pedagogy I have developed, and also aligns with the OPAL dimensions of OEP. Ehlers's model is based on conceptualizing three degrees of openness, of which only a high degree of openness appears to fit with an open pedagogy. A high degree of openness relies on learner-driven practices that are self-regulated. Learning is open, social, and experiential and scaffolded by teachers who become facilitators of learning (Ehlers, 2011).

Ehlers's (2011) definition of OEP aligns with the main dimensions of OPAL's (2011c) recommendations for the successful use of OER in organizations. For Ehlers (2011), OEP enacts optimal use of OER through implementing openness, something more easily achieved when organizations are supportive and collaborative. Using an open pedagogy would contribute to capability development, as recommended by the OPAL (2011b) report, and underpin transformational change.

An open pedagogy requires a broad definition of OER such as the one described in an OECD (2007, p. 10) report: "Open educational resources refer to accumulated digital assets that can be adjusted and which provide benefits without restricting the possibilities for others to enjoy them."

This definition of OER is broad enough to ensure freedom of use in the model of open pedagogy and to support the new culture of learning through embracing both formal and informal learning—boundless, non-accredited, and unintentional learning related to work, family, or leisure (Nascimbeni, Fischer, Cullen, & Kugemann, 2009).

A working example of open pedagogy is the OERu (*http://oeru.org/*), a significant example of collaboration among global partners, offering free, informal learning courses for interest, certification for participation, and 'fee for service' accreditation opportunities from any of the participating institutions. All resources are OER and use a Creative Commons Attribution 3.0 license. □

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