Chapter 10

# OER in and as MOOCs

Laura Czerniewicz, Andrew Deacon, Sukaina Walji
and Michael Glover

## Summary

This chapter reports on the investigation into the production and rollout of four Massive Open Online Courses (MOOCs) at the University of Cape Town (UCT) in South Africa, and on the experiences of the educators involved in their production. The overarching aim of this study is to address the question: How does MOOC-making with Open Educational Resources (OER) influence educators' Open Educational Practices (OEP)? The authors were interested to know why UCT educators wanted to make MOOCs, whether they adopted OER, whether their practices become more open after making a MOOC, and in which ways.

Drawing on Beetham et al. (2012) and Hodgkinson-Williams (2014), an analytic framework of OEP was developed comprising three dimensions: legal, pedagogical and financial. The research methodology is qualitative, using semi-structured interviews and data from MOOC discussion forums. Six MOOC lead educators were interviewed at three intervals: before their MOOCs ran, immediately after their MOOC's first run, and six to 10 months later. Transcripts were coded using OEP concepts.

The findings offer insights into the relationships between educators' motivations for making MOOCs, their MOOC design tools, the OEP that can be identified and the contradictions they experienced in making MOOCs. Despite the challenges that educators faced, they largely achieved their purposes of making MOOCs and manifested legal, pedagogical and financial dimensions of OEP. The impact on educators' open practices was observed in several subsequent projects after the MOOCs were first run. Tensions involved in making MOOCs, adopting OER and enacting OEP point to how educators could be better supported to become more open in their educational practices.

No negative experiences were attributed to the creation of OER and, indeed, MOOC-making with OER appeared to be conducive to OER adoption in general. However, more time would be needed to conclude whether these educators could become OER advocates or could function autonomously in creating and sharing OER.

The dataset arising from this study can be accessed at:
https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/600

## Acronyms and abbreviations

| | |
|---|---|
| CC | Creative Commons |
| CILT | Centre for Innovation in Learning and Teaching |
| Ed4All | *Education for All: Disability, Diversity and Inclusion* (MOOC) |
| MedArts | *Medicine and the Arts: Humanising Healthcare* (MOOC) |
| Mind | *What is a Mind* (MOOC) |
| MOOCs | Massive Online Open Courses |
| OEP | Open Educational Practices |
| OER | Open Educational Resources |
| OPAL | Open Education Quality Initiative |
| UCR | *Understanding Clinical Research: Behind the Statistics* (MOOC) |
| UCT | University of Cape Town |

## Introduction

Massive Open Online Courses (MOOCs) are a recent and evolving form of online learning that has promised to broaden opportunities for Open Education. This study investigates whether and how the integration of Open Educational Resources (OER) in the design of MOOCs impacts upon educators' Open Educational Practices (OEP).

In 2014, the University of Cape Town (UCT) launched its first MOOC development programme, the UCT MOOCs Project. The first locally produced MOOCs were released in early 2015. UCT is a predominantly face-to-face research institution with over 28 000 students and in 2016 was ranked the top university in Africa based on the Times Higher Education World University Rankings.[1]

The African context is of particular interest in the study. UCT is located in South Africa and was the first African university to embark on a MOOC-production initiative in partnership with large international MOOC platforms. The MOOCs created at UCT all have a strong focus on Africa in terms of content; the broader study also had an interest in exploring whether an African university producing MOOCs increases regional participation in MOOCs.

UCT has a long-standing institutional commitment to supporting open scholarly activity (including OER), as is evident in its Open Access Policy.[2] The UCT MOOCs Project (2014–2017), which is the focus of this study, was an institutionally supported initiative funded by the Vice Chancellor's Strategic Fund to develop 12 MOOCs on two international MOOC platforms, Coursera[3] and FutureLearn.[4] The MOOCs were co-created by UCT's Centre for Innovation in Learning and Teaching (CILT) in collaboration with educators from different departments. The MOOCs selected for development were identified in a competitive call for proposals, in which educators applied for support and funding in order to undertake MOOC-development activities.

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1    https://www.timeshighereducation.com/world-university-rankings/best-universities-in-africa-2016
2    http://www.uct.ac.za/downloads/uct.ac.za/about/policies/OpenUCT_Policy.pdf
3    https://www.coursera.org/
4    https://www.futurelearn.com/

The broad goals of the UCT MOOCs Project are to showcase the teaching and research excellence of UCT; give exposure to African content and knowledge; profile key postgraduate programmes and research areas aligned with the university's strategic goals; support students in academic transition; make UCT's knowledge resources globally accessible; and develop models and expertise in online learning that could be deployed in mainstream degree programmes.[5] Each individual MOOC team also had strategic goals that included the provision of open educational opportunities to engage global participants in locally generated knowledge. While not explicitly an OER creation project, the MOOC educators were invited and encouraged to release the constituent elements of each MOOC as OER (where possible) by the CILT team overseeing MOOC development – largely as a result of the prevailing institutional culture providing an enabling environment.

This study considers four of the MOOCs developed as part of the UCT MOOCs Project. These are *Medicine and the Arts: Humanising Healthcare*[6] (MedArts); *What is a Mind?*[7] (Mind); *Understanding Clinical Research: Behind the Statistics*[8] (UCR); and *Education for All: Disability, Diversity and Inclusion*[9] (Ed4All). The selection was made based on the MOOCs developed and delivered during the time period of this research project, and which were available to be considered as research sites.

MedArts is an introductory course in the emerging interdisciplinary field of the Medical Humanities. The course is presented by Associate Professor of Anthropology Susan Levine (SL)[10] of the School of African and Gender Studies, Anthropology and Linguistics at UCT, and Professor Steve Reid (SR), Head of the Primary Health Care Directorate at UCT. The six-week MedArts course is hosted on FutureLearn and has 17 presenters in addition to the two lead educators. In each week of the course, a trio of disciplinary experts is assembled from across disciplines in the health sciences, social sciences and the arts to bring their perspectives into dialogue on a healthcare topic.

Mind explores scientific and philosophical concepts pertinent to understanding our own minds. The course is presented by psychologist Professor Mark Solms (MS) of the Department of Psychology at UCT. The six-week course is hosted on FutureLearn and has a single presenter with academic assistant Aimee Dollman (AD) as host of the course. Each week a defining property of the mind is discussed from several different disciplinary perspectives.

UCR is designed to build capacity in research skills through scaffolding students' ability to read and interpret clinical data and research. The six-week course is presented by Dr Juan Klopper (JK), Head of Acute Care Surgery at UCT, and is the only course in this study hosted on the Coursera platform; it has only one presenter.

The Ed4All course is aimed at teachers and educational managers, particularly those in low-resource settings, and presents a strategy for how to integrate children with disabilities into mainstream classroom teaching. The six-week course is hosted on FutureLearn and is presented by Dr Judith McKenzie (JM), lecturer in the Disability Studies programme at UCT, and Ms Chioma Ohajunwa (CO) from the same department.

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5    http://www.cilt.uct.ac.za/cilt/create-mooc
6    https://www.futurelearn.com/courses/medicine-and-the-arts
7    https://www.futurelearn.com/courses/what-is-a-mind
8    https://www.coursera.org/learn/clinical-research
9    https://www.futurelearn.com/courses/education-for-all
10   Initials of the lead educators and the Mind academic assistant are used in the Findings section as a code to identify respondents.

The courses studied had enrolments ranging from just over 9 000 for one run of a course (in the case of Ed4All) to nearly 35 000 participants over three runs of the course (in the case of Mind) (Table 1).

**Table 1: Enrolment overview of MOOCs examined in study**

| Course | Platform | Enrolments (as of 1 June 2016) | No. of countries from which participants originate | Percentage of participants from Africa | Percentage of participants from South Africa |
|---|---|---|---|---|---|
| MedArts | FutureLearn | 18 755 (3 runs) | 96 | 20 | 12.5 |
| Mind | FutureLearn | 34 914 (3 runs) | 126 | 12 | 7.0 |
| UCR | Coursera | 12 059 (6 runs) | 91 | 14 | 3.0 |
| Ed4All | FutureLearn | 9 104 (1 run) | 130 | 19 | 7.8 |

The rationale for this study concerns wider questions regarding how adopting OER as constituent elements of MOOCs might influence educators' practices and whether these practices become more open. While "openness" is a problematic, contested and loosely defined term (Almeida, 2017; Knox, 2013), the approach taken in this study is to focus on exploring conceptualisations of OEP, which, as Cronin (2017) suggests, is one of a number of interpretations of openness in education. Furthermore, Almeida's (2017) call for considering the value of openness in education in relation to local contexts provides a helpful approach when considering whether OER initiatives provide an opportunity to reimagine pedagogical practices. The underlying assumption of the study is that the integration of OER in an open course will lead to the transformation of the MOOC educators' teaching and learning practices. The hypothesis is that this transformation will manifest in a range of perceptions, behaviours and/or practices, and that these will align with the conceptions of OEP developed by Beetham, Falconer, McGill and Littlejohn (2012), Hodgkinson-Williams and Gray (2009) and Hodgkinson-Williams (2014). Hodgkinson-Williams (2014) offers three dimensions of openness which underpin our conceptualisation of OEP: legal, pedagogical and financial. These are expanded upon below.

This study explores Downes' (2013, p.219) assertion that: "The most obvious dimension of openness in a MOOC is the sharing of OER, but it is important to recognise that the facilitators, by participating in this network of interactions, open their instruction as well," in other words, opening up their practices. Opening up may include the open licensing of MOOC materials for reuse in a closed or other (non-MOOC) format course. While educators may not have an explicit interest in OER *per se*, creating open resources may be a means to achieve their goals. As we found, there may be other outcomes too.

This study centres on the MOOC educators and their motivations, rather than on the MOOC content or participants. While there is an interest on the part of the researchers in the concept of OER as open content, the intersection of OER and educator practices is the focus of this research. Within this context, practices are defined as "arrays of human activity that are materially mediated" and "organised around shared practical understanding" (Schatzki, 2001, p.2); practices include what educators believe as well as what they do. Given that practices and activities do not occur in isolation and can only be made sense of in practice (Engeström, 1987; Schatzki, 2001), it is necessary

to describe the nature of the context in which the practices are manifest and might change. Thus, it is important to articulate the purpose of educators' practices, how the practices are mediated, contextual considerations and the kinds of tensions that arise as practices change.

The assumption is that there are likely to be linkages between the interests of educators making MOOCs aimed at diverse participants, the opportunities offered by OER and emergent OEP. While the study reports on educators' engagement with OER through various content types, levels, formats and degrees of granularity, we are particularly interested in the manifestations of OEP, focusing specifically on the legal, pedagogical and financial dimensions thereof.

OER and MOOCs are relatively new phenomena, with OER existing since the early 2000s and MOOCs for about half of that period (Hodgkinson-Williams, 2014). OEP has been recognised conceptually in the last 10 years (Andrade et al., 2011). The intersection between OER and MOOCs has, however, not received a great deal of attention, particularly from a Global South perspective. This is a serious concern given the skewed nature of OER and MOOC provision in which Global South institutions are low producers of and participants in open materials and Open Education (Czerniewicz & Naidoo, 2013). Concomitantly, Global South universities have had limited capacity to develop online courses, support more flexible forms of learning and engage in OER adoption activity. Institutions in the Global South have only recently begun to engage with MOOCs, and there is an awareness of the pedagogical and geopolitical implications of MOOCs emanating only from the developed world to be received by those in the developing world (Czerniewicz, Deacon, Small & Walji, 2014). The relative novelty of MOOCs, particularly in the context of the Global South, means that there is a need for evidence-based research to inform the educators and institutions considering MOOCs as part of their course delivery strategy or Open Education initiatives. Educators and institutions contemplating MOOC production will most likely need to consider what sort of MOOCs to create, what pedagogical approaches to adopt and what sort of knowledge is to be shared, as well as what implications MOOC production may have in the geopolitics of knowledge-sharing.

## Literature review and conceptual framework

The emergence of MOOCs is a result of a convergence of distance education and the OER movement enabled by the internet and social and participatory technologies. After considering MOOCs and Open Education, and providing a broad brushstroke review of the definitions of OEP, this literature review focuses on studies pertaining to the specific dimensions of OEP considered relevant to this study, particularly the legal, pedagogical and financial dimensions.

### MOOCs and Open Education

Despite the apparent relationship and similarities between the two concepts, the literature on MOOCs and OER is generally distinct. Nevertheless, the question of the nature of the relationship between them has been intriguing, and educational commentators, academics

and practitioners have argued a wide range of positions regarding their relationship to one another. On the one hand, there is a view that considers MOOCs as part of or as an offshoot of Open Education (Patru & Balaji, 2016; Tingry, Boyer & Roussanaly, 2016; Weller, 2016), or as one "genre" of OER (Alevizou, 2015). On the other hand, there are those who consider MOOCs as inconsistent and distinct from OER and the open movement (Wiley, Reeves & Reynolds, 2015).

Loeckx (2016) has emphasised the fact that the first "O" in MOOC is often taken to mean that the course is "free", but it has become evident that this "free to the user" model is not financially viable. He argues further that there is an important difference between the MOOC "open-as-free" phenomenon and the openness of OER, which involves the requisite legal permissions to reuse, revise, remix, redistribute and retain educational resources. In a study analysing 49 MOOCs, Ozturk (2015) notes that:

> … in line with the theoretical underpinnings of "OERM" [the OER movement] MOOCs initially included key features of connectivist pedagogy like autonomy, community participation, openness and diversity but the newer MOOCs, which are underpinned by financial models and informed by instructivist and cognitivist pedagogies, suggest that the "learning praxis [of] MOOCs has been commodified". (n.p. – in abstract)

Within this context, Ozturk describes an unease among some educators in the OER movement, who see the "open" in MOOC as inconsistent with the "openness" of OER.

By contrast, Piedra, Chicaiza, López and Tovar (2014, p.171) suggest viewing MOOC developments in relation to Open Education positively, in that "MOOC initiatives emphasise free access and interactive features rather than static content, [and] the dominant message is of the quantity of access rather than the openness of educational resources for use, re-use, adaptation or repurpose". Piedra et al. (2014) consider MOOCs as a move beyond open access to course content (OER) in order to access free online courses to a situation where accredited institutions are beginning to accept MOOCs and other free courses as partial credits towards formal qualifications and degrees. In this sense, MOOCs constitute the next stage in the evolution of OER. They note further that MOOCs are not open in the sense of being openly licensed and the use of content for academic credit towards a degree entails payment to MOOC providers. A similar view is taken by Patru and Balaji (2016) who, while acknowledging the desirability of openly licensed MOOCs, concede that not all MOOCs are open in the strict OER sense. At the same time, they point to limitations of OER where "OER are only part of education and as such are just one element of a MOOC (i.e. only the learning materials)" (2016, p.20). They argue that as openly accessible courses, MOOCs are an important part of Open Education.

The literature on Open Education has echoed these general divisions by focusing on either OER or MOOCs, and considerations of both in the context of Open Education are scarce (Hodgkinson-Williams, 2014; Souto-Otero et al., 2016). This apparent bifurcation appears surprising, as MOOCs claim to be concerned with widening access to education, and OER are a means of increasing access (Ebner, Lorenz, Lackner & Jemni Kinshuk, 2017). Thus the relationship between MOOCs and OER would appear to be important for achieving greater access overall (Ozturk, 2015).

The turbid nature of the relationship between OER and MOOCs extends to the research sphere. As the distinction between OER and MOOCs is becoming more "blurred" (Weller, 2016), there is uncertainty about where to position MOOC research in the current literature. OER is infrequently mentioned in the literature on MOOCs, given that the scholarship on Open Education is focused either on MOOCs or OER, as opposed to exploring relations and tensions between them (Souto-Otero et al., 2016). In a study of the evolution of OER research themes, Weller (2016) discusses whether in categorising the body of OER research, MOOCs should be considered as OER and MOOC-related research papers reclassified under OER categories. He ultimately opts to "differentiate this work from the main body of OER" (Weller, 2016, p.413). Nonetheless, in including MOOCs as part of his survey of OER literature, Weller (2016, p.414) suggests that MOOCs constitute a "particular interest or community within the overall OER field". Tingry et al. (2016) similarly choose to consider the "specificity" of MOOCs for analysis purposes while including MOOCs "implicitly" in the OER terrain.

Within the debates on whether MOOCs can or should be considered as part of the OER movement there are more pragmatic positions that present evidence for MOOCs being more closely aligned with OER. Examples of these are initiatives that encourage the use of OER content in MOOCs (Agbu, Mulder, de Vries, Tenebe & Caine, 2016; Ebner et al., 2017), and those that provide suggestions on how MOOC materials may be optimised as OER (Atenas, 2015). Noting that MOOC development has traditionally been driven by financial models that often preclude the use of OER, Ebner et al. (2017) have examined how MOOCs can be enhanced by the use of OER. In the context of German-speaking Europe (Germany, Austria, Italy and parts of Sweden), where there is an absence of "fair use" clauses for educational resources, low-fee or fee-free education systems and tight copyright restrictions, Ebner et al. have emphasised the need for OER to be incorporated into MOOCs. Two MOOC platforms have emerged to address this ambition: mooin[11] in Germany and iMooX[12] in Austria. It is a requirement that MOOCs hosted on these platforms are openly licensed (Ebner et al., 2017). The authors report that MOOCs as OER have significant advantages over fully copyrighted MOOCs, including enabling participation and cooperation with partners, increased creativity and sustainability of content, as well as increased impact. The authors suggest further that the use of OER "results in new ways of teaching" (Ebner et al., 2017, p.13) and argue that MOOCs should be openly licensed in order to enhance their impact.

From a practitioner perspective, Atenas (2015) suggests a number of technically oriented strategies for opening up MOOC content for reuse and adaptation, including openly licensing components and packaged units of the MOOC (e.g. videos, text, photographs and assignments) and hosting this content in repositories. She also suggests that MOOCs be released as openly licensed, "unguided" (meaning learners would take them in a self-paced or unsupported format) OpenCourseWare courses to allow anyone to access them without registration.

Other researchers looking ahead at the potential of MOOCs consider MOOCs incorporating OER as providing exciting opportunities for educational provision, especially in developing-world contexts (Patru & Balaji, 2016). Universities in the Global South produce only a

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11   https://mooin.oncampus.de/
12   https://imoox.at/wbtmaster/startseite/

fraction of OER and MOOCs worldwide (Czerniewicz & Naidoo, 2013), which suggests that developing countries have been receivers and users rather than producers of OER (Nti, 2015). Arguably, both OER and MOOCs would provide opportunities for universities and academics in the Global South to rebalance skewed global networks (Nkuyubwatsi, 2013). Nkuyubwatsi (2013) has noted that MOOCs are still among the "most open" courses and that they present an opportunity to broaden access to education if interoperability and open licensing can be achieved. An African example of this intention is the National Open University of Nigeria's initiative which seeks to develop "MOOCs [which] are OER-based, so they are available for re-use and improvement by academics of other universities in Nigeria or elsewhere" (Agbu et al., 2016, p.115).

## Open Educational Practices

Since at least 2007, researchers have included "practices" as a constituent aspect of the OER movement (Andrade et al., 2011; Butcher, 2011; Geser, 2007). The report of the Open Education Quality Initiative (OPAL) study, "Beyond OER: Shifting focus to open educational practices" (Andrade et al., 2011), was the first from a major study to shift the focus from making learning resources open (in the context of OER) towards "establishing OEP" with an eye to opening "learning architectures" and "transforming learning scenarios" (Ehlers, 2011, p.8). Indeed, it has been remarked that the inclusion of practices has become a global trend in discussions of OER (Conole, 2012), although what constitutes OEP is still evolving. The OPAL study conceived of OEP as nested within the broader conception of Open Education – i.e. Open Education was described as "the adoption of 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" (Andrade et al., 2011, p.12). Further, OEP were described as collaborative practices of sharing openly available resources and using pedagogical practices which involve social interaction, knowledge generation, shared learning practices and peer learning (Ehlers, 2011).

The OPAL study's understanding of open practices has been critiqued for being overly focused on using or developing OER, the contention being that this understanding of OEP does not pay sufficient attention to the policies that support assessment and formal recognition of learning with OER outside formal education programmes (Murphy, 2013). Murphy proposed that OEP be defined as "policies and practices implemented by higher education institutions that support the development, use and management of OERs, and the formal assessment and accreditation of informal learning undertaken using OERs" (Murphy, 2013, p.202). Murphy's study used surveys to understand how and to what extent higher education institutions implement open educational policies and practices. Masterman (2016, p.41) makes a persuasive argument that developing an OEP conceptual framework "involves disparate sources" for OEP as there is a lack of a "holistic repertoire of practices currently observable in the field".

We approach the current study with the broader understanding of open practices in mind so as to observe how open practices play out. The overarching focus is the intersection of OER and MOOC design and their mutual impact on OEP. To investigate this interplay from the perspective of the educator requires consideration of the choices educators make as

part of their work and then seeing whether and how the resulting activities establish OEP. In the literature we found two conceptualisations of openness of particular value for our purposes – namely those of Hodgkinson-Williams (2014) and Beetham et al. (2012).

Hodgkinson-Williams' (2014) dimensions of open practices are useful for distinguishing different features of open practices. Her conceptualisation of openness has the merit of drawing on and extending scholarship addressing previous understandings of openness, OER and Open Education, including the works of Okada, Mikroyannidis, Meister and Little (2012), White and Manton (2011) and Wiley.[13] In an earlier iteration, Hodgkinson-Williams and Gray (2009) conceptualised four degrees of openness in order to (1) understand the "range of openness" with important attributes associated with OER, and (2) describe OEP, or Open Pedagogy, in terms of where such practices are located along a continuum. These four degrees of openness are: social openness (on a continuum between most didactic and most participative); technological openness (proprietary interoperability or open interoperability); legal openness (on a continuum between most restrictive and most accommodating); and financial openness (less affordable versus most affordable). Hodgkinson-Williams' (2014) articulation of these conceptions widened the "social openness" category to include cultural openness and pedagogical openness, based on the argument that the original category "conflated … too many issues under one broad label" and that these needed to be disaggregated (Hodgkinson-Williams, 2014, p.10)

With regard to reuse of OER in practice, White and Manton (2011) employed a "5D" heuristic – deciding, discovering, discerning, designing and delivering – in order to gain an understanding of how, why, when and where OER are incorporated into learning. Okada et al. (2012) expanded upon Wiley's "4Rs" framework by offering four discrete levels of reusability: "recreate content and contribute to new productions"; "adapt part of the content"; "adopt same content but adapt structure, format, interface or language"; and "adopt same content (whole, part, or combination)" (Okada et al., 2012, p.3). Each of the four levels of reusability is then sub-categorised into three ways of using OER. Okada et al. (2012) therefore enriched our understanding of the respects in which OER are reused. Hodgkinson-Williams' (2014) dimensions of openness take these notions and categories into account, providing a more comprehensive framework for understanding and describing open practices.

The five dimensions of openness which relate to the ease or difficulty of the process of adopting Open Education are:

1. Technical openness – e.g. interoperability and open formats, technical skill and resources, availability and discoverability.
2. Legal openness – e.g. open licensing knowledge and counselling.
3. Cultural openness – e.g. knowledge (on a continuum between homogeneous and diverse) and curriculum (on a continuum between institutionalised and autonomous).
4. Pedagogical openness – e.g. student demographics and types of engagement (i.e. Who is the imagined audience? Is it conventional or imagined as diverse and contextually differentiated? What pedagogical strategies are employed?).
5. Financial openness – e.g. Should OER be free or come with a modest financial price tag?

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13  http://opencontent.org/blog/archives/2975

This study draws on three of Hodgkinson-Williams' dimensions, namely legal, pedagogical and financial. The conceptions of open practices by Beetham et al. (2012) are introduced into this framework under the pedagogical dimensions of OEP.

## Legal dimensions of OEP

There are currently very few studies that explore the relationship between MOOCs and OEP. Existing studies take a strict definition of OEP as requiring adherence to Wiley's "5 Rs"[14] – the reuse, revise, remix, redistribute and retain principles which are the hallmark of OER – and thus reject MOOCs as not being open enough, since MOOCs often do not release their materials under the Creative Commons (CC) licences that facilitate "5Rs" activity (Piedra et al., 2014). Mindful of evolving global trends with changing attitudes in copyright culture and a fluid understanding of what is considered acceptable in terms of legality and copyright practice, we argue that narrow conceptions of open practices which afford primacy to the legal aspects of openness are restrictive for investigating emergent open practices of educators, especially in MOOCs. An exchange between Smith (2016) and Wiley[15] focused on whether the copyright aspect of openness needs to feature in conceptions of openness. Smith (2016) argued that it is preferable to "build up a definition [of open practices] based more on what is happening in practice, rather than preconceived theory about open", while Wiley[16] contended that in the absence of building legality into definitions of open practices, openness could be perceived as consistent with violating copyright laws and that openness which is exempt from "fair use" would have to be private as opposed to public (so as to avoid breaking the law). As researchers, our role is to observe and describe practices as they are lived in context, and we therefore take a broader view of openness. Like Smith, we do not restrict ourselves to conceptions of openness that conceive of open licensing as a necessary feature of open practices. We also consider changes in pedagogical approaches important.

The legal dimensions of OEP refer to educator engagement with OER – instances where content has been shared through legal mechanisms. This is premised on an understanding of the legal mechanisms required to adopt (including both creation and use) such openly licensed content and which fall within the ambit of copyright management. Thus, an understanding of alternative forms of licensing implies *a priori* engagement with copyright.

The OER literature pays a great deal of attention to degrees of legal openness of copyrighted content in terms of the continuum of open licensing provisions (Hilton, Wiley, Stein & Johnson, 2010; Hodgkinson-Williams & Gray, 2009), and there is some research which addresses how educators and academics engage with the legal dimensions and nuances of licensing through the adoption of OER (Cox, 2016; Davis et al., 2010; Nikoi & Armellini, 2012). However, there is a lack of evidence of such consideration in MOOC research, where the question of adapting OER in and for MOOCs and the reuse of MOOC content, specifically from the educator view, has received scant attention.

The growth of online education provision, including MOOCs, has surfaced tensions and contradictions in the institutional terrain regarding the copyright of teaching resources in general. The implications of differing institutional intellectual property policies have become

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14  http://opencontent.org/blog/archives/2975
15  http://opencontent.org/blog/archives/4496
16  http://opencontent.org/blog/archives/4496

sites of struggle for academics[17,18] and educator associations.[19] The issues raised include ownership of forms of copyright (individual or institutional), new forms of rights (such as performance rights), as well as the implications of the evolution of partnerships with external platform providers for individual academics (Porter, 2013). The view is that commercial MOOC providers operate with restrictive copyright terms (Literat, 2015) and generally hold copyright over user-generated content (Cheverie, 2013). Even against this backdrop, it is the case that educators do sometimes retain the copyright in their teaching resources (Cox & Trotter, 2016; Klein, 2005), and that academics do sometimes have the option to make their MOOC content available as OER. It is also interesting to note that in the numerous policies that are being developed regarding online provision in universities, new forms of licensing are being included and recognised (Cate, Drooz, Hohenberg & Schulz, 2007).

Educators' awareness of copyright has generally been found to be limited or low (Duncan, Clement & Rozum, 2013; Smith et al., 2006), with confusion about copyright and licensing being reported as very common (Chen, 2014; Davis et al., 2010). A survey conducted by Reed (2012) found a distinct lack of educator clarity regarding ownership of the teaching resources they produce. In addition to a general lack of awareness of intellectual property issues, educators have also been found to be unaware of CC licences (Reed, 2012) and open licensing, describing these as hazy and "gray areas" (Cox, 2016).

It has, perhaps ironically, been the Open Access movement, along with the shift to online practice, which has brought copyright issues to the fore for many educators (Kawooya, 2007; Literat, 2015). In particular, the matter of third-party copyright has surfaced – a key consideration when educators wish to share materials beyond the context of their traditional face-to-face classrooms (Gertz, 2013), and thus become aware of the affordances of openly licensed content (Kapczynski, Chaifetz, Katz & Benkler, 2005). Through the shift online and through exposure to Open Access, educators are being reminded that they have the choice to exercise their rights as copyright holders and apply open licensing solutions to moderate the terms of use of their content, while still receiving attribution[20] (Butcher, 2011).

In light of the research reviewed, we concur with Cronin's[21] differentiation between (1) OER and legality focused definitions of open practices, and (2) broader conceptions of open practices which incorporate these OER aspects but include open pedagogies, open learning and sharing. What is clear is that however the legal aspects of OER and OEP are interpreted or positioned, they are central to research of the type undertaken in this study.

## Pedagogical dimensions of OEP

For Hodgkinson-Williams (2014), the dimension of pedagogic openness includes choices about pedagogic strategies as well as deliberated strategies for facilitating student learning and assessment practices. On the other hand, Beetham et al.'s (2012) features of open practices consist of broad and typical behaviours indicative of open practices and offer illustrations of practices that align to pedagogical strategies underpinned by the need to meet the needs of diverse learners.

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17  https://www.insidehighered.com/views/2012/06/21/essay-faculty-members-and-intellectual-property-rights
18  http://www.chronicle.com/article/aaup-sees-moocs-as-spawning/139743
19  https://www.insidehighered.com/news/2013/03/08/researchers-explore-who-taking-moocs-and-why-so-many-drop-out
20  http://www.chronicle.com/article/aaup-sees-moocs-as-spawning/139743
21  http://catherinecronin.net/research/openness-and-praxis/

Beetham et al.'s (2012) conceptions of open practices are informed by three sources. The first is the "OEP guide" (Andrade et al., 2011), which comprises a set of open practice guidelines produced by, among others, the International Council for Open and Distance Education, the Open University, the United Nations Educational, Scientific and Cultural Organization, and partnering universities in the UK and Europe. These guidelines conceive of open practices in terms of "OER usage" and "learning architecture", with each category having three levels (low, medium and high) (Andrade et al., 2011). The second source comprises Beetham's "Update on open content/practices"[22], which emerged from the UK OER programme. The third source is an OER impact study undertaken by Masterman and Wild (2011) which asks about the pedagogic, attitudinal, logistical and strategic factors conducive to uptake and sustained practice in the use of OER, and, conversely, the impediments. Based on these studies, Beetham et al.'s (2012) six indicative features of open practices offer broad and inclusive indicators of open practices that are not bound up ineluctably with open licensing constraints. These features are:

1.　Opening up content to students not on campus or not formally enrolled.
2.　Sharing and collaborating on content with other practitioners.
3.　Reusing content in teaching contexts.
4.　Using or encouraging others to use open content.
5.　Making knowledge publicly accessible.
6.　Teaching and learning in open contexts.

Derived from empirical studies of the open practices of educators, these features serve as useful indicators of open practices amongst educators.

We observed many of these open pedagogical practices in our study of UCT educators engaged in MOOC design, and found that these practices are better described and understood using a combination of the features of pedagogic openness from Hodgkinson-Williams and Beetham et al., explained in more detail in the Methodology section. Using their distinct features as indicators of open practices, we are able to offer a broader and more differentiated picture of how the MOOC educators' pedagogical practices and attitudes shift.

## Financial dimensions of OEP

Hodgkinson-Williams (2014) refers to financial openness as a continuum in which access to learning resources is either free (most affordable) for the user, on the one end of the spectrum, or charged for (least affordable) on the other. Between these categories there are learning resources which entail a small charge, a subscription fee, an in-kind contribution or (closest to free) a registration requirement. Downes (2007) has made an in-principle argument that for a learning resource to be open it must be free to the user, whereas Thrun[23] has contended that a fee is justifiable. This dimension is tentatively explored in the context of the cost of materials and whether they should be free to the user or whether a defensible strategy of financial openness might consider affordability rather than being free of charge to be feasible. In the context of this study, we have interpreted this dimension as including discussions around MOOC business models, OER creation in MOOCs and sustainability.

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22　https://oersynthesis.jiscinvolve.org/wp/2011/06/04/update-on-open-contentopen-practices/
23　https://pando.com/2014/05/12/a-qa-with-godfather-of-moocs-sebastian-thrun-after-he-disavowed-his-godchild/

### Research questions

The overarching aim of this study is to address the question: How does MOOC-making with OER adoption influence educators' OEP?

In order to address this overarching question, we ask eight specific research questions (RQs). The first two RQs focus on the context in which the educators operate and interrogate their underlying motivations and understandings of openness. RQs 3 and 4 consider the MOOC platforms' design constraints and enabling factors, while RQs 5–7 consider the ways in which the three dimensions of openness manifest. The final RQ considers the opportunity for reuse of MOOC OER beyond the MOOC.

- RQ1. Why do educators create MOOCs?
- RQ2. How do educators understand openness in education?
- RQ3. What are the contextual dimensions which shape OEP?
- RQ4. How do MOOC design tools enable OEP?
- RQ5. How do educators understand and express copyright, licensing and the legal dimensions of openness?
- RQ6. How is pedagogical openness experienced and expressed as an OEP in MOOCs in terms of the educators' aims?
- RQ7. How is financial openness expressed?
- RQ8. How do educators use and reuse OER?

## Methodology

The study employed a qualitative approach. One of the researchers, an embedded observer, interviewed the MOOC lead educators, ran focus groups and observed the process of educators creating their MOOCs. Two researchers were part of the MOOC learning design team with whom the educators collaborated in creating the MOOCs. Data were obtained through semi-structured interviews and focus group discussions with the MOOC educators and MOOC learning designers, as well as through observations of the MOOC-making process. Other sources of data included proposals submitted to the institutional MOOC Advisory Committee, monitoring and evaluation reports, promotional videos created by the educators, institutional policies and strategic plans, permission forms for MOOC content rights and artefacts of course content.

A total of 19 interviews were conducted with the MOOC lead educators, two focus groups with the MOOC learning design team and three post-course reflection sessions with the lead educators for MedArts, Mind and UCR. We interviewed the lead educators from three of the MOOCs (MedArts, Mind and UCR) at specific stages before the MOOC ran, after the first run of the MOOC and 6–10 months after the MOOC's launch. Due to time constraints, the Ed4All educators were only interviewed before the MOOC launch and once afterwards. The first interviews provided a baseline for the educators' existing practices. Similar questions were asked at each stage to enable comparison, and the responses to earlier interviews were used to further refine interview questions for later interviews. In this way, we could note changes in practices over time and ascertain where new practices or tensions might have emerged.

We also conducted focus group discussions with the lead educators after the first run of their respective MOOCs and focus groups with three members of the MOOC learning design team.

Three other respondents were members of the MOOC learning design team.

Interview and focus group data were coded using NVivo10. The initial codes were shaped by the conceptual framework through an iterative process of engaging with the data, which led to a consolidated analytical framework. Several dimensions of open practices were identified, allowing for an accurate and more differentiated picture of how educators' open practices shift in the MOOC environment.

## Analytical framework

As a first step in understanding the MOOC educators' changing practices, it was informative to analyse the reasons they gave for making a MOOC. In asking this question, it was possible to clarify the MOOC educators' often implicit intentions and motivations for making MOOCs. While the immediate goal was to create an open course, the underlying reasons for creating and offering a MOOC and what they wished to achieve were not as clear. Asking this question helped to contextualise how OER and OEP might be enablers (or not) to educators' underlying objectives.

Next we used the coded transcripts to understand how the MOOC design helps, or does not help, educators achieve their objectives for the course. The term "MOOC design" is used to describe the opportunities and constraints offered by the MOOC format and platforms as a particular form of online learning, and therefore represents the tools and strategies for achieving the educators' outcomes and objectives.

The term "MOOC design" as used in this study does not refer to all tools involved in making a MOOC, but only to those that are important for the educators and which, by inference, are important in their understanding and adoption of open practices. More specifically, it includes the conceptual and licensing tools introduced by the learning designers and the tools associated with the MOOC hosting platforms.

As noted, the lead educators did not develop MOOCs or enact open practices in isolation. Learning designers co-designed the MOOCs and were equipped with licensing and conceptual tools. Licensing tools relate to the CC licences for educational resources that were suggested to lead educators by the learning designers during group discussions. These open licensing recommendations were informed by the policy environment at the university, where open licensing is encouraged.[24] Conceptual tools relate to different pedagogies as well as ways of structuring the course and presenting the materials that the learning designers bring to the MOOC creation process.

Having noted the motivation, context and tools that enable MOOC-making, we then analysed the MOOC educators' practices observed in terms of the three dimensions of openness identified in the literature and conceptual framework. These three dimensions represent three perspectives of OEP: a materials or content perspective (legal), a learner-centred perspective (pedagogical) and an institutional perspective (financial).

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24  http://www.uct.ac.za/downloads/uct.ac.za/about/policies/OpenUCT_Policy.pdf

Hodgkinson-Williams' (2014) conception of "pedagogic openness" has been refined to account for two dimensions of the pedagogy required for teaching a diverse, global MOOC audience. The first is a communicative aspect – i.e. the communicative strategies with which educators must engage to retain the focus and attention of MOOC audiences and ensure comprehension of the content they convey. Examples of this include achieving succinctness and clarity in one's delivery, focus on the essence of an idea or concept, and heightened attention to the words and syntactic structure one employs to convey a message. Whereas traditional university lectures are 45 minutes long, MOOC educators must pare down their content delivery into a concise seven- to 12-minute video format. Achieving the communicative skills to do this is indicative of what we term "strategies of pedagogic openness". The application of such skills is contingent upon the open audience, and there is thus a sense in which one must have practical experience of teaching in this mode before one can acquire these skills.

The second aspect of strategies for pedagogic openness relates to the structuring and assessment of course content. The MOOC mode compels educators to consider the importance of selecting and arranging their learning materials in ways that facilitate learning for learners with a wide range of backgrounds and prior knowledge. Similarly, designing a range of assessments – including teacher assessment, peer assessment and self-assessment – as part of the course structure requires educators to be open to the many backgrounds and expectations of learners. Structuring courses and formulating assessment in conventional university settings is different from formulating assessment and arranging learning materials for an open, diverse and global audience. A university educator can, to a large extent, rely on assumptions about learners in the formulation of assessment, including assumptions regarding learners' language proficiency, level of education and intellectual background. The structure of courses and assessments tends to reflect these assumptions. By contrast, MOOC learners tend to be highly diverse with differing and sometimes unknown needs. Acquiring the skills to structure learning content and assess open audiences is thus an important aspect of strategies of pedagogic openness.

Three additional aspects of pedagogical openness drawn from Beetham et al. (2012) complete this study's operational definition of pedagogical openness. These are reusing OER in teaching contexts, making knowledge publicly accessible, and teaching and learning in open contexts. The first relates to how educators reuse OER that is produced as part of a MOOC. The other two aspects relate to course-level practices where educators make their knowledge publicly accessible through the MOOC and engage in teaching and learning in open networks. All of these are specific manifestations of practices, which according to Beetham et al. (2012) are catalysed by OER, and which we have reframed for a MOOC teaching and learning environment.

Finally, while financial openness has been defined quite broadly by Hodgkinson-Williams (2014) to refer to a continuum in which access to learning resources is either free or paid for, in this study we reframe this dimension to consider the cost (to the educator) of making MOOCs as well as how to ensure affordable access to MOOCs for learners who might wish to purchase a certificate. Underlying this dimension is the broader issue of the sustainability of Open Education initiatives.

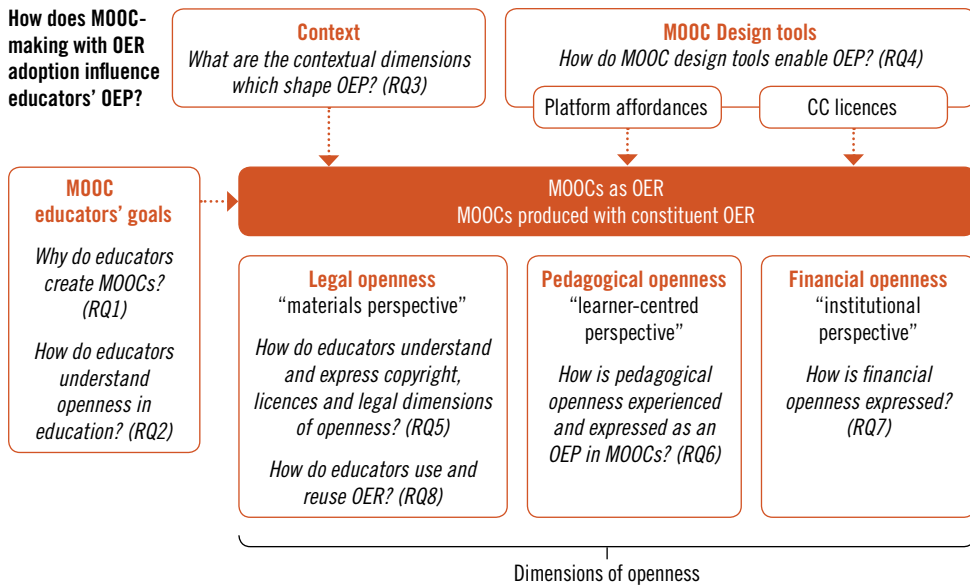The analytical framework is summarised and related to the eight research questions in Figure 1.

**Figure 1: Analytical framework related to the study's eight research questions**

# Findings

## Understanding the MOOC educators and their contexts

### Why educators create MOOCs

Knowing the educators' motivations for creating MOOCs informs our understanding of educators' intentions and enables the unpacking of assumptions and choices. The motivations and objectives of individual educators emerged from an analysis of the initial proposals for funding, the promotional videos the educators created for each MOOC, and the lead educator interviews. For the MedArts and Mind educators, the objective was mainly to develop their respective disciplinary fields, while for the UCR and Ed4All educators, objectives related more to supporting flexible professional development and capacity-building. These objectives are expanded upon below in more detail.

### MOOC 1: MedArts

The original MedArts proposal stated that "this MOOC is an opportunity to develop an academic project in the Medical Humanities in Africa and globally". This suggests that the educators wanted to advance the interdisciplinary field of Medical Humanities and that they saw the MOOC as a form of online learning that could help them introduce key ideas and share these in an African context. This vision is clearly articulated in the MOOC's promotional video, in which the educators describe interdisciplinarity as a way of addressing global health challenges. In the video, SR states that he is "constantly looking for new ways

of addressing complex health issues like equity for social justice" and that he suspects "an interdisciplinary approach holds the key".

The MedArts lead educators saw the MOOC as a way of developing the Medical Humanities that was distinct from other activities aimed at achieving the same goal, such as writing newspaper articles, holding public lectures, writing journal articles and running a face-to-face master's course. They also felt that making MOOCs might result in research collaboration. Before the MOOC ran, they expressed reservations about whether their ambitions would be realised, but in the interviews conducted after the first run of the MOOC they considered their goals to have been achieved.

The integration of the MOOC with face-to-face classroom teaching emerged as a result of the educators' experience within online teaching. As SL remarked: "I would like our students to have access to those segments of the MOOC which could generate new interdisciplinary research projects." The role of the MOOC in promoting the interdisciplinary approach inherent in the Medical Humanities was still part of the core objective, but the MOOC experience appears to have given the educators new ways in which to enact that objective, i.e. through closer integration of the MOOC and their face-to-face teaching.

The final set of MedArts interviews was conducted six months after the MOOC was first run, during which time the MOOC had been run again. The interviews revealed that the educators now had more nuanced understandings of the field and its trajectory. SR commented that, in relation to teaching the Medical Humanities as a formal course and as a MOOC, "it's highlighted for us the lack of attention to political economy, questions around transformation, the underclass and disease and the lack of specific kinds of attention around how the arts has responded to poverty and to health crises". The MOOC experience appears to have made the MedArts educators aware of the limitations of their previous approach towards achieving their field-building objective and they partly attributed this shift in focus to the presence of many different kinds of students who participated in the MOOC. SR acknowledged that some of the learners "were doctors, nurses, healers and artists who were retired, who had a wealth of knowledge and who could then bring that back into conversations and into an environment which was not prejudiced along age lines, race lines or gender lines".

## MOOC 2: Mind

The Mind lead educator, MS, had previously articulated the broad objective of growing the field of neuropsychoanalysis (Kaplan-Solms & Solms, 2000). Analysis of the initial MOOC proposal, the promotional video and the first set of interviews suggests that this was also the key focus of the Mind MOOC. In the initial proposal, MS indicated that the purpose of the MOOC was to make "technical research knowledge accessible to the general public", and that he was interested in developing a MOOC to promote "interdisciplinary and transdisciplinary research in sciences and the humanities". At the time, MS proposed a website development project with similar goals, called Talking Head, which later used MOOC material.[25]

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25  http://talking-head.org

In the first set of interviews prior to the launch of the MOOC, he added that the MOOC aligned with his pedagogical goal, which entailed addressing the following questions: How do I speak to two different audiences at the same time? How do I make the neuroscience accessible to the psychologists, and how do I make the life of the mind accessible to neuroscientists?

In later interviews, MS reflected on how the MOOC had enabled him to reach a broader audience and that this has been important for advancing the discipline. The experience of running the MOOC strengthened his resolve to commit further time and resources to MOOC runs as well as student question-and-answer sessions, despite the time-consuming nature of the endeavour.

### MOOC 3: UCR

The UCR lead educator JK's motivation for delivering the MOOC, as outlined in the initial proposal, was the desire to offer a "unitary programme for capacitating research skills [which] can contribute to reducing duplication of these types of programmes currently offered to MMed [Master of Medicine] students". The proposal indicates a desire to reach both MMed students at the university as well as those working in global healthcare settings. It also identified a longer-term, more strategic approach to influencing the way medical education is delivered in his faculty. In his proposal, he stated that the MOOC "represents an opportunity to consider and test the feasibility of certified short courses, online courses for medical education, and to build a broad research network". His personal website[26] demonstrates that this is an objective he was striving towards prior to becoming involved in MOOC-making, as he had been engaged in sharing an extensive collection of teaching resources as video OER. These efforts led to him receiving an Individual Educator Award[27] from the Open Education Consortium in 2014.

The UCR MOOC promotional video focuses heavily on the capacity-building and professional development opportunities offered in the MOOC, with the educator explaining why students need to understand medical statistics and that the course would give students "a deep sense of understanding of what is meant by the numbers and techniques mentioned in the methods and results section of research papers". In the first set of interviews prior to the MOOC launch, JK spoke of the rationale for why the MOOC was necessary, commenting that: "I have to answer those questions every day anyway, there must be lots of people out there with the exact same questions, so let's answer them in this way."

When interviewed six months after the MOOC's first run, JK was of the view that his MOOC had achieved its local aim – that of assisting junior researchers and medical students with the concepts and tools required for interpreting and undertaking clinical research. At this stage, JK also indicated that the MOOC experience had ignited an expansion of the original objective. He was not satisfied with the scope of content he was able to cover in the original MOOC and wanted to create follow-up MOOCs so that he could more adequately equip learners with the skills required to interpret and conduct clinical research. He also indicated his growing understanding that the MOOC arena had potential for financial return and could

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26   https://www.juanklopper.com
27   http://www.oeconsortium.org/projects/open-education-awards-for-excellence/2014-winners-of-ace-awards/2014-ace-winners-individual-categories/

be part of a sustainable business model for bringing money into his unit. He did, however, state that the lack of resources to make MOOCs could be an obstruction to achieving this.

## *MOOC 4: Ed4All*

The motivation of the Ed4All educators, JM and CO, was to enable the professional development of teachers and stakeholders working in schools to be able to foster inclusivity in schools. As stated in the promotional video, the educators' objective was to develop teachers so that "educational systems can adjust to welcome children with disabilities into schools". The initial MOOC proposal indicates that the objective was slightly broader than teacher professional development at an individual level and encompassed the inclusion of other stakeholders in the community who would need to build "partnerships across different sectors of society, especially between schools, parents, community members and disabled people's organisations".

The first interviews prior to the first MOOC run indicate that JM and CO wanted to equip educators with concepts and low-cost practical strategies to make classrooms and learning environments inclusive for disabled learners and to change attitudes: "we want to say, it doesn't take a ton of money, it doesn't take huge resources. The biggest challenge … is still attitudes" (CO). While there was a clear focus on teacher professional development, there was also an indication that the educators wanted to bring together multiple perspectives about disability and engender community-level conversation. JM stated, "My biggest hope would be that it would actually infiltrate villages and little towns … in Ghana and Nigeria and in various African and other lower- or middle-income countries."

Following the MOOC's first run, CO noted that the MOOC had gone some way towards achieving the ends she had hoped for, with associated outcomes, including people sharing stories about disability and struggles in the classroom, educators sharing reflections on their attempts to make their classrooms more inclusive, rich discussions on the topic, and even educators taking the MOOC declaring that they would try the inclusive education approach and strategies in their own schools and classrooms.

While the timeline of the study did not allow for third interviews for this MOOC, the lead educators have subsequently gone on to raise more funds for further MOOCs and online courses focused on disability and inclusion. This indicates that they see MOOCs as being an element in achieving their overall objective.

## How educators understand openness in education

While the educators had specific goals relating to their rationale for offering MOOCs, it was clear that they did not explicitly equate MOOCs with openness, OER or Open Education when they planned their MOOCs. This was due less to an ideological objection to openness than to the fact that (with the exception of JK) the MOOC educators had nascent and limited understandings of "openness". Based on the initial interviews, the understanding they did have seemed to be centred around issues of access and reach, about which they were generally positive.

### MOOC 1: MedArts

SR saw the openness of the MOOC encompassing "the idea that knowledge should be shared as far and as widely as possible, and not kept to a few elite" and that MOOCs were one way in which this could be achieved; so it was "the right way to go". He noted that he did not have much knowledge of MOOCs and openness before making the MOOC, and remarked that marketing would be required amongst academics to promote an understanding of openness.

### MOOC 2: Mind

The Mind lead educator's assistant, AD, took the openness of the MOOC to mean that anyone could access the course and its resources on a flexible basis. Lead educator MS understood the "open" in MOOC to mean that the MOOC content "has to be open access and that everything has to be free of copyright". Furthermore, MS positioned himself as "all for open access" and remarked that "once the material is there, once it's open access, you can multiply that effect".

### MOOC 3: UCR

Prior to the study, openness had long been important to UCR lead educator JK and he had a sophisticated understanding of the concept. He had already been involved in and committed to Open Education for some time and he understood "open" to mean sharing his own knowledge as he has uniquely constructed and configured it. For him, this was tied to the idea that it is better for learning if students can access multiple explications of an idea or content, as this increases the likelihood of understanding it.

### MOOC 4: Ed4All

Before the Ed4All MOOC launched, lead educator CO understood openness in terms of access to the course material, sharing knowledge, acknowledging the differences among learners and producing educational content with those factors in mind. It also meant taking steps to ensure that one's content could be reused. For JM, the "open" in MOOC meant the MOOC was "basically just a free-for-all", and that you could "fit it into your own learning in a way that works for you". JM therefore saw openness in terms of content being accessible to interested learners and as a mechanism for enabling learners to participate flexibly.

## Contextual dimensions shaping OEP

On investigating the contextual dimensions which shape OEP, we had initially envisioned that we would find greater variation in MOOC-making contexts that might influence OEP. The MOOC-making contexts within UCT did, however, have many similarities across disciplines. Nevertheless, the analysis reflects some differences across legal, pedagogical and financial openness dimensions, such as the fact that only one educator was seen to be engaging with financial openness.

## MOOC design tools enabling three dimensions of openness

The analysis of interviews helped us identify how MOOC design tools enable OEP. These were not software or production tools. Rather, we introduced MOOC design as a bundle of

tools inherent in the MOOC format which mediated, influenced and constrained the choices of the educators in this study. Furthermore, we examine how the educators engaged with the tools on offer and which tools they focused on and used, either in mainstream practice or to develop OEP in pursuit of their objectives. The "bundle" comprises three components: MOOC licensing tools, MOOC pedagogical tools and MOOC financing tools.

## Experiences of legal openness, OER creation and OEP

Within the context of this study, MOOC design influenced how educators understood and expressed copyright, licences and informed the nature of legal dimensions of openness. The MOOC design tools mediated OER creation and enabled educators to make their knowledge publicly available, an indicator suggested by Beetham et al. (2012) as a form of OEP.

### MOOC 1: MedArts

The MedArts lead educators were committed to openness in terms of reach and had to contend with copyright issues at the outset when two of their colleagues decided not to participate in the MOOC, citing concerns about losing control of copyright of their work if it became available beyond the confines of the traditional classroom. SR thought that his colleagues raised important issues which forced them to think about copyright and licensing in more detail. He said that he was aware of the complexities of copyright in relation to research, but not in terms of teaching. After the course had run, he acknowledged that he had not realised that copyright would be an issue, especially in terms of third-party copyright. He expressed shock when he realised that he was not able to use certain published materials (including some of his own research) in his teaching due to copyright restrictions. Despite this realisation and appreciation of the value of open licensing, the MedArts lead educators were not particularly comfortable or familiar with the specifics or nuances of the different types of CC licences and, while they had a general understanding of licensing, SL acknowledged that it was "the expert team [the MOOC design team]" that made navigating the legal issues possible.

### MOOC 2: Mind

In the interviews with Mind lead educator MS and the assistant AD, it became clear that making the MOOC brought the issue of copyright to the attention of the educators from the outset. They noted restrictions experienced due to third-party copyright considerations and would have liked for more materials to be available. AD recounted how they received permission from publishers to reproduce content or use Open Access articles in their course materials.

At the beginning of the MOOC-making process, there were misunderstandings, a limited understanding of open licensing and a widely shared misconception that Open Access meant giving up one's copyright. Through working with the MOOC design team, MS was exposed to different types of open licensing and was very keen on the reuse of his materials. When he came to reflect on his experience during an interview after the first MOOC run, he said that he was unequivocally in strong support of open licensing. At the same time, he was aware of the ethics and considerations of privacy and anonymity online. He stated that he was making a MOOC in order to grow the new discipline in which he worked and to spread knowledge, and that CC licences helped him to do so.

As was the case with the MedArts educators, MS realised early on that copyright restrictions curbed the wider use of learning and intellectual resources in MOOC production and he considered restrictive copyright provisions as "antithetical" to the intellectual project.

## MOOC 3: UCR

The UCR lead educator, JK, was deeply committed to making teaching resources freely available from the outset of the MOOC-making process. He expressed an aversion to the concept of access to educational resources being restricted to certain universities as well as to the notion of individual ownership, but showed no particular interest in the specifics of licensing and copyright. JK began his MOOC-making process with a strong commitment to making his educational resources "available to anyone", and was convinced of the benefits of doing so. However, as with the other educators, he was not interested in mastering the technical aspects of open licensing.

## MOOC 4: Ed4All

The Ed4All educators were clear from the outset that they wanted to make their resources openly available. Despite some previous exposure to the Open Access and copyright debate, they found MOOC copyright issues complex and difficult to negotiate. While they knew about copyright, they were not familiar with the scope of open licences available and experienced copyright decision-making as a burden.

The process of making the MOOC inspired careful consideration of licensing options for the MOOC as well as discussion about the kind of licensing in the educators' future formal courses. JM noted that they had decided to openly license the Ed4All MOOC under a CC-BY licence so that even if educators wanted to reuse part of the MOOC in a paid-for course, this would still serve the core objective of offering strategies to make schools more inclusive, even in low-resource settings.

Across the four MOOCs, we found instances of educators engaging with legal openness, approaching content creation from the perspective of OER production to make resources openly available to current MOOC participants, as well as to enable reuse beyond the specific parameters of the MOOC. Two aspects affected the adoption of OER in the study: (1) an institutional policy that supports openness; and (2) learning designers who are experienced with CC licensing and can explain the benefits of open licensing to educators. Of the 21 educators involved in the four MOOCs studied, only two guest educators (in MedArts) were reluctant to utilise an open licensing approach on their own educational materials.

Although not all the MOOC educators in this study were aware of OER and associated practices, there was an enabling institutional context with regards to OEP already in place prior to the start of the MOOCs project. A number of years before the MOOCs project, the Centre for Education Technology initiated a series of open projects addressing Open Access, Open Data, Open Research and other open practices (Czerniewicz, Cox, Hodgkinson-Williams & Willmers, 2015; Deacon & WynSculley, 2009). In 2014, the university approved an Open Access Policy "for taking forward open scholarship and open education as part of a commitment to scholarly communication, e-research and digital content stewardship" (UCT, 2014, p.2). This enabling environment meant that the MOOC design team, with whom the educators in this study co-created their MOOCs, could consult people in the institution who had experience of CC licensing and intellectual property for advice. Because

of this institutional open agenda, the MOOC design team were in a knowledgeable position to propose to MOOC educators that open licensing could be of value to their goals and would encourage reuse beyond the formal delivery of the MOOC. MOOC educators were given the option not to utilise open licensing, as open licensing was not a prerequisite in the MOOC-making process, nor was a specific licence proposed. However, the process of MOOC development included practical conversations about copyright management, through which the MOOC educators developed and deepened their understandings of open licensing and OER creation. Such conversations enabled educators to use and create OER in their MOOCs. Therefore, while the OER approach was not dictated, it played a role in catalysing forms of OEP mediated by the affordances of the MOOC format once it was employed in the resource-development process.

This study indicates that at least two conditions are required to support OER creation. First, educators should have a sense of the value of open licensing for achieving reach and reuse of their materials, this value being made apparent through interaction with potential and actual users. Second, it is important that, once the sense of value is established, a supporting staff member or other intermediary who is knowledgeable about copyright management and open licensing is available to assist educators who wish to explore licensing options. This is necessitated by the fact that many educators perceive the technicalities of CC licensing as beyond the ambit of their skills or labour. In all four of the MOOCs studied, the educators, while valuing the power of OER for achieving their objectives, did not wish to acquire the skills associated with open licensing and saw this as someone else's work.

While the MOOC-making process enabled OER creation and reuse, it also led to some contradictions. Even though most of the MOOC materials were OER, these materials were technically only directly accessible to those who were enrolled in the courses. This was because the OER material was contained within the MOOC and would not necessarily be persistently accessible via an Open Access repository. Therefore, these materials would not, strictly speaking, be considered OER.

It is in the interest of the Coursera and FutureLearn platforms to mitigate this apparent contradiction and make some content openly or at least easily accessible. For example, individual course pages could be opened to anyone, even if they are not enrolled in the course, and selected learning materials could be shared as OER in repositories or "on-demand". A perceived strength of using the MOOC format for the course content, as recognised by the educators, is that learning materials are presented in a context so that the embedded pedagogy, course structure and cohort of learners collectively give the learning material value for reuse and sharing. Despite the design of the MOOC platforms limiting some forms of openness, the educators can (and do) engineer other strategies for sharing, and thus adopt open practices through sharing MOOC materials to make their content and knowledge publicly available.

Another potential contradiction is that while the MOOC design requirements would seem to encourage OER adoption because the delivery mode involves non-registered students, all MOOC platform agreements make it clear that fully copyrighted materials cannot be used without permission. This was felt to be a limitation on how the educators could teach their courses. In MedArts, the educators could not set the same prescribed reading list for the MOOC as for their formal course due to copyright restrictions. They were thus compelled to find OER or Open Access literature that could be included as substitutes. One of the MedArts

educators saw the lack of access to key readings in the field as reducing the "intellectual integrity" of the course, while the other lead educator considered this a limitation on the "depth" of the course.

## Experience of pedagogical openness and OEP in MOOCs

The data from this study indicate that educators engaged in strategies of pedagogical openness in terms of the learning design and teaching approaches required to meet the needs of a diverse group of learners. Across the four MOOCs, the educators considered the need to structure content and assessment for a general audience and to consider the mode of delivery. Thus, the experience of making a MOOC not only exposed educators to new open pedagogical strategies, but also to feedback from MOOC participants. The feedback in the form of completed assessments, peer review, comments, discussion threads and assignments enabled the educators to witness the effect of the pedagogical strategies they employed as they taught in a distributed network and as part of a diverse community.

### MOOC 1: MedArts

The MOOC-making process provided the educators with an opportunity to reflect upon their conventional educational practices. Due to the nature of MOOC design – i.e. courses structured into steps within weeks and punctuated with text, as well as co-created videos, quizzes, assignments, peer reviews and discussion prompts – and because the course would be globally accessible, the educators were induced to consider new ways of structuring their educational resources and their teaching. Lead educator SL, for example, was struck by the careful premeditated preparation that was required for producing a video in the MedArts MOOC.

When the MedArts MOOC went live with its very large number of enrolments, the lead educators had occasion to consider their own educational practices. When interviewed after the MOOC launched, SL expressed that she realised that producing crisp, carefully conceptualised videos of her lectures would allow for richer, more engaged discussion with students. This approach was considered more effective than repeatedly offering the same lecture to students in a face-to-face classroom setting who were often fatigued from a long day and struggled to muster the requisite concentration and interest. Here the flipped classroom approach using the MOOC (which involves learners engaging with materials prior to coming to class) invigorated the educator's interest in how this pedagogy could be used. SR was impressed by the formation of online learning communities and a Facebook group that was created by cancer patients who were taking the course, remarking that the community appeared to have "congealed in a more palpable way on the MOOC site, than it does in my face-to-face teaching". The MOOC's openness fostered a unique sense of community that the educators had not found possible in a traditional classroom.

### MOOC 2: Mind

Communicating the ideas of their interdisciplinary fields to a diverse audience meant that the educators had to adopt different pedagogical approaches in order to be as inclusive as possible. Interviewed 10 months after the Mind MOOC launched, MS found that he was compelled to "really pare down ideas to core essential content" when communicating content because of the unknown participant profile and level of technical proficiency. He

commented that this mode of teaching clarified his own thinking process and forced him to "convey really complicated material in seven-minute chunks".

MS saw the pedagogical approach he had adopted as valuable and as a means for the small number of neuropsychoanalysis specialists in the world to more effectively pool resources. He concluded that the MOOC mode of open teaching had "taught" and "encouraged" him to "use online platforms for teaching people in and about that field".

An experimental feature of Mind's open pedagogy was the "Ask Mark" videos. MOOC participants were prompted to ask the educator a question at certain points in the course; the following week he would provide answers to selected questions in a short video. This was implemented in the first two runs of the MOOC, despite the educator being disinclined to repeat the exercise due to time constraints. During a reflection session before the third run of the MOOC, however, the educator expressed an interest in fielding more questions and remarked that he really enjoyed this component. The key pedagogic openness strategies that MS acquired were more succinct delivery of content and utilisation of targeted video responses to learners' questions.

## MOOC 3: UCR

In the case of the UCR MOOC, lead educator JK developed strategies of pedagogic openness which included effective ways of utilising assessment and peer review in the course, responding to learner comments and adjusting the course in response to feedback from learners. The point is not that he learned how to assess students, but rather that he adopted strategies to construct assessment tools for an open and diverse audience. He also came to see assessment as a necessary part of effective learning – particularly in an open context – and saw these strategies as relevant to his usual face-to-face teaching.

## MOOC 4: Ed4All

In reflecting on different approaches required for open online teaching, in the first interview Ed4All lead educator JM observed "a gap between the person and the resources and how they actually make use of and mediate the resources", and was alerted to the necessity of bridging the access challenge. She argued that educators need to provide accessible resources so that aspiring learners can learn, and that this requires new skills on the part of educators: "there are misconceptions that you just put it up online and people can use it [but] it has to be clearly structured and it has to be done properly … there are a lot of skills involved in getting it right and doing it right".

In this instance, JM demonstrates the principle that effective open practices require more than a desire or willingness to make one's content openly available – since for open resources to be useful to potential learners, the resources must be accompanied by a pedagogical approach that enables learners to utilise resources effectively. In the interview following the first Ed4All run, CO remarked upon the substantial difference between communicating to a conventional postgraduate audience and to a MOOC audience, and argued that the latter required "a whole new set of skills". For her, the overarching point was that the open online learning environment required a new level of clarity.

## Expressions of financial openness in MOOC production

As a dimension of openness, we understand an educator's manifestation of financial openness as referring to the view the educator holds about whether or how open learning should involve costs to users and how it should be funded. This dimension is particularly pertinent to MOOCs, considering the well-documented challenges of funding or achieving sustainability of Open Education initiatives in ways that also value or acknowledge the academic labour involved in creating them (Almeida, 2017).

This study revealed one case where an educator redefined his sense of openness to pragmatically understand Open Access as a system in which resources are accessible to those who cannot afford them, but involve a monetary cost to those who are able to afford access – a model implemented in the interests of longer-term sustainability.

### *MOOC 3: UCR*

The view of UCR lead educator JK was that an economically secure learner could pay for access to the MOOC and its resources, and in doing so enable a form of cross-subsidisation which enables the continued production of learning resources. A key caveat is that learners who are unable to afford access to the MOOC must be able to secure financial aid and have the cost of obtaining a certificate (and in some cases access to the full course) covered by a third party. The openness of the MOOC is therefore contingent upon the financial standing of the learner, rather than whether it is free to all. This view is pragmatic and utilitarian. The educator considers two options: (1) financially secure learners pay for access, while financially constrained learners receive aid and thus free access; and (2) open access to all learners irrespective of their economic standing.

Within this context, option 2 means that finances for creating further learning courses are not available, while option 1 provides a sustainability model and resourcing for the creation of more learning resources.

For JK, there is a sense that his learning resources and his MOOC are open because they are accessible to those who can afford access to them as well as to those who cannot afford to pay for access. In addressing the tension between producing freely available courses and securing finances to produce such courses, he interprets open as affordable. This compromise is underpinned by the deeper value of inclusivity. Although they are not free of charge, affordable learning resources are not fully closed because there is a sense in which they are accessible.

JK's reasons for accepting a model of openness in which more affluent learners pay for access is different from Thrun's (Hodgkinson-Williams, 2014). Thrun's case for charging for access to Udacity courses hinges on the assertion that (1) paying students are more committed to the course, and (2) completion of the course is more likely when learners have paid for access to the course. The latter assertion relies on the pragmatic assumption that desirable learning occurs when a course is completed.

JK differs from the other MOOC educators who regard the question of how MOOCs are to be funded as outside of their purview. After the first run of the UCR MOOC, JK engaged with the problem of how to make future MOOCs financially sustainable. Before the MOOC was launched, he was already envisaging sustainable ways to make further MOOCs. The tension he confronts is that while MOOCs entail many benefits for learners and educators, they are expensive and the UCT MOOC Project is a funded and finite endeavour. Without a workable

financial model or more funding, it would be highly challenging to undertake further MOOC development. JK referred to his inability to make additional MOOCs as a "bottleneck" and concluded that he would require external funding for further MOOC production. Eager to resolve the tension of wanting to make more MOOCs but being unable to do so under the extant financial model, JK self-financed his attendance at the 2016 Coursera conference where he met with Coursera executives to discuss funding for a follow-up course. The Coursera leadership noted that if JK could produce a course that would generate revenue from certificate sales, they would provide the initial capital to produce the MOOC.

Eleven months after the launch of the UCR MOOC, JK launched another MOOC using the initial capital provided by Coursera. For him it was important that he could secure funding for his follow-up MOOC himself. This, he argued, would constitute a "proof of concept" – namely, that an available means of locating funding for the production of MOOCs exists. Receiving funding for his MOOC from Coursera did, however, entail a compromise in terms of the openness of the course. In the UCR MOOC, entry was open to all. In his additional Coursera-funded MOOC, opting for a certificate will be compulsory, which means that learners wishing to enrol have two options: they can pay for the certificate and gain entry to the course, or they can request financial aid and gain entry. While accepting this compromise of openness-as-affordable, JK remained resolute that his MOOCs remained open, stating that if learners could not receive financial aid to access the MOOC, he would not release another MOOC under those conditions.

## Educators' use and reuse of MOOC–OER beyond the MOOC

The final research question focuses on reuse of MOOC–OER beyond the formally delivered MOOC. In addressing this, we include: constituent OER available in the MOOC which can be reused in other courses or contexts, reuse of the entire MOOC (as a "pedagogically wrapped" OER) in other contexts, or cases where the MOOC teaching approach is reused in other contexts. We consider the reuse of OER or the MOOC in their entirety in other teaching contexts (or the desire to do so) as a manifestation of OEP.

Reuse in this context can have legal and/or pedagogical dimensions. Through the creation of constituent, openly licensed OER as part of the MOOCs, reuse of resources was both permitted and encouraged. It is challenging to track instances of reuse, since these permissions are granted upfront, but there were a number of examples of component reuse. In many of these cases, this was unanticipated and a surprise to the educators.

### *MOOC 1: MedArts*

Upon release of the MedArts MOOC, lead educator SL remarked that it was important for the MedArts resources to be accessible after the MOOC run and reported that the process of making the MOOC had compelled her to start thinking about the importance of "building an archive" for the interdisciplinary field in which she was engaged. She hoped that the content of the MOOC would be reused and "replicated", noting that this was part of making content open. Specifically, SR expressed a positive view of flipped learning and noted that it would be preferable in the face-to-face classroom setting for learners to view video content before class so that discussions could start at a higher level.

Using video to communicate with learners compelled SR to reconsider the value of giving the same lecture to students approximately five times a year. To him, the accessibility and

availability of the MedArts MOOC offered two benefits for students in SL's class: (1) the contents could be used in traditional face-to-face teaching to stimulate interdisciplinary research and ideas; and (2) it could be employed to spark interest in the subject amongst first-year students. Ten months after MedArts was first launched, she expressed a strong desire for the MOOC to remain available on an "open access" basis. This indicates a shift in the use of "open" vocabulary and a recognition of reuse potential. For SR, the accessibility of the MedArts MOOC was considered useful in terms of introducing people to the field of Medicine and the Arts. He reused the MOOC content numerous times and considered this a good means of increasing exposure to the field.

The MedArts MOOC was incorporated (reused) as a compulsory component of a face-to-face master's course at UCT. This exemplifies the extent to which the educators valued reuse of the MOOC materials and believed that the materials enhanced their face-to-face teaching.

## MOOC 2: Mind

After the first run of the Mind MOOC, lead educator MS was of the view that reusing MOOC video lectures in his classes would be beneficial to students, as would be allowing them the autonomy to view lectures in their own time. This would be the case even when the videos were stripped of the affordances of MOOC design, such as interaction with participants and links to other resources. Lecturers would also not have to repeat lectures due to venue-size constraints. As the field progressed, he could produce new video material. He expressed a desire to use a MOOC-like format for his face-to-face teaching of larger classes by showing the video rather than repeating the same lectures in person each year. A year later, AD first used the MOOC videos in a similar way for a course for semester-abroad students. A component of the Mind MOOC was also incorporated into a formal psychiatry registrar course in the United States by one of MS's colleagues.

MS was also of the view that he would reuse his MOOC videos on his neuropsychoanalysis website so that he could reach wider audiences without having to travel to them in person. He believed that this, as well as reusing his MOOC materials more generally, would advance field-building. Later, the MOOC videos were reused in the "Talking Head" website MS initiated with similar objectives. Another important example of reuse was the "Ask Mark" videos, which were all reused by MS for a different online education project. The reuse capabilities of openly licensed material were considered a major benefit, with MS noting the potential in terms of saving time and other benefits such as linking learners to relevant texts and online sources.

## MOOC 3: UCR

Prior to his involvement in MOOC-making, UCR lead educator JK was a proponent of reusing educational resources. He believed there were many positive opportunities for universities to reuse open learning materials, but that these had not been properly exploited and he regretted the fact that the university had not encouraged reuse of open learning materials more explicitly. The goal of JK's MOOC, as with those discussed above, was closely related to its reuse potential. He emphasised that having his MOOC available to students meant that he would not have to repeatedly answer the same research-related questions and that

it provided affordances for students and medical professions to be better equipped with the skills necessary to interpret clinical research.

After witnessing the UCR MOOC's first run, JK noted that his MOOC had in part served his goal of equipping medical professionals and students with skills for interpreting clinical research. He remarked that he had been contacted by educators from elsewhere who had utilised the MOOC and found it very useful for teaching research and statistics. Locally, the MOOC was incorporated into a formal course offered by the Centre for Clinical Research at UCT, and the head of that unit had written to colleagues suggesting that they encourage their students to take the course. JK emphasised that he wanted his course to be reused as a formal requirement for registrars locally and was happy for the course to be reused and segmented in whatever way desired. He was impressed that his MOOC had been endorsed and reused in a variety of contexts and in that way served his aim of locally and globally equipping learners with tools to better interpret clinical research.

## MOOC 4: Ed4All

As in each of the other MOOCs described, motivation around reuse of the Ed4All MOOC and its contents can be more clearly understood when it is related to the educators' objectives in creating the MOOC. For the Ed4All educators, the intention was that it would be used in low-resource learning environments and schools to shift thinking on inclusion and offer strategies for making education activities more inclusive. Reuse in such contexts was thus integral in the motivation for making the MOOC, and in its design and communications. For CO, engaging with the concept of OER and licensing their MOOC material openly as part of the MOOC-making process "forced" her to rethink and reflect on how her teaching resources related to a greater good. JM considered that it was best for all the MOOC material to be openly licensed "on principle". She also hoped to integrate part of the MOOC into her formal lecture series for physiotherapy students. For her, the ongoing accessibility of the course would also mean that learners could dip into the field and determine for themselves whether they wanted to pursue more formal study. In this way learners could be spared from paying fees for a course or degree they might not wish to study.

Having observed the MOOC's first run, CO was pleased about the fact that the materials and resources in the MOOC had been used in a number of countries. Based on comments and emails from educators, JM believed that the MOOC had made an impact on educational practices engaging children with disabilities. She desired local reuse and wanted to integrate the MOOC into a postgraduate course. She also wanted to reuse and adapt the MOOC as an introductory course for a series of European Union-funded courses for teachers working with children with disabilities. She added that she had been contacted by a Korean university for permission to use some of the resources in the MOOC. Based on what she had experienced in terms of reuse of MOOC materials, she started sharing more of her teaching resources as OER.

The Ed4All educators had their MOOC content reused in a formal face-to-face UCT course, learned that it was used in meetings and discussions in various countries, and were pleased that strategies and ideas from the course had shifted thinking among MOOC participants. JM also reflected that, in order to optimise reuse, it was better if learning materials were accompanied by a pedagogical structure.

Across all four MOOCs, the educators' enthusiasm for creating stand-alone OER was varied. Some were content with OER creation as a by-product, while others became enthusiasts and articulated the benefits of OER in and of itself. None of the educators developed negative attitudes to OER as a result of the MOOC-making experience. Each of the educators did, however, argue in some way that access to the MOOC as a whole course was more important than the reuse of constituent resource components. The MOOC topics which formed the subjects of the MOOCs in this study did not necessarily lend themselves easily to component OER creation and reuse, as these were mostly academic courses delivering conceptual ideas designed to be taught as online courses. Learning materials in such courses would require contextualisation and pedagogical scaffolding for optimal use. The objective of the educators was to offer a course with a particular goal in which they had some influence in the (re)running and updating of the course, at least initially. For some, their position changed as they received feedback, requests and invitations from learners – in some cases for the sharing and reuse of materials in different contexts.

# Conclusion

This study investigated the relationships and interconnections between the making and design of MOOCs, OER and OEP. These intersections were shaped by both institutional and disciplinary contexts, as well as by the motivations of the educators who decided to create the MOOCs. We conclude with a brief overview of how MOOC-making proved to be a catalyst for both OER creation and enactment of OEP and how this study has contributed to understandings of OEP.

## MOOC-making as a catalyst for OER creation

The intention to create OER was rarely expressed or perceived as important by the MOOC educators in this study. It is possible that the educators did not articulate their intentions regarding creating, licensing and delivering content using concepts such as OER due to a lack of awareness or experience of the concept, which has an accompanying vocabulary. However, the influence of the UCT MOOCs Project, the design component of the MOOC format, and the institutional context supporting openly licensed content enabled the MOOC educators to become more cognisant of the technical aspects of content licensing and the practical aspects involved in OER creation. Although not an institutional requirement, all UCT MOOCs were CC licensed, with the specific licensing provisions negotiated by the educators and the design team.

No negative experiences were attributed to the creation of OER, beyond an expressed lack of familiarity with good practice, implications of licensing choices and practicalities of creating more OER. While none of the educators resisted creating OER, it is not possible to predict how and to what extent they would create OER once the onus is on them individually. There were instances in the course of the study when educators asked about the possibility of creating OER, having been introduced to the concept while producing their MOOC. MOOC-making with OER therefore appeared to be conducive to OER adoption in general. However, with the exception of one educator who had prior experience of OER creation,

more time would be needed to conclude whether these educators could become advocates or could function autonomously in creating and sharing OER.

Other creators of MOOCs on the FutureLearn and Coursera platforms have reused existing OER and released content as OER to varying degrees. The release of content as OER in other MOOCs does, however, appear relatively marginal, perhaps because it is not a default option on these platforms. Because releasing content as OER would involve additional effort in terms of capability and skills to understand licensing norms, we speculate that there is a link between the purpose of the MOOC itself and the educators' willingness and in some cases enthusiasm about releasing MOOC materials as OER.

The UCT MOOC materials were not shared in an OER or open content repository, meaning that it is not possible to run an identical course on a different platform. This is partly because none of the educators were particularly keen on this scenario, as they initially did not see their courses as being suited to this form of reuse. It was also envisaged that the MOOCs would be updated in their first few runs, making version control a concern. Additionally, agreements with the platforms used by the MOOCs in this study did not allow for the concurrent running of an identical MOOC on other platforms, and, in the case of a few materials, licences and permissions had been granted for the materials to be shared only in that MOOC format.

## Understandings of OEP

Understandings of OEP tend to be contested and contextually situated. In looking at how forms of OEP were made possible in a MOOC-production environment along legal, pedagogical and financial dimensions, this study contributes to understanding how OEP developed over time in a group of MOOC educators. Conceptualisations of OEP have relied on the notion that using OER can catalyse OEP[28,29] (Armellini & Nie, 2013). While we found that this could happen in a MOOC environment where the use of OER to create MOOCs led to possibilities for strategies of pedagogical openness, we saw stronger links where OEP mediated by MOOC design in which the focus is on learner-centred pedagogical strategies led to deepening awareness and appreciation of the potential of OER in teaching and learning contexts. This concurs with findings in other contexts that OER awareness and use can arise from other forms of OEP (Cronin, 2017).

Our research suggests multiple ways in which OER, OEP and MOOCs are related from an educator's perspective. As a response to the primary research question – How does MOOC-making with OER adoption influence educators' OEP? – Figure 2 depicts some of these interconnections between the trajectory of MOOC educators adopting OEP and the processes involved in MOOC-making and OER creation. In the MOOC-mediated environment we studied, there was clear evidence of the dimensions of openness building upon one another, a factor which helped refine the conceptualisation of OEP.

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28   http://opencontent.org/blog/archives/2975
29   https://www.edsurge.com/news/2016-08-09-open-educational-practice-unleashing-the-potential-of-oer
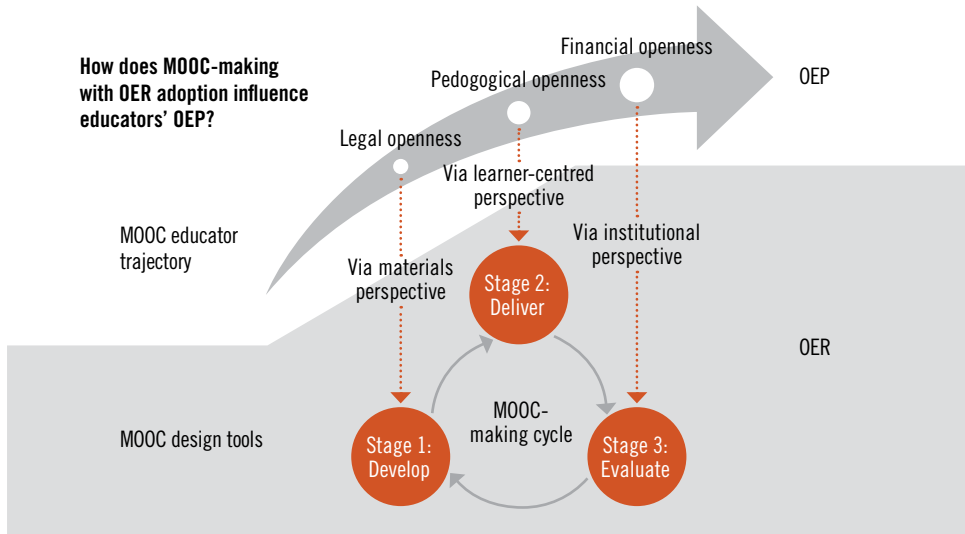
Figure 2: **Schematic of possible relationships between OER, OEP and MOOC-making**

The first dimension is "legal openness", marked by the acceptance of the principle of OER and the use of CC licences in the MOOC-making process. Engagement with this dimension happened at the MOOC development stage through discussions around course material development. While not the default of the MOOC format in this context, exhibiting and choosing legal openness allowed for further dimensions of OEP to become possible. That said, most of the educators in the study were not particularly ideologically committed to OER and preferred that others take the responsibility for legal compliance.

The second dimension of OEP, "pedagogical openness", was enabled by MOOC design, the opportunity to deliver the MOOC and that the MOOC environment was composed of 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 or how their goal for the MOOC could be realised. At this point, we saw that educators' appreciation of the value or potential of OER became more pronounced, thus strengthening their understanding of legal openness and in some cases their enthusiasm for OER, as they saw its practical application and utility.

The third dimension of OEP, "financial openness", was exhibited by only one of the educators in this study. However, its emergence as a form of OEP is an interesting contribution to understandings of OEP as a set of goal-oriented practices that are enacted within a continuum of openness, and in which contradictions may exist but with a potential to be resolved in a particular context.

While the emergence of MOOCs may have polarised practitioners and researchers in the Open Education community, they have also enabled new perspectives on how OER and OEP might be enacted in a diverse, dynamic and evolving online environment. These dimensions help focus our gaze on different perspectives of what constitutes OEP and how these forms of OEP might be supported. The legal dimension is a "materials" perspective, and although we found OEP along this dimension, there was little active enthusiasm on the

part of educators to engage with this practice. It is also likely that without support, relatively few educators would choose to share and create OER. While educators appreciated the importance and potential of open licensing of materials with respect to teaching and learning, they preferred that others take care of the practicalities.

The pedagogical dimension of OEP has a "learner-centred" perspective and was more enthusiastically enacted as educators saw the impact of the pedagogical strategies and learning designs implemented in the MOOC, especially when they were supported by learning designers. Educators responded to learners and their needs and found uses for these strategies in their formal teaching.

The financial dimension of openness, which has an "institutional" or "business model" perspective, was emergent in this study. Over time, as the MOOCs ran, one educator in particular exercised agency to develop a sustainable financial model to develop more MOOCs as well as a contextually specific and pragmatic approach to how learners might continue to be offered affordable or free learning opportunities. Outside of this study, another set of educators has since raised funding for offering follow-up MOOCs. We speculate that engagement with MOOCs, especially when they are successful or become useful for mainstream teaching (such as a flipped classroom), could lead to considerations of sustainability for continuation or enhancement, or wanting to develop more MOOCs.

Finally, while the focus of this study has been on educators in the MOOC-making process, it was found that there were two other parties that were instrumental in helping educators to achieve their goals: the experts in copyright and licensing who assisted with the complexities of permissions, and the learning designers who provided expertise and guidance, especially in assisting the educators in navigating the unfamiliar MOOC environment and new opportunities for pedagogical innovation. How these roles might enable OEP merits future investigation.

## Acknowledgements

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Corresponding author: Laura Czerniewicz <laura.czerniewicz@uct.ac.za>