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# **Teacher Experiences and Academic Identity: The Missing Components of MOOC Pedagogy**

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#### Abstract

The way teachers are represented in relation to massive open online courses (MOOCs) has created a limited and unhelpful characterization of an important role. The key argument put forward in this position paper is that attending to the complexity of the MOOC teacher's experience and identity will ultimately support productive dialogue about retention, access, and the meaning and purpose of the MOOC – dialogue that, at present, typically focuses on the student or the technology, but is silent on the matter of the teacher. The paper begins by exploring how common constructions of "the teacher" – as the charismatic celebrity professor, the co-learner or facilitator, or the automated response – have emerged in the MOOC literature, and challenges the underlying assumptions about teaching. Its central section comprises an account of a team of MOOC teachers' reflections on designing and teaching a MOOC – E-learning and Digital Cultures, on the Coursera platform – and an exploration of how their experiences problematize common perceptions of the MOOC teacher. Finally, taking as an alternative starting point the higher education literature on academic identities, the

authors highlight the complex effects of academic discipline, institution, and personal and professional values.

**Keywords:** massive open online course (MOOC), teachers, instructors, facilitators, professors, complexity, repertoire, scale, Coursera

#### Introduction

This position paper focuses on the teacher within the massive open online course (MOOC). The teacher's role within a MOOC clearly differs from most other educational contexts, where teachers can personally know and engage with students at some level, most commonly through selection, tutoring, and assessment of individual work. However, *different* does not mean we start with a blank canvas, nor that understandings of academic identity, the specificity of disciplinary knowledge, or the contexts of higher education are irrelevant to the MOOC project. This paper works to demonstrate how attention to the experience of teaching a MOOC, and to MOOC teacher identity, might be not only relevant, but essential, to the success of this new form of education at scale.

A striking description of what the teaching experience can be like was given nearly four decades ago in an essay by Roland Barthes (1977) called "Writers, Intellectuals, Teachers," in which he explores matters of power, communication, and position in the act of speaking as a teacher:

Imagine that I am a teacher: I speak, endlessly, in front of and for someone who remains silent. I am the person who says *I* (detours of *one*, *we* or impersonal sentence make no difference), I am the person who, under cover of *setting out* a body of knowledge, *puts out* a discourse, *never knowing how that discourse is being received* and thus for ever forbidden the reassurance of a definitive image – even if offensive – which would *constitute me*. (p. 194, emphases in original)

This is one conception of what it means to teach, which Barthes (1977) relates directly to speech (as opposed to writing). It may, as we will see, have particular relevance to the notion of the MOOC as a site of transmission of expert knowledge, and the problems that such a notion raises. More of Barthes' account will be given throughout this article, as a touchstone and a reminder that we are not nearer, in current MOOC developments, to "solving" the mystery of what it means to teach, or to learn, than we ever have been. This is not a problem – rather, it is an opportunity for educators to reassert the importance of context, of inquiring not only "what" but also "why" and "how" we want to teach in MOOCs.

To date, the complexities of teaching have been largely absent from emerging MOOC debates, which typically describe only three forms of teacher – the distant "rock star" lecturer, the co-participant or facilitator within a network, and the automated processes that serve as proxy tutor and assessor. These teacher typologies play out in the literature in two basic forms of MOOC – the connectivist or "cMOOC," and the institutionally rooted, highly structured "xMOOC." The first section of the paper offers an examination of these three teacher forms, drawing on academic literature and media and online reports of MOOCs, and questioning the usefulness of attempts to write the complexity of the teacher out of the MOOC.

Then, the complexity of teachers' experiences and identities in one particular MOOC – the <u>Coursera MOOC E-Learning and Digital Cultures (EDCMOOC)</u>, developed and taught by the authors for the first time in early 2013 – is explored. Built on what is commonly described as an "xMOOC" platform, with teacher-defined structure, content, and assignments, EDCMOOC had a social, non-hierarchical approach to the process of the MOOC itself. For this reason, it has been described as a "hybrid" MOOC (<u>Waite, Mackness, Roberts, & Lovegrove, 2013</u>), as an xMOOC that was "structurally and pedagogically similar to ... a cMOOC" (<u>Stewart, 2013</u>, p. 230). The notion of a hybrid MOOC may be useful in describing courses that do not neatly fit the categories of cMOOC or xMOOC, but it seems more likely that the categories themselves are oversimplified and require critical attention. This section draws from the teaching team's reflection-in-action in the form of a blog written during the first session of the course, and sets out how the teaching of a MOOC is experienced in practice, and what generative issues and questions arise from paying attention to such experience.

Finally, to understand how the teacher within a MOOC might be alternatively conceptualized, the last section explores recent literature about teachers' academic identities in higher education. Themes emerging from that literature, including institutions in the context of neoliberalism, shifting territories of academic disciplines, theoretical stances towards pedagogy, and individual relationships with agency

and power, can help us to understand what sorts of roles and practices are "at home" in higher education today, and how these might be mapped, traced, or transformed in a MOOC context.

To conclude, the position paper makes a plea for a more nuanced and complex view of MOOC pedagogy, not only to make it easier for teachers to orientate themselves and get involved in pushing a new form of education forward, but also to take the MOOC on its own terms and understand it as a complex site of knowledge construction that needs further theorizing and discussion. Such welcoming of complexity and nuance will ultimately support productive dialogue about retention, access, and the meaning and purpose of the MOOC.

#### **MOOCs** and the Teacher

To date, MOOC-related literature and popular discourse has had an ambivalent relationship with the concept, and the function, of the teacher. Two main descriptions of MOOC types have emerged:

- The xMOOC, a highly structured, content-driven course, designed for large numbers of individuals working mostly alone, guided by pre-recorded lectures, assessed by automated or peer-marked assignments. xMOOCs aim to provide access, at scale, to established higher education subjects as presented by authorities in various fields – where authority is signaled by affiliation with elite educational institutions.
- 2) The *cMOOC*, designed on what are described as "connectivist" (Siemens, 2005) principles, and involving a networked and collaborative approach to learning that is not primarily curriculum-driven, and does not involve formal assessment. Emphasis is placed on distributed, self-led exploration of topics, rather than on the expertise of authorities.

Neither of these MOOC types is homogenous, and the typology itself is beginning to show signs of being insufficient to describe, let alone predict, the diversity of MOOC designs and pedagogies coming into being – EDCMOOC being just one example of a course that fits uneasily in either category. As <a href="Stewart (2013)">Stewart (2013)</a> says:

not all xMOOCs are the same ... The distinctions individual university partners and teaching faculty may make regarding their given courses needs to be kept in mind when generalizing about MOOC models.

As the cMOOC/xMOOC distinction is still so prevalent in the literature, this section uses it to focus on how the teacher has been conceptualized in each type, and how this conceptualization might affect our understanding, as a community of teachers, developers, and researchers, of what is possible and desirable within a MOOC pedagogy. The teacher in each MOOC type will be discussed in turn.

# The Teacher in the xMOOC

Narratives of educational technology and university education in relation to the xMOOC are typified by a division between so-called traditional higher education and new forms of education supported by information technology and, more recently, the Web. The former is understood in terms of the large lecture, the intimate space of the small tutorial, and exclusivity of access; the latter are seen as providing personalized learning, and wide or open access to information (Wiley & Hilton, 2009). The teacher, in these narratives, is characterized as having expert knowledge, but lacking the means to widely transmit it. This definition of a problem – the effective transmission of expert knowledge – has come to stand for the teacher him- or herself, masking the complexity of matters such as power, pedagogy, assessment, feedback, and the nature of knowledge. Educators and educational researchers have long discussed these matters and negotiated them in practice; and there are many contexts where the complexity of education is actively sought out, reinstated, and explored in relation to digital practices and technologies (Land & Bayne, 2011; Goodfellow & Lea, 2007). Nevertheless, an oversimplified discourse of educational technology, and the problem of transmission and access it has defined and set out to solve, has become ingrained in much educational policy, institutional practice, commercial development, and in media and popular culture approaches to the MOOC.

So, we find ourselves at the cusp of a series of developments hailed as "disruptive," "revolutionary," and as spelling the end of traditional higher education (<u>Adams, 2012</u>; <u>Friedman, 2013</u>; <u>Marginson, 2012</u>; <u>Wente, 2012</u>). The main disruption is to any sense of a limit on the number of people who can have knowledge imparted to them by any given teacher (<u>Stewart, 2013</u>). The emergence of heavily funded and high-profile platforms designed for structured, transmission-of-knowledge focused, massive courses

(xMOOCs) is a symptom of this way of thinking about education, and the conceptions of the teacher they propose are limited to two distinct but interrelated positions.

First, the teacher is conceived of as a distant "academic celebrity" – a highly qualified and respected authority based in an elite institution whose ability to transmit their knowledge has been hampered by technological limitations now overcome. These celebrity teachers are not proposed to be available to MOOC participants in any relational or dialogic way, but the recordings of their words and faces are enough to open education up on a previously unprecedented scale. The xMOOC professor is described as taking on the role of "actor-producer" (Rodriguez, 2012, p. 7), foregrounding the notion of a mediated educational experience and a fabricated teacher. The teacher is fabricated, and so is the student – the "material" is "transmitted" to, and from, an abstraction: "instead of seeking to signify just who I think the other is (and so just who I think I am), I simply try to make myself clearly understood to him" (Barthes, 1977, p. 204). The question of what such understanding might consist of, or how it is to be achieved, is not the domain of the MOOC celebrity.

Second, "the teacher" is conceived of as a set of automated processes, such as automatically marked quizzes, algorithms for surfacing discussion posts that have been "upvoted" or read by many participants, and programming tasks that either pass or fail according to whether they successfully run. In many xMOOCs these processes are the primary or sole form of feedback to participants. Even proposed developments for personalizing learning for the individual MOOC participant derive from automated processes (see the Daphne Koller's <u>TED</u> talk – <u>TED</u>, <u>2012</u>). As will be discussed later, the disciplinary context of education matters a great deal to the way in which teaching and learning can take place. The automated MOOC teacher has a disciplinary home in the computer sciences, from which all the major xMOOC platforms have emerged. Indeed, it might be argued that one reason why the xMOOC format has been so successful, and so enthusiastically received, in the computer science-based subjects it originated in is because its disciplinary norms and teaching styles are literally *designed into the format*.

The xMOOC is described as being able to operate with "minimal involvement" from the instructor (Rodriguez, 2012, p. 7) – a position also taken up by cMOOC theorists.

# The Teacher in the cMOOC

Connectivist MOOCs, or cMOOCs, express the goal of education differently from xMOOCs – not access to expert knowledge, but facilitating self-directed learning. The learning theory of connectivism on which cMOOCs are built is influenced by the philosophy of Ivan Illich, as articulated in *Deschooling Society* (Illich, 1971), which describes the institution as an inadequate means of achieving universal education and calls for "webs" of social relations to support self-directed learning. Connectivism has built on these early theories of networked learning to incorporate Internet technology as the essential means of forming social networks; it is promoted particularly as a theory of learning for the digital age (<u>Siemens, 2005</u>). Furthermore, the notion of the network has become synonymous with the nature of learning itself, leading to the claim that "the learning is the network" (<u>Siemens, 2006a</u>, "Cognition and emotions," para. 1).

Fundamental to connectivism is the intentional formation and extension of a personal learning network (Siemens, 2005), and it is for this purpose that the cMOOC was conceived. Expansion of the personal network is considered of primary importance, not just as an "amplification of learning," but also as way of overcoming the limited number of teachers (Siemens, 2005, p. 8). Indeed, it is argued that teaching roles related to content are easily "provided" in other ways. In a discussion of the ability to record lectures, McAuley, Stewart, Siemens, and Cormier (2010) contend that "teaching – as done in most universities – can be duplicated" (p. 44). This connects directly to the xMOOC model of teacher as holder of knowledge to be simply transmitted, and appears to disregard the importance of situatedness and context.

Teaching is subordinate to learning in a connectivist context – what <u>Biesta (2012)</u> refers to as "learnification," or "the translation of everything there is to say about education in terms of learning and learners" (p. 38), is strongly in evidence here. <u>Siemens (2006a)</u> identifies challenges for educators as: "(a) defining what learning is, (b) defining the process of learning in a digital age, (c) aligning curriculum and teaching with learning and higher level development needs of society" (para. 9). Thus teaching is framed as a supporting device for performing learning processes. Teacherly activities apart from facilitation are frowned upon, and discussions of teaching in connectivist literature often describe a

binary between the hierarchical transference of knowledge and a horizontal "power-free" domain of participation and sharing (Anderson & Dron, 2011; Kop, 2011; Kop & Hill, 2008). McAuley et al. (2010), for example, while acknowledging the "negotiations of power in which people establish the right to speak and be heard based on relational roles" (p. 21), claim the cMOOC to be "an open and a-hierarchical invitation to participate in and scaffold activities and discussions" (p. 11). cMOOC proponents would likely agree with Barthes' (1977) claim that:

We need to substitute for the magisterial space of the past – which was fundamentally a religious space (the word delivered by the master from the pulpit above with the audience below, the flock, the sheep, the herd) – a less upright, less Euclidean space where no one, neither teacher nor students, would ever be *in his final place*. (p. 205, emphasis in original)

However, Barthes (1977) goes on to say that "The problem is not to abolish the distinction in functions ... but to protect the instability and, as it were, the giddying whirl of the positions of speech" (p. 206). The cMOOC, in contrast, is described as abolishing every distinction: In describing power as a negative and undesirable quality, the connectivist teacher is urged instead to be "a role model and fellow node" (Anderson & Dron, 2011, p. 90). The teacher is limited to "the role of facilitator or a total absenteeism from the learning process" (Kop, 2011, p. 20). This method of surrendering traditional teacherly practice is sometimes described as liberatory for the educator (see McAuley et al., 2010). However, such a feeling of liberation may be difficult for teachers to sustain in the face of claims that the "role of the tutor will not only change, but may disappear altogether" (Kop & Hill, 2008, p. 9). If MOOC facilitators are to preserve a role, it will be a seemingly rather unrealistic one in which they are always present, never demanding, and endlessly adaptable:

... aggregating, curating, amplifying, modelling, and persistently being present in coaching or mentoring. The facilitator also needs to be dynamic and change throughout the course. Scaling up to the majority in networked learning requires facilitators to adopt a multifaceted role so as to guide or influence the learners and communities to get involved and embrace social media practices. (Kop, Fournier, & Mak, 2011, p. 89)

In the absence or radically un-authoritarian presence of a teacher, instruction derives from "knowledgeable others on the Web who would take on that teacher role" (Kop, 2011, p. 22). Peer learning networks are justified in terms of "sustainability plans for the instructors," but also as arrangements that drastically change the role of the teacher (Fini, 2009, p. 3). The importance given to the student taking on the role of the teacher is highlighted:

The significant role of the knowledgeable others or other learners is to share part or all of the roles of the facilitator and support other learners by taking an active, participative, and critical role in connectivist learning by communicating, sharing, cooperating, and collaborating with and providing feedback to each other in the communities or networks. (Kop et al., 2011)

The extent to which the teacher-facilitator could be one of these knowledgeable others within the network is questioned in some cMOOC literature because "teachers are often less competent and have less self-efficacy" than they would need to engage as full participants in the digital domain (<a href="Anderson & Dron, 2011">Anderson & Dron, 2011</a>, p. 89). Bell (2011) argues that learning must go beyond formal teaching situations, which are inadequate for "the digitally saturated and connected world in which we live" (p. 100). These generalizations of the teacher as inevitably digitally incompetent are reminiscent of the "digital immigrant" (<a href="Perensky, 2001">Prensky, 2001</a>) metaphor, which marks the teacher as fundamentally inferior within the new world brought forth by technology (Bayne & Ross, 2011). <a href="Siemens (2006a">Siemens (2006a</a>) claims "too many educators fail to understand how technology is changing society" (para. 10), not only adopting a technological determinist position but also situating the teacher as outside of the public sphere, somehow uninvolved in societal transformations.

This is all despite the evidence that professional teachers have often been the major participants in cMOOCs. For example, "teacher" was by far the most common occupation of participants in the first cMOOC, <u>Connectivism and Connected Knowledge 2008 (CCK08)</u> (Fini, 2009), while those designating themselves "educators" were also the primary group in <u>Personal Learning Environments, Networks, and Knowledge 2010 (PLENK10)</u> (Kop, 2011), and <u>mobiMOOC 2011</u> (Koutropoulos et al., 2012).

This apparent paradox would suggest that perhaps there is more complexity and variation in the notion of the teacher than MOOC debates and literature have yet engaged with. Indeed, the way MOOC

teachers see themselves may sometimes be at odds with these categorizations, as will be seen in the next section, where we reflect on our own experiences of making and teaching EDCMOOC.

# Every MOOC is Different: Reflections on Designing and Teaching EDCMOOC

The authors of this article are teachers on the <u>Master of Science (MSc) in Digital Education</u> at <u>The University of Edinburgh</u>, and teachers on the <u>Coursera</u>-based MOOC entitled <u>E-Learning and Digital Cultures (EDCMOOC)</u>, which ran for the first time in January 2013. This section of the paper is an attempt to demonstrate, with reference to EDCMOOC as a specific example, how much more complicated the teacher's role in the MOOC is than the current body of MOOC literature and typical discussions on the subject would seem to imply.

MOOC Design is Philosophy and Belief in Action

EDCMOOC was designed from a starting point of a belief that contact is what drives good online education. Our "Manifesto for Teaching Online" (Ross, Bayne, Macleod, & O'Shea, 2011) culminates in this claim. Our MOOC's history, rationale, and design are all tightly bound to our identities as academics and our teaching philosophies, as we will show. In addition, key themes from the team's experience of teaching EDCMOOC, drawn from the blog we kept throughout the first session of the course in early 2013 (http://edcmoocteam.wordpress.com/), show how intellectually and emotionally absorbing, and how multifaceted, teaching a MOOC can be.

The MSc in Digital Education program has always promoted the possibility of contact in digital environments, not through attempting to replicate the face-to-face classroom, but by grappling with the textuality, forms of presence, and the instability and strange permanence of the Web, and using these to find ways for students and teachers to work creatively and critically together. It has actively pushed the boundaries of what might be possible with digitally mediated education, while following a pattern of delivery and quality assurance of The University of Edinburgh's more conventional on-campus accredited courses. The team develops and teaches fully online courses that engage with many forms of open and collaborative practice, though with class sizes that have never risen above 40, and with an emphasis on mediated, but rich, contact between students and teachers across a range of environments and modalities.

In 2012, The University of Edinburgh joined the Coursera consortium, and we were invited to develop a MOOC for the Coursera platform. From our earliest conversations as a team, in Spring 2012, about whether we *could* develop a MOOC, and how this would challenge and refine our beliefs about good practices in online education, this has been a process of critical experimentation. Already by that time, Coursera MOOCs were understood to be primarily about content delivery through video lectures and quizzes, and that was not how we wanted to or felt we could approach our subject area. So, we had to ask questions about the assumptions being made about MOOCs by Coursera, our institution, the broader educational technology community, and the media, and find out how these fit, or did not fit, with our own assumptions. We had to revisit our positions on matters of connection, contact, community, feedback, flows, and facilitation (Ross et al., 2011), and explore how working in a MOOC space challenged, refined, or renewed these perspectives.

At the same time, we were entering into new territory, and we would have to experiment with an ethos of scale, and with a notion of the teacher as present, but radically outnumbered, in ways that we did not yet know how to design for. We wanted to foster the dialogue-rich, multimodal, collaborative model of online education that we valued on our Masters program, but we had to assume that even if we could support and foster such conversations, we would not be part of most of them — we would be present for participants primarily in choices we would make before those conversations began. We therefore needed the MOOC to provide a solid foundation on which participants could build their own understandings of the subject matter. In our view, this meant working with strengths of the xMOOC model, to provide structure, a narrative, and resources for the participant — who might be anyone, anywhere — to build on, but not imposing ourselves as teachers too dominantly on the MOOC space.

The first run of the 5-week EDCMOOC engaged participants with some discourses that inform understandings of the digital in education and popular culture – particularly utopian and dystopian narratives, and affirmations of and challenges to the notion of the human. It did so through a teacher-curated and -annotated selection of resources on weekly themes, including short films, open-access academic papers, media reports, and video resources. These resources were the foundation for weekly activities, including discussion in the Coursera forums, blogging, tweeting, an image competition,

commenting on digital artifacts created by EDCMOOC teaching assistants, and two <u>Google Hangouts</u> where the course team responded to current discussions. In common with cMOOCs, there was also an emphasis on learner-led group formation, and the use of social media to build personal learning networks and communities of peers. There were no quizzes or tests, no pre-defined learning outcomes, and the only assessed element of the MOOC came at the end, when participants were invited to create a multimodal, web-based digital artifact, and to assess three peer artifacts. Participation in this final assignment (the artifact creation plus the peer assessment) resulted in a passing mark and a "statement of accomplishment" for the MOOC. A distinction for the MOOC could be earned if the peer feedback received for the artifact exceeded a certain mark threshold.

In other words, EDCMOOC is neither an xMOOC nor a cMOOC, but draws its approach from the commitments, experiences, and expertise of its teachers. It has much more in common with its sister program, the MSc in Digital Education, than it does with any other MOOC that the team has encountered. It does not attempt to be all things to all people, but takes a very particular stance on digital education and on MOOC design and delivery. It is a product of the academic identities, in all their complexity and contradictions, of its teachers. This means that we must accept responsibility for our decisions and be prepared to explain and justify our choices. The MOOC course design, like all course design, is "philosophy and belief in action" (Ross et al., 2011, para. 5).

The first session attracted 51,000 people to enroll (42,000 by the start, with more joining through the initial weeks), 21,600 of whom were active on the course site at some point during the MOOC, and 4,500 of whom were still active in the final week (of these, 1,719 received a certificate of accomplishment). From the pre-MOOC survey, with 7,585 respondents from EDCMOOC, we learned that for about 70% of the group, this was their first MOOC, and about half were currently enrolled in only one MOOC. About 24% of respondents were from the U.S., 9% from the U.K., 6% from Spain, and 3% each from India and Greece. Sixty percent of respondents came either from "teaching and education" or reported themselves to be "students." Just over 60% had postgraduate level qualifications, and a further 35% had a university or college degree.

Through the 5 weeks of the course, more than 900 blogs were submitted to the EDCMOOC blog aggregator we developed, approximately 700 tweets per day used the nominated Twitter hashtag "#edcmooc," and participants created and sustained a whole range of peer-led connections, through regular live Twitter chats, Facebook and Google groups, a quad-blogging experiment, VoiceThread debates, shared maps, social bookmarking, and many thousands of forum posts, blog comments, and images and artifacts shared, discussed, and developed through the course.

All those enrolled in the EDCMOOC were sent an e-mail inviting them to fill in a post-course evaluation survey. A large majority (82.8%) of respondents who actively participated in the MOOC reported that overall their experience was good, very good, or excellent. The total number of survey respondents was 1,684. However, one of the biggest challenges in evaluating EDCMOOC for course development purposes was how extremely varied the feedback was. For every person who hated the peer assessment, someone else loved it. The same was true of the subject matter focus, the structure of the course, the social elements, and the roles the teachers played. This makes the process of digesting this feedback, and making subsequent changes to the MOOC, just as much an expression of the team's teaching philosophy and academic identities as the initial course design. An account of some of our decisions about changes to be made is available online (see edcmoocteam, 2013).

# Being a Teacher, Teaching a MOOC

Some broad themes emerged in our EDCMOOC teaching blog, updated each day during the MOOC by different members of the team, which offer insight into the nature of teaching in a MOOC, and this section outlines some of these. We propose that, while writing publicly and in such detail about our MOOC teaching experience might be relatively rare, the impact of MOOC teaching and the range of issues that emerge during the process is not. This is an area that would richly reward the attention of researchers, and indeed members of the EDCMOOC team are engaged in such investigations now.

We have had a range of responses to the experience of teaching EDCMOOC: from fear to exhilaration (often both at the same time). The newness of the experience means that existing educational repertoires can feel inadequate, and that we, along with participants, are "learning how to be" in the MOOC. The scale of the MOOC led all of us, at various times, to feel overwhelmed by the number of people, conversations, ideas, and resources circulating – a feeling which was amplified by the leaky

boundaries of EDCMOOC and the number of locations where things were taking place. There were moments of feeling under the spotlight, as we experienced the attention that comes with, for example, a live broadcast or engaging with a particularly contentious posting; there were times when we were unsure of our purpose or role in the MOOC, when things seemed to have their own momentum, and when our teacher presence would have felt like an intrusion.

Perhaps most difficult was feeling uncertain about how much responsibility to take for what was unfolding in the MOOC. To stand by our convictions, to take ownership of the choices that shaped the MOOC, was non-negotiable – but what were the limits of that responsibility? How much were we, as teachers, being swept along by the MOOC, and did sharing some of the same experiences of surprise and discovery with the students mean that we were, in a meaningful way, participants also? As one blog post put it, "who is 'we'?" Should we talk about being part of the collective experience of the MOOC, about not knowing what would happen, about engaging in our own explorations of scale and openness as the MOOC unfolded? Or were such uncertainties best kept quiet, best not acknowledged, for fear of making other participants feel (as one put it) like "lab rats"?

Indeed, the role of EDCMOOC teachers was an open question even before the course began. An e-mail from us went out about two months before the course started, giving the course hashtag ("#edcmooc") and inviting people to start making connections. This resulted in a sustained flurry of activity that saw participants developing group activities, networks, support systems, and shared resources. The network, in connectivist terms, was teaching itself how to engage in the MOOC, with only the most minimal input (the initial e-mail and some attempts to help amplify participant initiatives) from us.

Many more questions and issues about teacher presence (and absence) emerged in response to questions, statements, and pleas from EDCMOOC participants as the course began. One of the earliest threads in the discussion forum was titled "where are the professors?" and this thread continued to be active throughout the course, as teachers and participants discussed this important process question. Given the lack of more "traditional" xMOOC video lectures, it is perhaps not surprising that the presence of teachers in some (but by no means all) conversations, and in the design of the course itself, was hard for some participants to read. When we hosted our first live video broadcast, at the end of Week 1, the outpouring of elation and relief from participants was overwhelming. *This* was seemingly what many had been waiting for: an embodied, authoritative, and recognizably "teacherly" moment. This thing we had resisted was, many said, a turning point for them in their engagement with and understanding of the course. A question for us going forward is, how can we provide reassuring and recognizable evidence of our attention earlier, without undermining our commitment to the value of dialogue and interaction among peers?

For us, ultimately, it was the massiveness of the MOOC – not its open or online nature – that was really new, and many of our reflections responded to the issue of scale: how to help participants deal with it, how to deal with it ourselves, and how to evaluate the success of the MOOC.

While the overall feedback from the MOOC was positive, some participants did not enjoy the experience of the MOOC, and undoubtedly most of those simply left. Some, though, were vocal about their displeasure, engaging us and other participants in discussions about what was "wrong" with the MOOC and how it should have been designed and run. These discussions revealed a range of perspectives not only about MOOCs and learning, but also about the subject area of e-learning and expectations on the part of some participants that ours should be a "scientific" or "practical" course. We know that learning does not have to be entertaining or even enjoyable to be meaningful or worthwhile (Hockings, Cooke, Yamashita, McGinty, & Bowl, 2009), but if this is the case, and if a MOOC is to be an "open" space in which a range of perspectives is welcome, then perhaps it is necessary to expect and to plan for such vocal criticism, accepting it as an important element of learning for some people, while being as clear as possible about our own rationale.

A pressing question in current MOOC debates is about how to measure their success and quality. Evidence to date shows that less than 10% of those who enroll for a MOOC typically complete it (<u>Jordan, 2013</u>). In an accredited, selective course or program, such a completion rate would be a disaster (indeed, our online Masters program has a retention rate of around 93%, a figure we proudly cite and consider meaningful). However, since a process of what we are calling "reverse selection" is at play in the MOOC – where the barrier to entry is so low that signing up is the easiest part of the course, other measures of quality and success may be more important than retention. How, then, should EDCMOOC be evaluated? How should its success be measured? Surveying participants about

"enjoyment" is problematic, retention is problematic, and yet it cannot be the case that "anything goes" in our MOOC design and teaching. It may be that we should focus on what is produced during the MOOC – the quality of the outputs and the conversations, both formal and informal, and the extent to which the inputs we provide are taken up and worked with in successful ways. This has its own dangers, however, since if the MOOC attracts a significant proportion of postgraduate teachers (as the first EDCMOOC did), the quality of the outputs may be less a measure of learning, than of the starting point of participants.

For now, as we turn our attention to reviewing what we have learned and how we will go forward, we are asking if the MOOC has been a good thing to think with – a support for conversations, critical insights, and creativity and also a spark for reflection on the MOOC format itself, and the nature and future of digital education. For our part, it has been, not least because we now have some data to work with in an ongoing conversation about "how we refine [EDCMOOC], and whether our own strand of higher education has a future – disrupted or otherwise – with this kind of MOOC pedagogy" (Bayne, 2013, para. 2).

This metric of quality, like many of the other priorities and responses the teaching team had to the EDCMOOC experience, may be strongly connected to the academic identities we each brought to the table. The final part of this article explores what is still possible, impossible, and newly possible for the teacher in the MOOC by drawing on literature addressing teacher identity in contemporary higher education. It provides some theoretical support for our assertion that the strong prevailing view that the MOOC teacher is either a distant celebrity figure or is automated or facilitated out of existence is an oversimplification of what teachers do, and experience, in a MOOC, and it suggests that more nuanced positions are both possible and desirable.

# **Teacher Identity in Higher Education**

The teacher newly invited to develop a MOOC already has an academic identity (or identities). Current literature on academic identity frequently positions the university teacher in a neoliberal context that may seem relevant to some types of MOOC – a market-driven, globalized environment where the use of technology has "profoundly changed the way academics teach and research, and the speed at which they are expected to work" (Fanghanel, 2012, p. 5). The literature highlights a diversity of responses both to this and to the way academics view their teacher identity (<u>Archer, 2008</u>; <u>Clegg, 2008</u>; <u>Smith, 2010</u>).

Henkel's (2000) influential classification of key factors affecting academic identity – the academic discipline, the institution, and the sense of the profession – paints a complex picture. Academic disciplines are increasingly fragmented and boundaries are constantly redrawn (Becher & Trowler, 2001); institutions have distinctive local cultures and now also incorporate multi-professional teams with external partners (Whitchurch, 2012); individual academics integrate compliance with personal autonomy and diverse perspectives (Clegg, 2008). Such narratives suggest a process of disequilibrium, adaptation, and agency despite (or perhaps because of) a neoliberal managerial and performative climate.

The context of higher education is therefore characterized by movement and disruption at all levels, and the negotiation of academic identities involves tolerating both complexity and contradiction. Watson (2009) shows that the three related sites for academic identity – the department, the institution, and the personal/professional context – evoke contradictory responses in relation to lecturers' perceived happiness. Though lecturers report low morale, there is still great enthusiasm for their own immediate projects (Watson, 2009, pp. 1-2). A review of a conference on academic identities optimistically concludes: "whilst the language and rhetoric of contemporary higher education may feel inhospitable, the gaps in which to exercise autonomy still remain" (Smith, 2010, p. 727). It seems likely that scaling up to MOOC size is only going to increase levels of complexity and paradox. The gaps in which to exercise academic autonomy may, or may not, also grow. The ability to reflect usefully on what may be happening in a MOOC will depend on such gaps.

# Influences on Teaching Identity

Teaching practices, like academic identity, are affected by the discipline, the institution and the personal. There may be deeply entrenched discipline-based practices, and institutional and national imperatives interacting with teachers' personal values and their own educational histories. Courses might draw on one or more of several approaches to course design (Toohey, 1999) or theories of learning and

technology (Selwyn, 2011). For example, courses might adopt behaviorist, cognitivist, constructivist, or sociocultural perspectives – and, now, connectivist ones (Siemens, 2006b). Institutional professional development encourages lecturers to consider themselves "student-centered," or to practice "constructive alignment" (Biggs & Tang, 2011). Additionally, academics' teaching identity might be influenced by the practices of their own academic discipline, following its organizing structures (Neumann, Parry, & Becher, 2002). The lecturer will both feel and project a teaching identity through negotiation of disciplinary, institutional, theoretical, professional, and personal stances. Diminishing or mischaracterizing the teacher role could result in a lack of appropriate attention to the ways in which complex negotiations of people, space, objects, and discourse constitute any educational setting, including MOOCs.

Speaking of the physical classroom as a space that is "infused with the interrelations of the pedagogical intentions of the instructor, the embodiments that speak for the instructor, and the interactions of the students and their identities," Kannen (2012) shows that it makes a difference who the instructor (or teacher) is; when the teacher changes, the dynamics in the classroom are also different (p. 638). Key to her analysis is that identities are not fixed but are relational: yet paradoxically they are often tied to the idea of the norm of the teacher as "the body at the 'front of the room' with power" (p. 642). By reinforcing such a notion of the teacher through the figure of the celebrity professor, or denying that there is any teacher at all, we risk missing the opportunity to investigate what "being together" (p. 640) with students might mean in a MOOC.

While a remote relationship between teachers and students, or none at all, may seem to be a more stable way of transmitting education to a large number of people – or indeed of selling educational products – the educational context and teacher identities within it are *not* fixed and stable. Any system that ignores this is likely to find itself to be out of date very quickly; indeed, McWilliam (2005) warns that assuming predictable and stable conditions for education creates "deadly" teaching and learning habits. Troublesome and challenging aspects of the relationships between students, teachers, institutions, disciplines, and professions should actually be at the forefront of discussions about MOOC pedagogy, and not conveniently dispensed with by parceling out the less tricky aspects of the teacher's role.

The analysis of EDCMOOC in the middle section of this position paper brings to the surface the concerns and aspirations of a group of university teachers at a time of considerable change. The paper argues that teacher concerns and aspirations are necessary for MOOCs' successful evolution in supporting education. There is sufficient evidence to claim that effective teachers are people who care about their students and what they need to know and do (Noddings, 2005). Caring and kindness have become difficult concepts in higher education (Clegg & Rowland, 2010; Rowland, 2009), but they are urgently needed in our thinking about teaching at scale. When influences on teaching and design are such that they diminish the relationship between teacher and student, then it is understandable that teacher identity becomes exaggerated, devalued, or abandoned. However, academic identity work, and the importance of relationship, in all the complexity outlined above, will be a feature of MOOC design for the foreseeable future, and "critiques, resiliencies and resistances" (Archer, 2008, p. 282) will play a part in how the MOOC teacher understands and undertakes their role. All MOOC teachers, and researchers and commentators of the MOOC phenomenon, must seek a rich understanding of who, and what, they are in this new and challenging context.

# Conclusion

This position paper has argued that the current ways of writing and talking about MOOCs are not adequately addressing the complexity of the teacher's role. It has claimed that teaching is always a site of complexity and shown that the teacher in the MOOC is a participant in a particular, specific site of knowledge construction. This is in line with current thinking on academic identities, but it is rarely being taken up in MOOC discourses and literature. Such a gap leaves MOOC students, designers, and teachers with unrealistic expectations about what it means to teach and learn at scale.

It is vital to the future of open education at scale that we find a way to make room for and work with the complexity of teaching, and with teacher identity and experience. Knowledge from any discipline is not "simply" transmitted, and neither is it the spontaneous outworkings of a network. It has a history, it is interpreted and reinterpreted, and it is invoked in certain places at certain times. It has a context, in other words. The same is true for educational practices: They have histories, which are not erased by the shift from classrooms to digital environments. Most MOOC participants and teachers have been "schooled" within formal educational settings, disciplined into particular "ways of thinking and practicing" (McCune &

<u>Hounsell</u>, 2005). These contexts – of knowledge and of education – are involved in how MOOCs are designed and experienced.

As the teacher reflections from EDCMOOC have shown, acknowledging the complexity of teacher positions and experiences can contribute crucial perspectives to debates about what the MOOC is for and what it can accomplish, including new ways of thinking about retention and access. To include and work with these perspectives, we need a richer and more robust conceptualization of the teacher within the MOOC.

#### References

- Adams, S. (2012, July 17). Is Coursera the beginning of the end for traditional higher education? *Forbes*. Retrieved from <a href="http://www.forbes.com/sites/susanadams/2012/07/17/is-coursera-the-beginning-of-the-end-for-traditional-higher-education/">http://www.forbes.com/sites/susanadams/2012/07/17/is-coursera-the-beginning-of-the-end-for-traditional-higher-education/</a>
- Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *The International Review of Research in Open and Distance Learning*, *12*(3), 80-97. Retrieved from <a href="http://www.irrodl.org/index.php/irrodl/article/view/890/1663">http://www.irrodl.org/index.php/irrodl/article/view/890/1663</a>
- Archer, L. (2008). The new neoliberal subjects? Young/er academics' constructions of professional identity. *Journal of Education Policy*, 23(3), 265-285. doi:10.1080/02680930701754047
- Barthes, R. (1977). Image, music, text. London, UK: Fontana Press.
- Bayne, S. (2013, February 21). Shoring the fragments of #edcmooc [Web log post]. Retrieved from <a href="http://edcmoocteam.wordpress.com/2013/02/21/shoring-the-fragments-of-edcmooc/">http://edcmoocteam.wordpress.com/2013/02/21/shoring-the-fragments-of-edcmooc/</a>
- Bayne, S., & Ross, J., (2011). "Digital native" and "digital immigrant" discourses: A critique. In R. Land & S. Bayne (Eds.), *Digital difference: Perspectives on online learning* (pp.159-169). Rotterdam, The Netherlands: Sense.
- Becher, T., & Trowler, P. R. (2001). *Academic tribes and territories: Intellectual enquiry and the culture of disciplines* (2nd ed.). Buckingham, UK: The Society for Research into Higher Education and Open University Press.
- Bell, F. (2011). Connectivism: Its place in theory-informed research and innovation in technology-enabled learning. *The International Review of Research in Open and Distance Learning*, 12(3), 98-118. Retrieved from <a href="http://www.irrodl.org/index.php/irrodl/article/view/902/1664">http://www.irrodl.org/index.php/irrodl/article/view/902/1664</a>
- Biesta, G. J. J. (2012). Giving teaching back to education: Responding to the disappearance of the teacher. *Phenomenology & Practice*, *6*(2), 35-49. Retrieved from <a href="http://ejournals.library.ualberta.ca/">http://ejournals.library.ualberta.ca/</a> index.php/pandpr/article/download/19860/15386
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university: What the student does* (4th ed.). Maidenhead, UK: The Society for Research into Higher Education and Open University Press.
- Clegg, S. (2008). Academic identities under threat. *British Educational Research Journal*, 34(3), 329-345. doi:10.1080/01411920701532269
- Clegg, S., & Rowland, S. (2010). Kindness in pedagogical practice and academic life. *British Journal of Sociology of Education*, 31(6), 719-735. doi:10.1080/01425692.2010.515102
- edcmoocteam. (2013, September 6). #EDCMOOC: Shifting and reshaping [Web log post]. Retrieved from http://edcmoocteam.wordpress.com/2013/09/06/edcmooc-shifting-and-reshaping/
- Fanghanel, J. (2012). Being an academic. New York, NY and London, UK: Routledge.
- Fini, A. (2011). The technological dimension of a massive open online course: The case of the CCK08 course tools. *The International Review of Research in Open and Distance Learning, 10*(5). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/643/1402
- Friedman, T. L. (2013, January 27). Revolution hits the universities. *The New York Times*, p. SR1. Retrieved from <a href="http://www.nytimes.com/2013/01/27/opinion/sunday/friedman-revolution-hits-the-universities.html">http://www.nytimes.com/2013/01/27/opinion/sunday/friedman-revolution-hits-the-universities.html</a>
- Goodfellow, R., & Lea, M. R. (2007). *Challenging e-learning in the university: A literacies perspective.*Maidenhead, UK: The Society for Research into Higher Education and Open University Press.

- Henkel, M. (2000). *Academic identities and policy change in higher education*. London, UK: Jessica Kingsley.
- Hockings, C., Cooke, S., Yamashita, H., McGinty, S., & Bowl, M. (2009). "I'm neither entertaining nor charismatic ...": Negotiating university teacher identity within diverse student groups. *Teaching in Higher Education*, *14*(5), 483-494. doi:10.1080/13562510903186642
- Illich, I. (1971). Deschooling society. New York, NY: Harper & Row.
- Jordan, K. (2013, February 13). Synthesising MOOC completion rates [Web log post]. Retrieved from <a href="http://moocmoocher.wordpress.com/2013/02/13/synthesising-mooc-completion-rates/">http://moocmoocher.wordpress.com/2013/02/13/synthesising-mooc-completion-rates/</a>
- Kannen, V. (2012). "My body speaks to them": Instructor reflections on the complexities of power and social embodiments. *Teaching in Higher Education*, *17*(6), 637-648. doi:10.1080/13562517.2012.658566
- Kop, R. (2011). The challenges to connectivist learning on open online networks: Learning experiences during a massive open online course. *The International Review of Research in Open and Distance Learning*, 12(3), 19-38. Retrieved from <a href="http://www.irrodl.org/index.php/irrodl/article/view/882/1689">http://www.irrodl.org/index.php/irrodl/article/view/882/1689</a>
- Kop, R., Fournier, H., & Mak, S. F. J. (2011). A pedagogy of abundance or a pedagogy to support human beings? Participant support on massive open online courses. *The International Review of Research in Open and Distance Learning, 12*(7), 74-93. Retrieved from <a href="http://www.irrodl.org/index.php/irrodl/article/view/1041/2025">http://www.irrodl.org/index.php/irrodl/article/view/1041/2025</a>
- Kop, R., & Hill, A. (2008). Connectivism: Learning theory of the future or vestige of the past? *The International Review of Research in Open and Distance Learning, 9*(3). Retrieved from <a href="http://www.irrodl.org/index.php/irrodl/article/view/523/1103">http://www.irrodl.org/index.php/irrodl/article/view/523/1103</a>
- Koutropoulos, A., Gallagher, M. S., Abajian, S. C., de Waard, I., Hogue, R. J., Keskin, N. O., & Rodriguez, C. O. (2012). Emotive vocabulary in MOOCs: Context & participant retention. *European Journal of Open, Distance and E-Learning, 2012*(1). Retrieved from <a href="http://www.eurodl.org/">http://www.eurodl.org/</a>?p=archives&year=2012&halfyear=1&article=507
- Land, R., & Bayne, S. (2011). *Digital difference: Perspectives on online learning*. Rotterdam, The Netherlands: Sense.
- Marginson, S. (2012, August 12). Yes, MOOC is the global higher education game changer. *University World News*. Retrieved from <a href="http://www.universityworldnews.com/">http://www.universityworldnews.com/</a> article.php?story=2012080915084470
- McAuley, A., Stewart, B., Siemens, G., & Cormier, D. (2010). *The MOOC model for digital practice*. Charlottetown, Canada: University of Prince Edward Island. Retrieved from <a href="http://www.elearnspace.org/Articles/MOOC">http://www.elearnspace.org/Articles/MOOC</a> Final.pdf
- McCune, V., & Hounsell, D. (2005). The development of students' ways of thinking and practising in three final-year biology courses. *Higher Education*, 49(3), 255-289. doi:10.1007/s10734-004-6666-0
- McWilliam, E. (2005). Unlearning pedagogy. *Journal of Learning Design, 1*(1), 1-11. doi:10.5204/jld.v1i1.2
- Neumann, R., Parry, S., & Becher, T. (2002). Teaching and learning in their disciplinary contexts: A conceptual analysis. *Studies in Higher Education*, *27*(4), 405-417. doi:10.1080/0307507022000011525
- Noddings, N. (2005). Caring in education. In *The encyclopedia of informal education*. Retrieved from http://www.infed.org/mobi/caring-in-education/
- Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon, 9*(5), 1-6. doi:10.1108/10748120110424816
- Rodriguez, C. O. (2012). MOOCs and the Al-Stanford like courses: Two successful and distinct course formats for massive open online courses. *European Journal of Open, Distance and E-Learning, 2012*(2). Retrieved from <a href="http://www.eurodl.org/?p=current&article&article=516">http://www.eurodl.org/?p=current&article&article=516</a>
- Ross, J., Bayne, S., Macleod, H., & O'Shea, C. (2011). Manifesto for teaching online: The text. Retrieved from http://onlineteachingmanifesto.wordpress.com/the-text/

- Rowland, S. (2009). Kindness. *London Review of Education, 7*(3), 207-210. doi:10.1080/14748460903290272
- Selwyn, N. (2011). Education and technology: Key issues and debates. London, UK: Continuum.
- Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning, 2*(1), 3-10. Retrieved from <a href="http://www.itdl.org/Journal/Jan\_05/article01.htm">http://www.itdl.org/Journal/Jan\_05/article01.htm</a>
- Siemens, G. (2006a). *Connectivism: Learning theory or pastime of the self-amused?* Retrieved from http://www.elearnspace.org/Articles/connectivism\_self-amused.htm
- Siemens, G. (2006b). *Knowing knowledge*. Retrieved from <a href="http://www.elearnspace.org/">http://www.elearnspace.org/</a> KnowingKnowledge LowRes.pdf
- Smith, J. (2010). Academic identities for the twenty-first century. *Teaching in Higher Education, 15*(6), 721-727, doi:10.1080/13562517.2010.522341
- Stewart, B. (2013). Massiveness + openness = new literacies of participation? *MERLOT Journal of Online Learning and Teaching*, *9*(2), 228-238. Retrieved from <a href="http://jolt.merlot.org/vol9no2/stewart\_bonnie\_0613.htm">http://jolt.merlot.org/vol9no2/stewart\_bonnie\_0613.htm</a>
- TED. (2012, August 1). Daphne Koller: What we're learning from online education [Video file]. Retrieved from http://www.youtube.com/watch?v=U6FvJ6jMGHU
- Toohey, S. (1999). *Designing courses for higher education*. Buckingham, UK: The Society for Research into Higher Education and Open University Press.
- Waite, M., Mackness, J., Roberts, G., & Lovegrove, E. (2013). Liminal participants and skilled orienteers: Learner participation in a MOOC for new lecturers. *MERLOT Journal of Online Learning and Teaching*, *9*(2), 200-215. Retrieved from <a href="http://jolt.merlot.org/vol9no2/waite\_0613.htm">http://jolt.merlot.org/vol9no2/waite\_0613.htm</a>
- Watson, D. (2009). *The question of morale: Managing happiness and unhappiness in university life.* Maidenhead, UK: Open University Press.
- Whitchurch, C. (2012). Expanding the parameters of academia. *Higher Education*, *64*(1), 99-117. doi:10.1007/s10734-011-9483-2
- Wente, M. (2012, February 4). We're ripe for a great disruption in higher education. *The Globe and Mail.* Retrieved from <a href="http://www.theglobeandmail.com/commentary/were-ripe-for-a-great-disruption-in-higher-education/article543479/">http://www.theglobeandmail.com/commentary/were-ripe-for-a-great-disruption-in-higher-education/article543479/</a>
- Wiley, D., & Hilton, J., III. (2009). Openness, dynamic specialization, and the disaggregated future of higher education. *The International Review of Research in Open and Distance Learning*, *10*(5). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/768/1414



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