

# Content that talks back: what does the MOOC explosion mean for content management?

This paper examines some of the particular challenges around licensing and intellectual property presented by the massive open online course (MOOC) movement. It offers a brief description of the history and nature of the MOOC movement, and underlines how the specific focus of many MOOCs on the collection and analysis of user data has an effect on the way content is presented and licensed. In particular, it focuses on the institutional impact of these decisions, and recommends the investigation of open licences as a means to allow institutions to glean maximum benefit from the time and money they have spent on content creation for MOOCs.

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## A brief history and definition<sup>1</sup>

I first became aware of the massive open online course (MOOC) phenomenon in 2010, seeing and hearing talk of the pending course on instructional technology 'Change11<sup>2</sup>, and getting caught up in the excitement of the launch of the digital storytelling course ds106<sup>3</sup> at the University of Mary Washington. Of course, neither of these would be even recognizable as MOOCs in the modern sense: Change11 was an experiment based around the connectivist ideas of George Siemens and Stephen Downes; ds106 was a radical interpretation of an 'open course' methodology.

The world started to sit up and take notice with the launch of three courses from Stanford University in the autumn of 2011, with perhaps the most prominent amongst these being Sebastian Thrun's 'Introduction to Artificial Intelligence' (cs221)<sup>4</sup>. This proto-MOOC began to set the pattern for what was to follow – there was bragging about enrolment numbers, a superstar lecturer and an emphasis on video lectures as a primary means of instruction.

Following this experience, Thrun founded Udacity<sup>5</sup> in order to offer a wider range of online courses and other start-ups, most notably the commercially orientated Coursera<sup>6</sup> (led by Daphne Koller and Andrew Ng) and the non-profit MIT/Harvard-based EdX<sup>7</sup> (led by Anant Agarwal) swiftly followed. Each of these has or is developing a bespoke 'learning platform', offering video streaming, formative assessment, user authentication and student discussion forums.

In response, several established learning technology players have launched their own MOOC platforms – notably, learning technology corporates like Pearson<sup>8</sup> and Blackboard<sup>9</sup>, large technology companies like Google<sup>10</sup> and Microsoft<sup>11</sup> and institutions such as the Open University<sup>12</sup> in the UK. This is by no means a comprehensive list, as new initiatives and consortia seem to be launching on a weekly basis.

The words 'massive', 'open', 'online' and 'course' have been redefined and re-imagined so many times that it is difficult to offer one definition that covers the entire scope of activity that breathless press coverage of the term now includes.



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199 **Massive** generally now refers to enrolment numbers, but does not refer to the massive levels of learner non-completion and dropout.

**Open**, despite suggesting a common aim with movements supporting open access to research and open educational resources, now simply means that there are no upfront fees for learners enrolling on the course. Even this is unravelling as platforms charge for certification or credit (for example the 'signature track'<sup>13</sup> offered by Coursera) or even for enrolment (minor platform Udemy<sup>14</sup> now charges between US\$99 and US\$150 for most courses).

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**Online** means that learning is delivered exclusively online, though instructors may encourage students to purchase textbooks (that they have often written themselves<sup>15</sup>), meet offline with other students or engage with a reading list. Some examinations are also now available via offline test centres, such as Udacity, Coursera and EdX offering examinations via the Pearson Vue test centre network.<sup>16</sup>

**Course** refers to a delineated area of study with a syllabus, usually on a similar scale to a 'module' (UK) or 'class' (US) but delivered in around 6–8 weeks.

So, any conversation about MOOCs is fraught with definition difficulties and for the purposes of this paper I will primarily be using the term MOOC to denote the variants delivered by the likes of Coursera and Udacity.

## What does content look like in a MOOC?

To start with, you cannot – in general – view the content on a MOOC until you sign up for it. Before passing the authentication wall and before the commencement of a course you are registered on, the most you will be able to see will be a short introductory video. Coming as I do from a background in open educational resources, this seems perverse – but the logic of the MOOC dictates that user data is gathered at every stage.

Learning content on larger MOOCs has an emphasis on the video lecture and on automated formative assessment, often assumed to be artificial intelligence (AI), but in reality just a simple form querying answers against a database. Video production values are often surprisingly low, and there is no specific 'MOOCness' that would allow you to differentiate between a MOOC video and an excerpt from a good recording of a traditional lecture.

Test questions and quizzes vary, from multiple-choice comprehension checks scored by machine, to short written responses marked by student peers. The large class sizes mean that no direct academic input to the assessment process is feasible, so these are pragmatic rather than pedagogic choices.

A final, smaller category of MOOC content constitutes wider reading and additional resources. This is perhaps closer to the reading list offered on traditional courses, and may refer to a range of published materials under a variety of licences.

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## What makes MOOC content different?

Lectures, simple tests, reading lists ... so far, so skeuomorphic<sup>17</sup>. The casual observer could be forgiven for thinking that the MOOC industry is simply replicating the practices and expectations of twenty-first century mass higher education and the mooted avalanche is simply a move to easily-monetized 'platforms' and away from expensive-to-run institutions. Although this is certainly one valid interpretation of the MOOC phenomenon, and the content surrounding it, it misses a key component – the collection and analysis of user data.

Learning analytics researcher Emily Schneider describes the opportunities thus: "We're all humanists and first and foremost we're committed to the humans who are learning through

200 these systems. On the other side of the sea of data there are people coming to MOOCs from a vast range of backgrounds and we want to optimize systems to best meet their needs.”<sup>18</sup>

Learning analytics attempts to describe the behaviour of learners via the measurement and collation of their activity. For instance, it is possible to note the number of times a MOOC student logs in to the platform, how often a learner accesses or engages with learning content, their formative test scores, and draw inferences to the likelihood that they pass the course or drop out. It is a huge field of enquiry and it would be impossible to cover it in great detail here.<sup>19</sup> Suffice to say, learner data is big business.

“... learner data is big business.”

Daphne Koller of Coursera described the possibilities in a June 2012 TED Talk<sup>20</sup>: “[...] The data that we can collect here is unique. You can collect every click, every homework submission, every forum post from tens of thousands of students. So you can turn the study of human learning from the hypothesis-driven mode to the data-driven mode, a transformation that, for example, has revolutionized biology. You can use these data to understand fundamental questions like, what are good learning strategies that are effective versus ones that are not? And in the context of particular courses, you can ask questions like, what are some of the misconceptions that are more common and how do we help students fix them?”

So when we discuss MOOC content, we need to remember one additional point: MOOC content is content that reports back.

This explains the reluctance to use the open licences that characterize the open educational resource (OER) movement. OERs are, by design, virally transmitted. The Creative Commons licence allows content to be reused and rehosted, all over the web – and whilst this is commendable in spreading information and knowledge around the world, it does not return even basic use statistics to the originator.<sup>21</sup>

A need for user data could also explain the reliance of MOOCs (in my narrower sense) on bespoke content, rather than that which is hosted elsewhere. Even reading recommendations for physical books are via an Amazon Affiliate link, which returns both purchase data and a sliver of money to Coursera.<sup>22</sup>

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## The institutional challenge

In this section I am primarily looking at the requirements of Coursera, Udacity and similar mega-platforms. In some ways this is of limited wider interest as these platforms are not available for 99% of global institutions to use, simply because an institution must be invited to participate<sup>23</sup>. However, it is likely that institutions will face variations on these concerns as they explore delivering MOOCs on other platforms. More recent, commercial, platforms are generally open to all, though FutureLearn is also invite-only.<sup>24</sup>

In 2012, the *Chronicle of Higher Education* published online<sup>25</sup> a leaked copy of the contract between Coursera and The University of Michigan. Media interest focused on Coursera’s potential business models<sup>26</sup>, but the document also offers an insight into the restrictions and requirements around MOOC content.

Under the contractual terms, the University grants a perpetual, non-exclusive, royalty-free, global licence to Coursera (‘The Company’), but agrees that any enhancements made by Coursera are available under an exclusive licence. This limits the ways in which the University can make further use of the content it has created, and Coursera has modified, outside of the MOOC course itself, despite it owning the rights to the intellectual property within the course content. Clauses like this can limit university options should they wish to change MOOC platform, or reuse materials in their own (fee- and credit-bearing) online courses.

201 Because of the global reach of the courses, it is not possible to use a 'Fair Use'/'Fair Dealing'<sup>27</sup> style approach to third-party (non-institutionally created) content and the contract stipulates that the university is responsible for ensuring there are no third-party rights issues. Those with a history of clearing third-party rights for online use and the experiences documented by the Jisc RePRODUCE programme<sup>28</sup>, will tell us that this is far from a trivial task, and can require significant use of staff and financial resources.

The RePRODUCE programme summary<sup>29</sup> described the issues as follows: 'Projects consistently rated licensing and copyright issues as one of the most difficult and time consuming aspect that they dealt with. According to a survey of the RePRODUCE projects by Casper, projects spent between 10 hours and the majority of the project (approx 1 year) on rights clearance and from £200 to 'ten person weeks at RA scale'. The diversity demonstrates the difficulty of estimating the timescale and costs of rights clearance, but in almost every case it was more than the project team had initially estimated'.

This should not come as a surprise to those engaging with Coursera and other MOOC platforms, as it has been a consistent issue in developing online courses. And the rise of Creative Commons licensed materials is no help here, as 'Non-Commercial', 'Share Alike' and 'No Derivatives' clauses would be incompatible with MOOC platform T&Cs, for example, Coursera<sup>30</sup>: 'All content or other materials available on the Sites, including but not limited to code, images, text, layouts, arrangements, displays, illustrations, audio and video clips, HTML files and other content are the property of Coursera and/or its affiliates or licensors and are protected by copyright, patent and/or other proprietary intellectual property rights under the United States and foreign laws. In consideration for your agreement to the terms and conditions contained here, Coursera grants you a personal, non-exclusive, non-transferable license to access and use the Sites. You may download material from the Sites only for your own personal, non-commercial use. You may not otherwise copy, reproduce, retransmit, distribute, publish, commercially exploit or otherwise transfer any material, nor may you modify or create derivatives works of the material. The burden of determining that your use of any information, software or any other content on the Site is permissible rests with you.'

Creative Commons themselves<sup>31</sup> suggest: 'MOOCs have captured the public mindshare as an interesting way to deliver high quality education to huge numbers of online learners. In order to maximize the educational benefits that MOOCs promise to provide, they must be 'open' in both enrolment and licensing. MOOCs should seriously consider applying CC licenses to content they build, asking contributing Universities to openly license their courses and making CC licensing part of their MOOC platforms. By doing so, they'll be best positioned to serve a diverse set of users and support the flourishing open education movement.'

## Conclusions

For all the benefits that openly licensed and third-party materials offer, my suspicion is that the perceived value of learner analytics to the major MOOC platforms will mean a continued emphasis on bespoke, university-created content to maximize data collection. Such content is expensive to create and maintain, and sustained investment in content should be a cause for concern for institutional managers – especially as there is as yet little evidence that MOOCs attract learners to apply to the institutions in question.

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Learning analytics is still a very young field and though many claims are made regarding the benefits that the findings of these analyses can offer learners, these are still far from certain. It is also notable that large platforms such as Coursera only provide aggregate data to institutions, so any benefits to the future learner experience will likely be via enhancements to Coursera platforms and processes rather than enhancements made to content by universities. And indeed, universities would not have the right to use such Coursera-driven enhancements on their own content with their own students.

202 My advice to institutions would be to investigate means, within the terms of the contracts offered by MOOC platforms, of maximizing the exposure of created content to prospective and current learners. And I would recommend wide release under an open licence as a key means of doing so.

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