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First time MOOC provider: reflections from a research-intensive university in the UK

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Abstract: Massive Open Online Courses (MOOCs) have attracted global attention in the Higher Education sector over the past two years, with 2012 named the Year of the MOOC. Apart from front-running universities in the US, most Higher Education Institutions have only recently begun to fully digest the potential implications of MOOCs on their existing provision, staff and students. This paper provides insight from the University of Leeds in the UK, a Russell Group research-intensive university, about our experiences of developing and delivering MOOCs for the FutureLearn platform, from a position of limited experience with fully online course delivery. The paper will focus on the University's strategic approach, key governance and quality assurance issues, MOOC selection criteria, creation and sourcing of digital content for the online courses and organization of learner support materials. It is hoped that this paper will encourage and support other higher education institutions considering developing freely available online courses.

An introduction to student education at the University of Leeds

The University of Leeds is a large red brick university with over 100 years of history. The university was formed from a collection of Yorkshire colleges in 1904 and now has over 30,000 campus-based undergraduate, postgraduate taught and postgraduate research students, studying a very wide range of subjects. The university is a member of the prestigious Russell group in the UK, whose mission is to deliver world-class education alongside globally important research, in order that students are taught by world leading research active academics and are fully engaged in research from the outset of their studies. The university also places a very high value in the quality of the student experience and the holistic nature of a higher education, exemplified by its commitment to support students in their academic achievements, co-curricular activities and professional development.

Interaction between teachers and students at the University of Leeds is conducted through a wide variety of mechanisms, ranging from the traditional large group lecture, small-group tutorials, practical classes workshops etc. and makes use of a variety of technologies and online resources to enhance the student learning experience. The university has an aspirational digital strategy for student education and a blended learning strategy both of which encourage academic teachers to make full use of digital tools and resources to enrich contact time between students and teachers, and increase learning opportunities during private study. Teachers and students make extensive use of the University's Blackboard virtual learning environment (VLE), and are increasingly realizing the opportunities within such tools to enhance learning, beyond use of the VLE as a repository for learning resources. However with around 4000 academic staff at the University, within around 30 academic schools in nine faculties, there are inevitably peaks of excellence and areas for improvement in respect of the blended learning strategy.

The University is currently investing in a wide range of IT related infrastructures (e.g. lecture capture, desk-based capture and multimedia management capabilities) to ensure that staff and students have access to the tools necessary to realize the Blended Learning strategy. It is hoped that staff will adopt these digital tools across programmes and curricula to produce interactive multimedia resources to enhance the student experience for campus-based and online learners.

The University has a small number of very successful fully online courses but these are fee paying and limited to relatively small numbers of students. In addition, the university (and many of its staff) is very protective of the learning materials provided for students on fee-paying courses, not having a presence on any major externally facing digital learning channels. However in 2012, the University agreed a policy on Open Educational Resources (University of Leeds, 2012), encouraging staff to make use of appropriate openly available resources within student education and to publish high-quality learning materials externally. Whilst this policy has been broadly welcomed across the university, there remain a number of concerns from academic staff, particularly in the area of rights, permissions and intellectual property. The university is currently engaged in an institution-wide programme of staff development to support a culture change towards fully embracing digital learning within student education.

The journey to becoming a MOOC provider

The University of Leeds signed up as a launch partner of the Open University-led FutureLearn MOOC platform in December 2012. The decision followed Senior Management Team discussion about the desire to engage with free openly accessible online courses, the need to keep pace with competitive universities, the opportunities to showcase the excellence and breadth of the University's student education and research to a global audience, and the opportunities to enrich the learning of campus-based students and further embed the blended learning strategy across the institution. The decision to engage with delivery of MOOCs on the FutureLearn platform was made fully cognizant of the fact that the University is relatively inexperienced with delivering fully online courses and did not have a dedicated central e-learning team to develop and deliver the courses. However, one of the major contributing factors for the university's decision to partner with FutureLearn was the commitment of the Open University to the venture, with its long-standing and world regarded reputation for delivery of excellent online learning courses. The University also benefits from a world class School of Education with academic staff experienced in technology enhanced learning and distance education, as well as colleagues in a variety of academic schools with experience of delivering fully online courses.

The University's first action upon joining FutureLearn was to secure the time of the lead author to provide academic leadership for the FutureLearn project. Early in 2013, a vision and strategy for the University's development of a MOOC portfolio was presented to, and endorsed by, the Vice Chancellor's executive group. The university committed in partnership with FutureLearn to deliver a minimum of two courses in the first six months of launch of the platform, in recognition of the university's relative inexperience of online delivery. Quickly following the agreement of this strategy was the initiation of two projects: firstly, a project to establish the governance for developing and delivering MOOCs, and secondly identification and development of the University's first courses. These two projects are described separately in the following sections.

Establishing a governance structure for MOOC delivery

From the outset of the project, it was obvious that delivery of MOOCs by a University requires agility, innovative thinking, understanding of market demands and impact on existing provision and a clear business strategy. It was also quickly realized that working with FutureLearn, a start-up company, would require trust, shared responsibility, responsiveness and belief in their vision. However, universities such as Leeds, with very high academic standards and established processes for specifying and quality assuring courses will inevitably recognize, and feel conflicted by, the need for agility, responsiveness and placing trust in evolving processes. In recognition of this, the University established a slightly modified governance process for overseeing the FutureLearn project and the development of MOOCs.

As the FutureLearn project is in part a business related project involving the potential for revenue, a steering group was established, reporting to the Faculty Management Group (composed of the Faculty Deans) and the Vice Chancellor's Executive Group. The steering group, chaired by the pro-Vice Chancellor for Student Education includes academic representatives, heads of service such as IT and library and the University's finance director. The remit of the steering group is to oversee the University's relationship with FutureLearn, define and steer the strategy and vision for development and delivery of MOOCs and oversee business models, commercialization opportunities and partnerships arising as a result of MOOCs. The steering group also oversees the University's marketing and communications strategy for MOOCs.

A parallel and complimentary governance structure has been established to manage the design, development and delivery of MOOCs, modeled on the University's existing processes for specifying and quality assuring courses. A cross-institutional FutureLearn Education Committee was established, with responsibility for scrutinizing and approving the MOOCs to be published on the FutureLearn platform. This committee was established at university level instead of within Faculties and Schools, to ensure a consistent approach to the scrutiny of quality assurance for MOOCs and in order to have oversight of all potential courses academic staff wished to develop. There are however processes in place to ensure that MOOC proposals are discussed and agreed within Schools and Faculties before being proposed to the FutureLearn Education Committee and this local approval process involves line managers and the Faculty Dean.

At the University is relatively inexperienced in developing and delivering online courses an additional tier of support has been put in place before MOOC proposals are received for consideration by the FutureLearn Education Committee. Two advisory groups have been established: firstly, a pedagogic advisory group, consisting of academic staff specializing in technology enhanced learning and distance education from the School of Education, representatives from existing fully online programmes across the institution and members of the team responsible for developing MOOCs; this group scrutinizes the underpinning pedagogical approach

for the course, the learning journey, the plans for learner interaction and collaboration, the course elements, accessibility and the assessment strategy. The second advisory group is a creative group, whose remit is to support the development of visually appealing, engaging and interactive multimedia learning resources, which will be educationally appropriate for the intended learning outcomes of the course. This group contains learning technologists, academics from the Institute of Communication Studies and colleagues with experience of broadcasting and relaying messages to large public audiences.

The final group that was established is a University wide MOOC Forum, open to all staff interested in the development and delivery of online courses. This group is facilitated by the Staff and Departmental Development Unit, and provides a forum for communicating updates, receiving suggestions for development of courses and learning from discussions about best practice from experienced academic practitioners, learning technologists and online learners. This forum meets every six weeks and has been very well attended on every occasion, signaling the level of interest and engagement with the project across the University.

Identification of MOOCs for development

At the outset of the project the University defined very clear selection criteria to guide development of courses aligned to the university's ethos and vision. At the current time the selection criteria include: showcasing ongoing research excellence, showcasing exceptional quality research-based student education, evidence of broad market demand and appeal to large audiences, link to existing University, Faculty and School strategy and alignment with current on-campus provision in order to extend learning opportunities for current students.

The university is currently developing courses aimed at learners in the transition between high school and university education: the rationale for this is partially pedagogic and partially business orientated. It is widely accepted that high achieving A-level students appreciate the opportunity for extension studies particularly in the run-up to examinations or for the purposes of coursework assignments. Our first suite of MOOCs have been designed to offer this extension study approach by linking to the high school curriculum but extending the depth and breadth of learning to an undergraduate level. Our courses will also offer opportunities for current undergraduates or professional learners to extend their knowledge and understanding through engagement with additional learning materials pitched at their level. Designing online courses for learners at different levels requires very clear signposting within the course materials to indicate which resources are appropriate for which type of learner. The rationale for pitching online courses at this level from a business perspective relates to the competitive nature of undergraduate admissions in the U.K.'s marketised environment and the desire to showcase the breadth and quality of our courses to potential high quality fee paying students across the globe. However, there is as yet little evidence from existing MOOC providers that this approach actually drives undergraduate recruitment in any significant way. Of course, any participant in a MOOC may at some point in the future provide tangible benefit to the University through increased awareness of the quality of our provision or the breadth of our activities, but this will be hard to measure or validate.

The approach taken to identified potentially suitable courses has initially been bottom-up, with staff from across the institution expressing interest in developing a course through a course enquiry form developed to help individuals describe how their course would meet the selection criteria. This process has resulted in a large number of expressions of interests and initial meetings with individuals to explain the development process, the likely time commitment and the potential outcomes from developing a MOOC. Whilst the time investment necessary to conduct these initial meetings has been costly, it has helped in the process of selecting the most appropriate courses and individuals to work with in order to develop more complete proposals and course templates to feed into the governance process. In fact, in a number of these initial meetings it quickly emerged that the individual did not necessarily want to develop a MOOC but wanted to publicise and promote their learning materials on an external digital learning platform, enabling us to guide them towards more appropriate channels such as a presence on iTunesU, a channel which the University has recently launched.

Making decisions on which courses to develop for the FutureLearn platform has been difficult. Many of the proposals received from across the University meet the selection criteria, generating a robust future pipeline of courses for development. Experience from successful courses on other MOOC providers (e.g. Coursera, Edx) and advice from FutureLearn about market demand have also influenced decision-making, but have not constrained the University from being innovative and disruptive with its MOOC portfolio. Final decisions about which courses to develop have included discussion with FutureLearn, taking into account courses offered by other partners and scheduling.

The University has taken a decision in the short term to develop short courses in the region of 2 to 4 weeks. This decision has been taken for pedagogic reasons in an attempt to maintain learner engagement for the duration of the course, by offering limited but achievable learning outcomes from engaging with the course for a reasonable amount of time.

At the project evolves, it is likely that the University will wish to commission specific courses from across the University particularly in response to demand from external partners. This approach will not be without difficulty as it is already our experience that ideas generated by individuals and teams within Schools and Faculties have more potential to deliver than proposals that are suggested to academic staff from external individuals. This is due in part to a lack of understanding about the potential benefits of MOOCs for an individual academic or their School, a lack of time to envisage or develop a course or a lack of leadership to reorganize existing priorities in order to react quickly to potential opportunities.

Finally, it is worth noting the general level of interest in MOOCs from the academic community at the University of Leeds. An institution wide survey was delivered during the summer of 2013 to gauge academic staff's views about the potential of MOOCs to disrupt higher education. The survey received 256 responses and 55 academics across all of the University's Faculties expressed interest in developing a MOOC now. A further 73 academics expressed interest in developing a MOOC in the next one to 2 years (Morris et al., unpublished data).

Development of MOOCs for delivery

The university has established a new team responsible for the development of MOOCs across the University. This digital learning team also has responsibility for the University's other external digital learning channels (e.g. iTunesU) and for supporting the embedding of the blended learning strategy within Schools and Faculties. The digital learning team consists of a director, digital learning manager, learning technologist, digital content officer, project officer and student interns. The director, reporting directly to the Pro-Vice Chancellor for student education, is responsible for the digital learning and blended learning strategies, interaction with other service directors and has responsibility as the university's FutureLearn representative. The digital learning manager is the channel manager for the external digital learning channels and is responsible for overseeing the development of MOOCs from initial conception, through development, delivery and reporting of outcomes. The learning technologist works very closely with the academic lead responsible for the MOOC translating their vision, ideas and learning materials into an educationally appropriate online course. The digital content officer is responsible for production of all digital assets (e.g. video and audio etc.) for use in the MOOC and works closely with the learning technologist throughout the process. The digital learning team is currently, and will continue to, making use of the valuable skills within the student community at the University through employment of student interns, working in partnership with students to develop materials for the MOOC (e.g. animations) and including students in the delivery of the MOOC under the direction of the academic lead.

The digital learning team is producing bespoke content for use within the University's MOOCs. This means that the first step in production of the MOOC is for the academics involved to produce written scripts for the whole course, based on the agreed course structure. The next step is for these scripts to form the basis of green screen video recordings capturing the academic's spoken word and face for use within digital learning materials. Building on established principles of high quality e-learning materials (Alonso et al, 2005), these recordings are then overlaid with relevant video footage, slide presentations, animations and other interactive activities to maintain learner engagement, deepen learning and support multiple learning styles. As video presentation forms the main basis of the FutureLearn platform functionality at present, a lot of focus has gone into ensuring that these resources are maximally useful to learners. However, additional resources are also being provided to learners in the form of transcripts, audio files and additional material such as links to research papers and web resources. Significant emphasis is also placed on the opportunities for social interaction between learners and with teachers within the platform, and for these interactions to be directly related to learning resources being presented at the time. The sophistication of the social learning aspects of the FutureLearn platform in the future will offer opportunities for group based collaborative learning, an invaluable feature of any learning environment (Dawson, 2009).

The University's first MOOC was delivered in October 2013, lead by Professor Jon Lovett from the School of Geography. The MOOC explored the challenges associated with making difficult decisions about natural resource management, and encouraged participants to use basic principles to help them make decisions with fairness and integrity.

Feedback from the first MOOC

The focus of this paper is on the University's experience of developing its first MOOC, but it is insightful to offer some feedback from participants as a measure of the success of the approach taken. The two-week course was delivered on the FutureLearn platform under a beta launch and attracted over 5000 participants from over 100 countries around the world. The participants generated over 10,000 comments in discussion forums, facilitated by the academic lead, his research staff and a number of final year undergraduate students studying a

similar campus-based course. The level of interaction from educators was strongly praised by course participants.

Over 50% of the participants had no experience of the subject matter in the online course, but the majority visited the course at least a few times a week, spending an average of 24 minutes and visiting an average of 15 pages. The course did not have an end of course examination, so completion rate cannot easily be measured, but participant engagement was over 50% during the second week of the course. Over 90% of the participants rated the course as excellent or very good, and 97% indicated that they would recommend it to a friend or colleague. Participants were particularly complimentary about the additional course support materials: in particular, 86% liked the course orientation materials, 72% liked the study skills advice, 87% liked the accompanying written transcripts and 74% liked the subtitles on video content. Post-course survey data indicated that the majority of participants enjoyed viewing learning resources in video format (79%) and taking interactive quizzes (82%).

However, the participants were not as social in their learning habits as may be expected from online learners: only 51% liked discussing things online with other learners. This may be due in part to the functionality available on the platform at the time of the course delivery; there was only a basic discussion tool which didn't support searching, filtering or tagging features, meaning that discussion threads quickly became excessively long and unwieldy. This has been addressed in recent upgrades to the platform.

Conclusions

The time elapsed from agreeing a University strategy for MOOCs to delivering our first MOOC on the FutureLearn platform was nine months, which is very rapid for the Higher Education sector. For many academics, the pace of change in respect of digital technologies and their impact on higher education is too fast. However, universities have no alternative but to remain at the forefront in the use of new technologies to support learning, particularly given the intense competition from private providers and other institutions. Many undergraduate students are already supplementing their on-campus experience by enrolling on MOOCs offered by other universities (Bartholet, 2013), and this trend is likely to increase further, and may soon be seen by students as a lack of provision in universities where MOOCs are not offered. Although it is not yet clear whether there is a sustainable business model for direct income from individual learners in the emergent MOOC market (Mehaffy, 2012), there are tantalizing examples of how businesses may be looking to commission higher education institutions to provide MOOCs for professional development and training for employees, which is likely to generate a very clear revenue stream. This paper has described a journey to develop and deliver openly accessible online courses to learners around the globe, for the benefit of individuals with the potential to learn and improve their individual situation.

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