# A REFLECTION ON THE PRODUCING, DELIVERING AND RE-USING 'ASSETS' FOR MOOC'S

**Dan TROWSDALE and Gerard DUFF**
University of Leeds

**ABSTRACT**
Massive Open Online courses (MOOC) represent a new emergence in how the delivery of academic learning is evolving and engaging with platforms that endeavour to reach and engage with a diverse cohort [1].
The emergence of this new platform has raised questions about best practice on the delivery of a MOOC with little still known about the impact this format has had on knowledge development. As a consequence of this limited understanding a requirement exists to develop a deeper understanding of the phenomenon so that we can use this tool to engage with a generation that absorbs information and learning in a different way than any generation before it. It also raises concerns about best practice for asset creation.
This paper is a reflection of the design and development of assets as well as the delivery of a successful MOOC. The MOOC received a highly commended award at this year's international Medea awards with 237 entries from 29 countries and the judging panel was made up of 112 judges. We reflect on the undulating journey undertaken with a view to highlight some of the positives and negatives of our expedition. We are doing this as we feel the MOOC format has many added benefits to learning but there are lessons learned from both a management and pedagogical perspective that could turn this format into a real asset for academic learning.

*Keywords: MOOC, development, creation, process, innovation, learning, asset creation.*

## 1 INTRODUCTION

Massive Open Online courses (MOOCs) are seen by many as a novel and relevant means to engage a wider student base [2]. It is also a good means to disseminate up to date research to audiences that may have no other means off accessing this type of research.
To date there has been some research on the demographics of the learner [3], others have looked at the pedagogy at the heart of a MOOC [4] [5], while there are those who have debated the very point of the MOOC platform itself [6]. What we wish to present here is a reflection on the practices and processes used to create a MOOC. This paper reflects the lived experience of the process of, designing, building of assets and the delivering a MOOC over a 12 month period.

## 2 METHOD

The methods used here are both qualitative and quantitative in nature. Both statistical and interview data collected from both the end users and those involved in the creation of the MOOC. These methods are used to paint a succinct picture of what took place and point to areas for development that could lead to best practice approach.

## 3 CONTEXT

Our MOOC, endeavoured to engage with the diverse topic of innovation from both a technical and social perspective. As a consequence of the complexity of the topic, our MOOC consisted of a multi-team system consisting of four educators from faculties across the University; School of Mechanical Engineering, Business School, School of Design and the Lifelong Learning Centre as well a number of support staff from the Product Design cohort. The MOOC was also developed with the support and supervision of a University's Digital Learning Team.

The framework for the MOOC consisted of a three week course and was launched on the Futurelearn platform in September 2014. It used a series of relevant case studies as the central spine of the learning journey. These case studies, often in video format, were a mix of innovation stories from business and research projects from across the University. This blend of business and research case studies provided the participant with insights and practical examples of innovation in business and in a research based university.

## 4 DESIGNING A MOOC

A MOOC is a platform for learning that has the capacity to engage with a wide variety of learners. What makes this platform particularly distinctive from other online and blended learning approaches is that the courses are aimed at a *massive audience* which are often measured in 1000s, open to all, free to participate with 100% delivered online.

The standard construction for a MOOC is a number of video assets arranged chronologically and purposefully interlinked to provide a clear pathway of delivered learning. Depending on the subject matter, and the techniques supported by the online platform, learning is reinforced with techniques as background reading, listening to audio files and linking to other online materials. Learning is further deepened using other blended learning techniques such as discussion on blogs, forums and online chatrooms, with understanding checked using online MCQs or peer reviewed assignments. In some cases there are summative exams at the end of the MOOC.

### 4.1 Designing the Learning Journey

From the early days of creating the MOOC, a large degree of emphasis was placed on what we wanted learners to understand and when i.e. *who are we talking to?* and *how will they absorb the information?* This 'learning journey' was broken down into activities (see Fig 1). A clear and consistent style was sought, that engaged, challenged and embraced the topic while still accessible to the target audience.

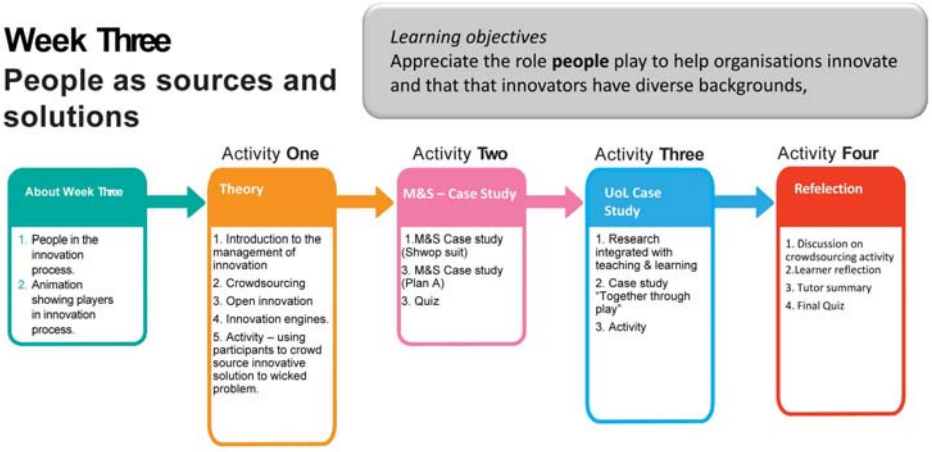


*Figure 1. Leaning Journey Map, courtesy of Carol Elston*

The nature of assessment in this style of learning is still being developed. The approach taken here engaged with tools and techniques that allowed participants to *'check your understanding'* at regular and predesigned intervals throughout the process (see Fig 1, activity four). These tools consisted of multiple choice questions, as well as the promotion of discussion through the online forum.

## 5 CREATING ASSETS

The video material, referred to as 'assets' is often one of the main ways of delivering content. During the development of this MOOC a number of approaches were used to generate the video content. For the academic team, this proved to be one of the most time consuming aspects of MOOC development and construction. As a result, a large section of the paper is given to the processes involved in the making of the video 'assets' and consists of a reflection on the techniques used.

The tutor based video format was seen as an integral part of the MOOC experience as through this medium we provided a means to give a face to those at the limits of the cutting edge research. We felt that the element of time with tutors and researchers would add value to the experience. This was later confirmed in feedback received from participants both during and after the course. Our digital learning team advised that length of the asset was to be kept short at around 5-7 minutes to maintain attention of the learning, an area which has been the focus of emerging research in this area. [7].

### 5.1 The Interview

Several of the assets in the MOOC were created using interviews. The interviews were used to collate first hand experiences as case studies. Some case studies involved just one '*storyteller*' others were more complex engaging a number of contributors to fully explain the case study. We found this to be an excellent format for discovering and unearthing very rich information and experiences. One learning outcome was that the post interview editing was very time consuming. One reason was that interviewees did not always provide the answers you were expecting or wanting them to provide. Another reason was that watching, re-watching ordering and editing a video sequence to tell a cohesive story was a new skill for the educators.

Here are a few tips to gain the most from an interview style asset and support the reduction of the resultant editing work.

- Prior knowledge of the case study is essential to enable the interviewer to compile a set of questions to guide the interviewee. The structure, chronological order and content of the answers can be established this way.
- The way in which the questions are asked has a distinct impact on how the interviewee will phrase the answers you require. Expect to ask the same question in several ways to gain the best response.
- The interviewee should be encouraged to repeat the question in the answer. This enables the questions to be removed from the film without losing any meaning.
- Press the interviewee to keep answers very short. This allows more flexibility in the editing of the film. We found that it is surprisingly difficult to obtain short answers from some interviewees. Often footage before editing was five or six times longer than required, for example 30 minutes for a 5 minute asset. If each answer lasts 60 seconds and you have four interviewees for a case study, this limits your selection to one answer per participant.
- Some interviewees have hidden agendas and focus on points which may not be relevant.
- It is important to provide an overview of the intended message of the interview in advance.
- Their first answer was often their best so ensure you record this.

### 5.2 The scripted theory mini lecture

In a lecture situation, which many academics would be familiar with, slides may be used to prompt the flow of information from the lecturer to the students. The script is unwritten and the performance often unrehearsed. We found that it was surprisingly difficult to reproduce this kind of flow of information in a filmed situation. The change from a 50 minute length to a 5 minute length adds pressure to be succinct and deliberate. Any pause is noticed. There isn't an audience present which noticeably changes the dynamics of the 'performance'. It was also very easy to stray from the intended point.

Writing a script creates the additional problems that the text needs to be learnt and delivered almost word for word. Some presenters have the skills to do this, other do not. A teleprompter, as employed widely across the media was introduced to support this activity with excellent and almost instant results. Presenters found the format easy to prepare and practice for by using an app on a tablet. Here are a few thoughts and tips to gain the most from the use of a script.

- The script needs to be written in a style which the presenter can easily read out loud.
- Delivering the correct intonation for words within each sentence required practice and rehearsal.
- Timing of the asset can be estimated in advance and carefully planned using word count for a number of seconds.

One learning outcome for the developer is that a written script delivered using a teleprompter is a very quick way to create learning assets. Information is succinct and delivered as intended. Any animation such as images and titles can be pre planned and if highlighted in the script, simply integrated into the

asset. We found that this style of asset creation significantly reduced editing time later as only the errors need to be removed. Another benefit was that the transcript was already written to include in the MOOC.

### 5.3 The Ad-Lib presentation

Some academics and presenters do not wish to be held to a written script. They may be more comfortable just talking about a subject and knowledgeable enough to talk fluently and lucidly with ease. This can be the case when the academic is experienced and the subject is core to their area in teaching or research. This format delivers a fresh presentation style which is engaging and natural however, it did have its' limitations as explained below.

- This style can deliver explanations which although perfect for a lecture theatre may be overly long for a MOOC.
- The structure of delivery can be out of order.
- Editing down an ad-lib session is difficult and requires someone with time and a good knowledge of the subject.

### 5.4 The Journalistic approach

Some of the assets in this MOOC focused on learning from case studies. These included research based case studies and historic case studies from a company archive. The approach to building an asset to present the case study is almost like one of a journalist covering a story. A great deal of work is initially required to familiarise oneself with the subject, the contributors and the story behind the case study. In several of the assets on the MOOC, interviews with participants and existing films were interlinked using short mini-lecture sections to provide the theory. Given the issues around producing interview based assets and mini lectures already discussed, the combination of these in terms of structuring and editing proved very complex.

- Where and when the interviews are located needs careful planning. Many locations are just too noisy to film during working hours.
- Existing footage requires consideration in terms of ownership and copyright.
- Ensuring a cohesive story is presented using several viewpoints in a short space of time is tricky. The editing time can be long and complex.

The journalistic style is time consuming in both preparation, filming and editing, however, the results can be engaging for the learner with multiple presenters and real life experiences.

## 6 GETTING THE MOST FROM YOUR ASSETS

Developing assets for a MOOC is without doubt expensive for any institution, the main costs being associated with a combination of the production team such as cameraman, editor, transcriber and the academics time to conceive, write, practice and deliver. To get the most out of this investment of time and energy, should be developed in a format which allows future use in multiple learning situations. One expectation was to re-use our assets within blended learning modules, particularly the online case studies. Having developed a variety of assets for the MOOC and later attempted to re-use materials, it became clear that we had not fully considered the importance of producing materials which were fully independent of the MOOC structure.

The following list provides tips for developing independent assets. The content of each asset should be constructed such that it can exist on its own without the support or context of the MOOC structure.

- Each asset should not refer to or be dependent upon material in other assets. For example, they shouldn't refer to the next or previous assets or materials.
- Assets should not refer to being part of a MOOC (or module) in any way.
- Any graphical devices such as titles should not refer to the MOOC (or module).

In some cases it may be important to have an introductory section or title which introduces the subject of an asset to explain its purpose within the learning journey of a MOOC. This can be achieved with a separate asset or a section of the asset which can be easily cut or edited out of the main section of the asset.

## 7 ONLINE PHASE

The data used is a snap shot, taken immediately after the running of the MOOC. The findings here are based on questionnaire and comment feedback received from 300 participants, who completed the MOOC within the designated time frame, however it must be noted that more of the 15,000 who started the MOOC have now completed the course as it remains open to them. Of those interviewed, 93% have completed the MOOC with 7% failing to complete and 1% not taking part once they had signed up. Figure 2 highlights the breadth of territory that this involved.

*Figure 2. Map of participants (Courtesy of Futurelearn/Google)*

The type of participants engaged with the MOOC was diverse on many levels. This diversity expanded across many forms, such as: technical ability, accessibility to materials and the level of prior knowledge to the subject matter. As a consequence of this diversity the management of the MOOC became extremely important.

Many of the participants needed assistance in navigating through the web pages, with one noting that she was *'not a facebook user';* while others had difficulties due to the limitations of PCs or internet access in that area. As a consequence some of the participants relied on the written documentation provided as they could not use the video formats. The use of dual learning formats was seen as a key strength to this MOOC, as it facilitated both different learning styles and the limitations of local technology capabilities.

This MOOC was created for and pitched at those with an interested but limited understanding of *innovation* in its broadest sense. However some of the participants had a high level of understanding of the topic while others did not. As a result some found the teaching material easier than others. Many of those with a high level of knowledge in the area did engage with discussion which often led to a deeper level of understanding from other participants. However a small number of negative or 'trolling' comments had to be managed by the support team.

## 8 MENTORS AND MENTORING

The online support system to support the 'live' MOOC consisted of team of mentors and educators. This process was led by; the educators, the various subject experts who appeared in or contributed to the case studies and masters students who had been trained in online support.

A structured approach was taken to the management of this team as it was run mid-term with both academic and support staff alike having to engage with the management of this MOOC around everyday working practices.

The timeline for the MOOC was shared online, with participants encouraged to keep pace with the rest of the cohort. This provided a focus to enable the educators and mentors provide targeted online support in the appropriate forums.

- Welcome and directional support was given to every participant. Feedback from participants reflected positively to this initial engagement highlighting that it gave a sense of community and belonging to the learning journey.
- Participants expected high level answers to their specific question.

There were a number of lessons learnt:

- Cultural sensitivity; the use of various syntax was seen as offensive to some respondents. For example one mentors used an exclamation mark when saying 'hello!' in a welcome comment, this was met with a high level of disdain resulting in a need to clearly explain that it was not meant in offence. There is a need to provide cultural sensitivity training for staff supporting the online forum.

- Feedback has shown that when those educators involved in that particular weeks' video were visible on the discussion board, participant satisfaction improved.
- The mentors highlighted that the management of the MOOC took place in personal time, mainly in the evenings and weekends.
- The mentor program was managed through the creation of an excel spread that clearly identified each person's role and when they were due to take part.

From online comments it was clear that online presence, particularly by the educators was very much appreciated by the participants.

## 9 CONCLUSIONS

The aim of this paper was to share our experience in the development and delivery of a MOOC. We have attempted to highlight some of the key learnings from our experiences, in an attempt to improve a format that we believe can aid in the dissemination of academic knowledge to a wider audience.

Since delivering the MOOC we not only realised the value of the assets we had personally created, but more importantly we realised the value of each other's assets. Recently we have started to include them to enhance learning situations in our own faculties. This sharing of material cross faculty was an unexpected and valuable outcome of generating video assets for a multi-disciplinary MOOC. Video content full of rich material and experience which can stand alone, be easily transplanted, can be reused to form part of new learning 'packages'. Such online material fits well with flipped classroom techniques increasingly adopted in Universities.

Creating learning materials for such a wide audience fine tunes your knowledge and understanding of producing accessible material. Key elements identified from our experience include the need to have a clear understanding of what you are attempting to deliver and who you are delivering too. We have shown the need to deliver materials in a number of formats, due to the various contextual and learning capabilities of the participants of the MOOC. We have shown that a combination of video and written formats received high levels of engagement. Something we as a group will be carrying forward.

## ACKNOWLEDGEMENTS

We would like to thank all our colleagues, without whom we would not have been able to produce this quality of MOOC. Marks & Spencer Archive & Marks & Spencer Ltd and staff or Marks & Spencer. University Digital learning Team; Professor Neil Morris. Carol Elston, Ben Pierce, Tom Hinchcliffe. Educators; Dr Mark Sumner, Dr Paul Grimshaw, Professor Krsto Pandza, Andrew Richardson, Mentors; Nook Barnes, Chris Green, Anne-Marie Moore, Professor Alison McKay.

## REFERENCES

[1] HEA (2014). *Engaged learning in MOOCs: a study using the UK Engagement Survey*: University of Southampton. [Accessed Thursday, 22 January 2015]Authors; Wintrup, J.Wakefield, K. Davis, H available from https://www.heacademy.ac.uk/node/10346

[2] Parr, C (2013). MOOCs: Another Weapon in the Outreach Armoury. *Times Higher Education* [Internet]. Available from: http://www.timeshighereducation.co.uk/news/moocs-another-weapon-in-the-outreach-armoury/2005630.article [Accessed 18 February 2014].

[3] Grainger, B. (2013) *Massive Open Online Course (MOOC) Report* [Internet]. Available from: http://www.londoninternational.ac.uk/sites/default/files/documents/mooc_report-2013.pdf [Accessed 18 February 2014].

[4] Guardia, Maina and Sangra, 201. Guàrdia, Lourdes, Marcelo Maina, and Albert Sangrà. "MOOC design principles. A pedagogical approach from the learner's perspective." *J. eLearning Papers* 33 (2013).

[5] Bayne and Ross, (2014). Bayne, S., and J. Ross. "The pedagogy of the Massive Open Online Course: the UK view." *The Higher Education Academy (Series Ed.) Recuperado el* 30

[6] Brabon,B. (2014) *Talking About Quality Massive Misalignment: the Challenges of Designing and Accrediting MOOCs* [Internet]. Available from: http://www.qaa.ac.uk/en/Publications/Documents/Talking-about-Quality-MOOCs-Brabon.pdf [Accessed 18 February 2014].

[7] Gao, P; 2014. How Video Production Affects Student Engagement: An Empirical Study of MOOC Videos. ACM conference on Learning. March 4–5, 2014, Atlanta, Georgia, USA.