Paper Title: How to Develop a GROOC, Establishing Group Dynamics in MOOCs.

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How to Develop a GROOC, Establishing Group Dynamics in MOOCs

Abstract

The term GROOC has recently been defined, by Professor Mintzberg of McGill University (McGill, 2015), to describe group-oriented MOOCs, based on one he has developed on social activism. He has also made it clear that he sees no requirement to provide additional support to address group dynamics, stating that groups should be able to handle losing a few members and still function appropriately (Poets & Quants, 2015). However, the existing research in this area, building from a massive research base in traditional groupwork theory (Cohen & Lotan, 2014), has identified that group formation and maintenance require considerable extra planning and support. The authors have recently completed the first instantiation of a MOOC, on Entrepreneurship and Innovation in IT, as part of the dCCD-FLITE (distributed Concurrent Design Framework for eLearning in IT Entrepreneurship) research project (dCCD-FLITE, 2015), and their research has confirmed the difficulties in both forming and maintaining groups, and student reluctance to engage in group-based activities. In this paper we discuss the existing research on establishing group dynamics in MOOCs, identifying the key factors influencing success and failure, and then consider the outcomes from the dCCD-FLITE MOOC. The authors have already reported on this work, and have now further analysed the data gathered from the MOOC to consider alternative approaches to establishing Group Dynamics in MOOCs, and are currently planning to run the course once more utilising social media as a catalyst for group formation and maintenance.

Introduction

Existing research in groupwork theory has long established the importance of group formation as a key arbiter of the success of the group (Cohen & Lotan, 2014), and has identified characteristics of the roles played by group members to achieve that success (Belbin, 2012). In recent research, the advent of MOOCs has led to the consideration of group formation and role issues in that environment, with particular consideration on the issues raised by cohort size and massively distributed locations. While some MOOCS have been successful in establishing and running activities in groups, predominantly this has been where the students have the option to self-select their group, including opting-out and operating as an individual, (Mackness et al, 2010) or where efforts have been made to create co-located groups with the option for face-to-face interaction (Beaven et al, 2014). Where there has been a mandated requirement for students to work in groups, especially from the commencement of the course, the results have been much less successful (Wen et al, 2015). Additionally, we know from research on groupwork in education that students are often resistant to working in groups, citing variability of effort and levelling of outcomes, inter alia, as reasons for wishing to avoid it (Pfaff & Huddlestone, 2003), and this applies even more forcefully in MOOCs. Another significant issue in MOOCs is the unfamiliarity of the students with one another, there is no cohort effect to draw on, students may come from widely dissimilar backgrounds, demographics and experiential levels, and they may be affected by cultural and linguistic differences, all of which make it more difficult to work together.

For the dCCD-FLITE (distributed Concurrent Design Framework for eLearning in IT Entrepreneurship) MOOC, the consortium had a number of these issues to address. The target audience was intended to be a mix of University students, staff from the IT industry, and unemployed people, both from the IT industry and looking to move into IT. There was also a mandatory groupwork component, requiring groups to be formed early in the course, around business ideas.

The Problem being Addressed

The dCCD-FLITE project was funded by the EU, through the Erasmus Lifelong Learning initiative, to provide a means through education to develop entrepreneurship activity, particularly in IT, throughout the EU. There is a growing demand for entrepreneurs and innovators, particularly as IT is now seen as one of the most important drivers for business success and product development. However, the EU has also identified a significant skills gap within the IT industry, and within the EU population as a whole, which they are seeking to address through the development of projects such as dCCD-FLITE. There is also a growing issue of unemployment, particularly amongst the young, and initiatives such as this were seen as a route to developing more EU companies to challenge US domination, and hence more jobs (Gareis et al, 2014).

The project consortium chose to focus on the development and delivery of an online course on Entrepreneurship and Innovation in IT. They also provided a novel combination of tools to support collaborative activity online, the distributed Concurrent Design process (dCCD) (Strand & Staupe, 2010, Strand, 2012), and business plan development, the Osterwalder Canvas and Business Model You (Clark, 2014), running initially in the Pearson OpenClass VLE (Pearson, 2015). The course developed involved 50 hours of student work, over 8 weeks, and the project ran a small pilot involving 12 students selected by the consortium partners in late 2014/early 2015. The pilot results were mixed, less than half the students completed and the groups did not function well, but the students who completed were enthusiastic about both the course and the materials (Stamatis et al, 2015). Following this the authors took the decision to run the large pilot of the course as a MOOC, the results of which are described below.

Study Design/Approach

In developing a MOOC, the authors sought to take the lessons learned from the small pilot, revising the course to address those issues. The course was moved to the CANVAS MOOC platform (Instructure, 2015), and joint advertising was used to attract over 1500 students worldwide. To address issues of motivation and independent learning capability amongst the students, far greater levels of advice and study support were offered, and a detailed guide through all the materials, combined with a mindmap that had been successful in the small pilot, was provided. To establish the groups early, students were initially assigned to a group, and asked to discuss a business idea within that group, but were given the freedom to move between groups, or to form their own, to find a business idea that they wished to develop.

From their research, the authors were aware that the issues highlighted in the small pilot were common in MOOCs. A cMOOC model was followed (Clarke, 2013) as this provides a disruptive, constructivist, student-centric approach (Jacoby, 2014), which was the preferred approach of the dCCD-FLITE consortium. However, for novice online learners the sheer complexity of such an environment can be overwhelming (Kop et al, 2011), and the workload can also be too onerous (Zutshi & Rodafinos, 2013). MOOCs were originally established to attract audiences of experienced, metacognitive adult learners, who could successfully manage their own learning in a heutagogic environment, but the reality

is that the majority of learners in MOOCs require considerably more support than envisaged in that model (Beaven et al, 2014).

The key research questions to be answered in the dCCD-FLITE MOOC were: firstly, could CCD provide an effective collaborative model for learners in an online course; and secondly, could the dCCD-FLITE course bring together students, those working in industry, and unemployed adults, to discuss and develop entrepreneurial ideas in IT.

Findings

When considering the outcomes from a MOOC, it is worthwhile to suspend normal academic judgement related to traditional courses, and to consider them from the perspective of student intentions. In common with other MOOCs, approx. 50% of our students who registered never engaged, they had the aspiration, but clearly needed the right combination of time, motivation and trigger to do so. Of the remaining 50%, a further 49% had no intention of completing the course, but wished to use it for information and some experience, so their engagement with the course would be considered successful if they achieved that. This leaves only 24% of registered students who started with an intention to complete, and, from our student survey, only 12% of those still engaged by week 3 expressed a desire to interact with their peers, preferring to work alone.

Most MOOCs report successful completion rates of less than 10%, which is easily explicable from these statistics (Ref), although higher rates can be achieved for shorter courses with less time requirements. For the dCCD-FLITE MOOC, the completion rate was 2.5% and although well over 100 groups were created, both by the authors and by the students, none of them actually returned a business plan, although submissions were made by 19 students individually.

Discussion and Conclusion

From the point of view of the dCCD-FLITE project, the MOOC outcomes were mixed, although only a small number of students completed the course, feedback was positive from a larger number of students. The course attracted students from a wide range of backgrounds, from many countries, and some group activity did take place. A detailed analysis of the outcomes has already been published (Bacon et al, 2015). Here we are focusing on further analysis carried out to address the issues of group formation and maintenance, and to consider how we might revise our approach for future instantiations of the course.

Perhaps the key message to be drawn from the research and our experience is that, if you want to achieve higher completion rates and a greater level of group engagement and submission in a GROOC, you really need to prepare properly and preferably pre-engage with the students. It may be that this is the norm in social activism, which is why Professor Mintzberg sees no need for such preparations, but if not he may find his GROOC hitting the same problems we have described above. In studying the feedback we received from the students in our MOOC, we could determine a clear delineation between different types of participant and the way in which they wished to engage with the MOOC. We have already identified the 50% who registered but never engaged as aspirational, and any attempt to address that group has to be at the point of registration, seeking to get them to make some commitment and early engagement that might provide the trigger for them. The 49% of the remaining group who have no intention of completing the course, but want to find information and/or gain some experience, we can think of as shoppers, and perhaps the best methods to encourage them to take more of the course will be to use marketing techniques, making special offers with short-term availability to draw them into further engagement. However, perhaps the hardest problem we have to address is the significant rejection of groupwork, with only 12% of those still engaged at week 3 expressing themselves willing to work with others in a subject area that really demands an ability to develop teams.

Indeed one of the key concepts of the course is the students working together on a shared business idea. To address these issues the authors have decided to investigate the use of social media, instigated at registration, where students can choose to opt in to social media groups that reflect their intentions for the course, with the potential to move between them as they engage with the course. We will use social media messaging and updates to enhance the MOOC experience throughout the course, and we believe that the inherently group-based nature of social media, combined with the widespread acceptance it has achieved, will have a positive impact on our MOOC Group Dynamics.

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