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IMPLEMENTATION AND EXPERIENCE ASSESSMENT OF A MASSIVE OPEN ONLINE COURSE (MOOC) AT UNIVERSITAT JAUME I

M. Braulio, V. Civera, T. Gallego

Universitat Jaume I (SPAIN)

Abstract

The MOOCs come to represent for public University the end of an institution of this kind: open transference of knowledge. Faced with the emergence of this new form of learning, there are news similar to, "the San Jose State University decides to 'pause' the experiment Udacity. The reason? Learning outcomes of the MOOC students are not similar to the attendance ones". Any university that is interested should consider some important aspects before implementing the use of the new active methodologies for dissemination of knowledge.

Besides other issues identified below, the present study should be to reflect on the usefulness and interest of the MOOC and what should be taken into account to improve results in the case of courses with a mainly vocational guidance. Therefore, based on a case study released by the Universitat Jaume I in 2014, six aspects will be analyzed: (1) What are the reasons that led a group of professors in the Department of Mechanical Engineering and Construction of the Universitat Jaume I to conduct a MOOC on "Urban Regeneration", who also form working group on the project VIA UJI équipe (team participating in the Solar Decathlon Europe 2014). (2) What is the format that appeals to your followers? (3) What is the level of monitoring that students do? (4) What profile of student enrols, endures, continues and finishes a MOOC? (5) What differences can be identified between a MOOC and an on-site training? (6) What benefits obtain teachers and students?

With the analysis and monitoring of the MOOC, "Europe 2020: Urban Regeneration" at the Universitat Jaume I, it is intended to answer many questions for creators and supporters of new teaching methodologies, who defend the "open source ". The main conclusions drawn are that the approach and theme of the MOOC must be designed with an appropriate format to ensure the maximum audience and the lowest dropout rate.

Therefore, MOOCs can be oriented towards a professional field if design and implementation are based in issues that raise awareness and prepare for major changes in the professional activities of course followers. In addition, the exchange of knowledge and information generated in the course creates a high interest, making the MOOCs a valuable tool whose benefits should be made known to society.

Keywords: MOOC, virtual-distance learning, knowledge transference.

1 INTRODUCTION

Given news like this, "the San Jose State University decided to "pause" the experiment Udacity. The reason? Learning results of MOOCs students are not similar to the on-site students" [1].

In fact, any university that is interested in MOOCs, should consider some important points before implementing the use of new active methodologies for dissemination of knowledge.

MOOCs are a recent development in distance education which began to emerge in 2012. A MOOC is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as videos, readings, and problem sets, MOOCs provide interactive user forums that help build a community for students and professors [2].

This idea is also supported by the Solar Decathlon competition, that is why the équipe VIA-UJI, a group of teachers and students from the Universitat Jaume I (UJI) and VIA University College (VIA) thought about implementing a MOOC to disseminate the knowledge acquired during the competition.

Therefore, some aspects will be analyzed in this work, based on a MOOC case study from UJI focused on the topic "Urban Regeneration". Firstly, the main question proposed is: What are the reasons for launching a MOOC within équipe VIA-UJI team? These are:
take advantage of the project experience to promote courses.
- demonstrate that the team shared their knowledge with the society
- get funding for the project development, by course sponsors.

2 MOOC DESCRIPTION

The Massive Open Online Course (MOOC) was implemented from February until July of 2014 at Universitat Jaume I. The original idea was born within the work team équipe VIA-UJI for Solar Decathlon Europe 2014 to disseminate the acquired knowledge related to Urban Regeneration in the framework on EUROPE 2020 [3].

The MOOC aimed to meet most aspects of Urban Regeneration and therefore 10 units were created, each one related to different themes. Furthermore, on the occasion of the new framework of European funding EUROPE 2020, the MOOC offered a unit to deal with and present the funding possibilities regarding improvement and innovation in cities.

In addition, rather than delving directly into the MOOC topic, one preliminary unit was created to spend the first week educating people about what MOOCs are all about and strategies for participation. This allowed those familiar with MOOCs to reconnect and share their expertise, while those who are new could get grounded.

2.1 Parties responsibilities

The main roles who take part in the learning process are: teachers and students. Both have acknowledged responsibilities to attend and a clear role in the MOOC.

On the one hand, teaching responsibilities are based on conducting the development of the course and provide stimulation to engage the students and their participation. The main responsibilities are:

- Make a presentation in slide format: it provides an explanation of the aspect discussed and some references in 15-30 slides.
- Prepare 1 or 2 case studies and invite the students to pursue the subject through autonomous work.
- Make one video of 5 minutes long: For instance, an experimented professional in the field discussed is interviewed to show his or her point of view.
- Dynamize the forum to achieve maximum participation from students to share the knowledge acquired.

On the other hand, student’s responsibilities are based on their own work and participation. Then, they should:

- Get involved in the forum. Students should participate in an interactive discussion motivated by the intervention and moderation by the teachers’ MOOC.
- Complete the assessment test. After each unit, the students are evaluated in order to know if they have assimilated minimum requirements.

2.2 MOOC contents

The 11 units of the MOOC consisted of one unit (unit 0), consisting of a presentation of the MOOC, and 10 units, related to specific topics of Urban Regeneration and EUROPE 2020. Each unit provides the same structure to facilitate conducting the MOOC by the student. This structure is the following:

- Video
- Presentation in slides format
- Case studies
- Forum (interaction among students and teachers)
- Assessment test: 10 questions related to the unit content
2.3 Implementation

Online courses are challenging because of the lack of on-site relationship between students and teachers, which hinders learning. To solve this issue, an initial questionnaire was conducted among students to know their profile. Results are shown in Fig. 1.

| Question 1: Did you have problems during registration? |
|-----------------|-----------------|
| 0. None         | 273 (95.45 %)   |
| 1.              | 7 (2.45 %)      |
| 2.              | 5 (1.75 %)      |
| 3.              | 1 (0.35 %)      |
| 4.              | 0               |
| 5. A lot:       | 0               |

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<th>Question 2: Which are you previous studies?</th>
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<td>Primary school:</td>
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<td>PhD:</td>
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<th>Question 3: Which sector are you working?</th>
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<td>Other:</td>
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<th>Question 4: Are you working in the construction sector?</th>
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<td>Yes:</td>
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<td>No:</td>
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<td>Other:</td>
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Fig. 1. Initial questionnaire
The students' answers helped us to know their profile. We found that 68.56% of the students have worked in the construction sector; however, 30% of the students have never worked in this sector, in which the course was focused.

Although the MOOC was focused on officers of public administration, only 18% belong to this field. More than 50% were self-employed or hired by a private company.

Regarding the background, more than 50% had a Master degree or were studying a Master at the same time. This fact shows that these kinds of courses are useful to expand the training of the students in a specific theme.

In order to get the certificate at the end of the course, few conditions are established:

- One test per lesson
- Analysis of case studies
- Participate in the forums, at least once.

These conditions made students keeping up with the lessons and created a high level of engagement. See Fig. 2.

Questionnaires have been a method to control and monitor the learning process lesson by lesson, which required a certain level of responsibility from students regarding the course. Within the freedom that implies a MOOC, it is important to establish from the beginning some clear rules that identify the responsibilities of all parties, without forgetting the students.

The second distinguished aspect of the MOOC is the presentation of case studies. This part has generated such a highlighted interest in the students to present their own case studies. Besides being a way to disseminate good practice.

Finally, the fact of having to participate in the forums of each unit has generated a very positive dynamic between the parties: students shared experiences and case studies and academic staff oriented and expanded knowledge in each of the topics. The level of participation in each of the forums (one per unit) is presented in Fig. 3.
With all this we can analyze as participation decreases with time since it is very difficult to maintain the interest of students on long courses. It is worth notice that there are a percentage of 15% of students who do not like to give their opinion in public; however, they are interested in the course.

In short, with an enrollment of 513 students to the course of various nationalities and with different profiles, the number of students who actually participate in any of the subjects does not reach 50%. So it should be considered the large number of people who enrol the course and then can not keep up with online courses, because of the extra personal effort that they require.
Free entry makes for a great interest in the free online courses, but the lack of selection of student profile can cause greater dropout from the first days. Even though, participation and varied opinions on an aspect such as urban planning and regeneration matters in which take part lots of people, can complete the viewpoint of professionals and in general of all participants.

The issue of lack of accreditation of courses that students also makes student to not have much interest in finishing the MOOCs. At present there are few solutions on the market to certificate free learning, but are alreastill being developed [4].

There are other technical factors that have not been analysed in this case study, such as the incompatibility between the online platform and the volume of students. Admittedly, the MOODLE platform is not ready to place the interaction among high number of students at the same time [5].

2.3.1 Autonomous learning: the discussion forum

A MOOC is built around a learner-centered approach. This means that each of the participants is responsible for their own learning. As such MOOC participants must be made aware of self-regulated learning and the learning challenges a MOOC brings along [6]. Thus, the autonomous learning process in based on three fundamental aspects that should be taken into account during the whole course:

- Interaction among the students (with teachers’ debate moderation)
- Sharing information and material. A form is created in order to collect the references provided in the forums, which is available to consult for all the participants.
- Sharing own previous knowledge and the new acquired in the course.

2.4 Assessment methods and results

The two most common methods of MOOC assessment are machine-graded multiple-choice quizzes or tests. In our case of study, we decided to implement forum participation and multiple-choice quizzes.

These two methods have made a difference comparing to the rest of MOOC at UJI. The student participation have been higher, maybe because forum participation was demanded, which is not the usual method due to the work volume.

Even though the results where positives: higher participation, close tutorial, following long courses, etc., we could manage it because the real number of students was about 200. This could be out of control when the number of students increases.

The interest of the organization of the MOOC was to provide official certificates, then agreements between some Universities from different countries. The idea was to provide a physical place where the exam could take place.

This was not acceptable from the UJI administration, then any official certificates where given.

Nowadays, some courses are published with the possibility to obtain an official certificate. This will be another line of research, it means, the different methods to demonstrate the learning outcomes.

2.5 Recommendations

The MOOC Guide [7] lists 12 benefits:

- Appropriate for any setting that has connectivity (Web or Wi-Fi)
- Any language or multiple languages
- Any online tools
- Escape time zones and physical boundaries
- Produce and deliver in short timeframe (e.g. for relief aid)
- Contextualized content can be shared by all
- Informal setting
- Peer-to-peer contact can trigger serendipitous learning
- Easier to cross disciplines and institutional barriers
- Lower barriers to student entry
- Enhance personal learning environment and/or network by participating
- Improve lifelong learning skills [8]

As disadvantages, we could identify:
- A high number of students can collapse the teacher activity
- The process assessment will be few personalised
- A low level of control can reduce the interest of study [9]

After conducting the MOOC and assessing the results, we suggest some recommendations that can be taken into account before preparing a MOOC. Thus, from the very beginning we should know:
- Knowing the level of acceptance of the students performing MOOCs
- Identifying the degree of student participation
- Assessing the adequacy of the teaching and learning process through the MOOC
- Advantages and drawbacks
- Teaching and load learning
- International contest

3 CONCLUSIONS
A comprehensive analysis of the results of conducting a MOOC at UJI is presented in this study. Facing the questions that the teachers asked at the beginning, the main conclusions are shown, highlighting the strengths and weaknesses of Massive Open Online Courses.

The conclusions we expected to reach are directed linked to think about the design and implementation of online courses (mainly with professional vocation); about the issues to raise awareness and prepare for major changes in their work; and about the MOOC format in order to improve it for maximum listening and minimum dropout rates. Considering all the above mentioned, without taking into consideration the self-knowledge and cross-information generated in the course that promote and exchange knowledge, also increasing interest and dissemination. In short, publicize the benefits of MOOC’s society.

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REFERENCES