BMT23
5th International Conference
Business Meets Technology.
Valencia, 13th-15th July 2023

BOOSTING STUDENTS' ACHIEVEMENT RATE ON MOOCS

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ABSTRACT: This work is part of an Educational Innovation and Improvement Project developed at the UPV. Our analysis is the first step to apply strategies that could improve the learning involvement of students in two EDx-UPV MOOCs: "Strategy and innovation in public administrations" and "Public policies and accountability", which are offered separately or together as a Professional Certificate. These are courses in which the enrollment is very high but few students finish them completely, for this reason we converted a first long one into two shorter. The completion rate has been slightly increased and the dropout rate decreased, however, we need a higher student retention. Based on the review of questionnaires proposed by the literature and surveys from previous editions, other surveys have been proposed in this edition aimed at finding out the reasons that lead them to complete the course, as well as the difficulties encountered in its execution. With this information, we observe that the satisfaction of those who finish is very high, but a greater motivation and involvement of the student is necessary through communication, interaction and direct feedback with the teacher, and among the students themselves, both on the course platform and through social networks.

KEY WORDS: *MOOC (Massive Online Open Course); retention; motivation; involvement; communication.*

1. INTRODUCTION

The purpose of this paper is to analyse how to improve the involvement of the students in the learning process of two MOOCs ("Strategy and innovation in public administrations" and "Public policies and accountability"), which are offered through the EDx platform, and fully complete the educational program that is proposed. Both courses have obtained the UPV 2021-2022 Network Teaching Award for MOOCs and have received the distinction "Strategy, policies, innovation and accountability in public administration" Professional Certificate from EDx

How to cite: De Miguel Molina, M., Segarra Oña, M., Ribes Giner, G., Perelló Marín, R., Peiró Signes, Á., De Miguel Molina, B., and Catalá Pérez, D. 2023. Boosting students' achievement rate on MOOCs. In Proc.: *5th International Conference Business Meets Technology*. Valencia, 13th-15th July 2023. 217-223. https://doi.org/10.4995/BMT2023.2023.16710

(https://www.edx.org/es/professional-certificate/upvalenciax-estrategia-politicas-innovacion-y-rendicion-de-cuentas-en-la-administracion-publica). In addition, they have been approved by the Valencian Institute of Public Administration (IVAP).

As a first step, we have analyzed the literature and the surveys carried out by the UPV, completed by the students in previous editions, seeking possible explanations for their continuity until its completion or abandonment. With this information, other surveys have been built with specific questions to the students of a new edition, particularly aimed at finding out the reasons that led them to complete the course, as well as the difficulties encountered in its execution. Based on this information, some strategies will be designed to promote informal interaction and feedback between the teacher and the students, and among them, in the coming courses. In addition, the improvements obtained will serve, on the one hand, to be better prepared in the event that we need to teach some subjects online or through new MOOCs and, on the other, to improve the different communication channels of these subjects.

2. RELATED WORK

According to the literature, the dropout problem in this type of course is a common fact (Yamba-Yugsi & Luján-Mora, 2017), and the reasons why students drop out of MOOCs are varied, such as: low motivation (Khalil and Ebener, 2014), excessive learning pace or workload (Martín Rodriguez et al., 2013; Zheng et al., 2015), low cost (Aldowah et al., 2020), course design or quality of its contents (Onah et al., 2014; Yousef et al., 2014), excessive complexity (Ferguson and Clow, 2015), low interaction and communication between students (Arias et al., 2019; Rosé et al., 2014; Yang et al., 2014) or poor or limited feedback (Jordan, 2015). In addition, there are other personal, family or circumstantial factors (Aldowah et al., 2020) that are more difficult to influence, a priori, including lack of time (Itani et al., 2018).

But what is behind this lack of time as a declared reason for abandonment? Given that time is a limited resource, and its allocation is a matter of priorities, so that the student prioritizes, as far as possible, taking the course over other activities or use of their time, their motivation must be enhanced, both involvement and commitment to it, because it is essential for the success of teaching (Sinatra et al., 2015). In this sense, a more interactive teaching context, which encourages participation and interaction and grants a more leading role to the student in the construction of learning, can contribute to a greater motivation and involvement of the student in its different aspects (Garcia-Ortega et al. al., 2021). In fact, various investigations suggest that personal accessibility, communication and interaction, and direct feedback from the teacher with the students and among the students themselves, which do not occur naturally and spontaneously in a MOOC, are the main aspects that students value in favor of face-to-face teaching compared to modalities with a greater online component (Woo & Reeves, 2007; Bonk & Graham, 2012; Galan-Cubillo et al., 2021). Thus, they are fundamental aspects to address in the field of online teaching. In the same line, authors such as Moore and Fetzner (2009) report that the support provided to students through social interaction and communication on networks contributes to reducing the dropout rate.

3. METHODOLOGY

The course that this project takes as its starting point was entitled "Strategy, innovation and accountability in public administration", a more extensive course that has been split into the two MOOCs mentioned. This course was first taught in person, through the Lifelong Learning Center of the UPV, and, later, it went online through the MOOC platform (EDx). The course had an estimated dedication of 40 hours spread over 10 weeks and there were two editions.

Initially, 386 students were enrolled, of whom 27 requested a certificate (having the same number of surveys and, being anonymous, we understand that these were the ones who filled them out). However, of these 27 students, only 21 managed to complete it (that is, 5.4% of the total enrolled). Their general degree of satisfaction can be considered high (16 students rated it 9 and 11 students rated it 8.2, out of 10). Of the 22 countries represented, the majority of students were from Spain, Mexico and the United States.

A first analysis of the surveys collected from these previous editions makes us think that a lack of initial motivation or interest, boredom, an excessive level of the course, inadequate content, too high learning rate, a bad platform design or technological barriers were not factors that promoted dropout, but rather the opposite, and only the student's lack of time was explicitly identified as a dropout factor.

For this reason, in the current courses, this long course was separated into the two commented MOOCs, adding other contents, with 30 hours over 5 weeks each. In this way, shorter courses could give students more flexibility. Given its impact, the EDx platform provides a Professional Certificate to those who complete both courses. On the other hand, a group was created on LinkedIn so that students who wish could contact with the participants of any edition and with the teachers.

However, given that the specific questions of the course that are asked from the UPV and the EDx platform, without including those specific to the platform, do not cover all the possible casuistry that we were interested in regarding satisfaction and dropout, we have developed, from the literature, two other surveys that complement these, one for the beginning of the course and another for the end. The courses were taught in the last quarter of 2022, and the information was collected at the beginning and at the end. On the other hand, the UPV also launched its own survey at the end of the courses.

4. FINDINGS

UPV surveys

In the last edition, 373 students were enrolled between the two courses, but still few students answer the surveys, therefore we have taken into account those students who have obtained the certificate and have completed the course (this is a number that we control better). If we look at the two courses, the number of students who have completed them out of the total enrolled has been slightly higher (9.1%), with 34 obtaining the certificate

(22 students from the first course, out of 27 who had initially requested a certificate, and 12 students of the second, of 16 who initially requested it). Besides, 11 of them have completed both, which curiously is practically the same number of students who have completed this survey (12). Satisfaction has been between 7.3 and 9.6, which is similar to the previous course. With regard to the duration of the courses, in this case the majority found it adequate, although one of them could not finish it.

Own surveys

In these surveys, there has also been a low number of surveys: 14 students have answered the initial and 9 students the final. In this case, the majority of students who filled out the initial survey had not requested a certificate, while in the final survey we found that the majority had requested it or had taken one of the courses at the suggestion of the teachers of the subject "Strategic Management of Public Organizations" (from the Faculty Bachelor "Public Management and Administration"). The initial survey shows highly motivated students, both for the topic and for the possibility of taking online courses. Most of them are Latin American. Therefore, it will be necessary to investigate more about the reasons why many of them did not finish it.

In the subsequent survey, satisfaction has been very high and the great quality of the courses above average stands out. In this case, the prior knowledge of some of the participants on the subject was superior. But it is interesting to insist that greater interaction is missing, since when something has been discussed in the forum the level has been high. For example, improvements are proposed such as:

> *"I suggest that there is someone who gives feedback to our participation in the forum, because that greatly enriches learning" or "There was little interaction with students and teachers, I suppose due to the dates prior to the start of the academic year."*

5. PRACTICAL IMPLICATIONS

The results are in line with the works that deal with the lack of interaction (Arias et al., 2019; Rosé et al., 2014; Yang et al., 2014; Jordan, 2015). Given the low number of responses to the surveys, we cannot say that they are representative of the entire group, however they allow us to draw different conclusions:

- It is necessary a greater knowledge about the reasons that lead students to abandon the course. Observing that surveys do not seem to be the best instrument, it would be necessary to have more direct contact with some randomly selected students or to carry out some type of participatory activity in the middle of the course.
- Greater interaction with teachers is required, either through the forums or the group created on LinkedIn.

- In this course, the students of the subject "Strategic Management of Public Organizations", to whom the Faculty had exempted from attending class for work or other reasons, were allowed to take one of the courses as a substitute work for 30 % of the evaluation of the subject. For the next academic year, since those who chose it were very satisfied, this possibility will become mandatory for exempt students.
- The platform estimates the dedication to the course between 4-5 hours a week, while the students who finished them dedicated between 2-3 hours. Perhaps it would be more realistic to announce this on the platform.
- Finally, taking into account that most of the students in the "Strategy" course are from Mexico and in the "Policies" course are from Peru, perhaps we could add some cases that focus on these countries.

6. FUTURE RESEARCH AND LIMITATIONS

With the first modification made, dividing a long course into two shorter courses, the completion rate has been slightly increased and the dropout rate decreased, in addition to achieving a greater response to the surveys, although it is still low. For the next courses, with the proposed developments, we hope to improve the figures again and reassess student satisfaction.

7. VALUE OF THE PAPER

In these MOOCs a greater motivation and involvement of the student is necessary through communication, interaction and direct feedback with the teacher, and among the students themselves (Garcia-Ortega et al., 2021; Woo & Reeves, 2007; Bonk and Graham, 2012; Galan-Cubillo et al., 2021), both on the course platform and through social networks (Moore and Fetzner, 2009).

ACKNOWLEDGMENTS

This work has been developed within the project "Improvement in the involvement and continuity of students in their learning in MOOCs through strategies to promote interactivity and their application to subjects of Management and Public Administration and Business Administration and Management", conducted by prof. Beatriz García Ortega. It has been supported by the Educational Sciences Institution (ICE) and the Faculty of Business Administration and Management (FADE) of the Polytechnic University of Valencia.

AUTHOR CONTRIBUTIONS

M. de Miguel: Conceptualization, Original draft & Supervision; M. Segarra: Review & Editing; G. Ribes: Investigation; R. Perelló: Validation; A. Peiró: Methodology; B. de Miguel: Formal analysis; D. Catalá Pérez: Literature & Data curation.

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