

TEACHING AND TRAINING

teaching political science with a mooc: analysing the supply side and the demand side

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doi:10.1057/s41304-017-0110-2

Abstract

Massive open online courses (MOOC) have been considered by some observers as a powerful opportunity to improve distant learning. The Université catholique de Louvain was the first Belgian university to deliver a political science MOOC (Louv3x) in French, entitled 'Discovering political science' (Découvrir la science politique). This paper seeks to explore the challenges a pedagogical team faces when transforming a 'traditional' political science introductory course into a MOOC. The paper also explores how the use of a MOOC might impact the learning outcome within on-campus and worldwide students.

Keywords MOOC; political science; teaching; retention

INTRODUCTION

Massive open online courses, known under the acronym of MOOC, are now part of the higher education landscape in several countries around the world (Karsenti, 2013). In the

field of political science, an increasing number of MOOCs are now being offered to both worldwide students and in-classroom students. This raises important questions for teaching political science. In this article, we

propose to analyse the challenges and consequences on the supply side which represents the perspective of the faculty and on the demand side that takes into consider the perspective of both 'on-campus' and 'out of campus' students. Existing studies have hitherto pointed out the lack of knowledge about MOOCs and in particular about their impact on faculties and students (Toven-Lindsey *et al*, 2015; Zheng *et al*, 2015). While some observers see MOOCs as a commitment from the learners to the learning process (Cormier and Gillis, 2010), others regard it with scepticism, pointing out the low retention rate as a reflection of the low level of involvement and motivation of both teachers and students (Cassidy *et al*, 2014; Cheung, 2014; El-Hmoudova, 2014; Hew and Cheung, 2014; Khalil and Ebner, 2014; Onah *et al*, 2014). These observations raise the question of the learning quality provided by MOOCs, which is essential given the increasing place that MOOCs are taking in political science education (Toven-Lindsey *et al*, 2015; Valières, 2013).

This article uses the MOOC *Découvrir la science politique* (Louv3x) which was launched on the edX platform as a case study to explore the demand side and the supply side of a MOOC that has been followed by several thousand 'out of classroom' students in three editions (Spring 2014, Autumn 2014 and Spring 2015) and several hundred 'in classroom' students through their regular course of introduction to political science. It is noteworthy that with an average retention rate of 18 per cent, the MOOC Louv3x is an exception compared to other ones. Based on figures on MOOC's that have been provided by several platforms (edX, Coursera, Udacity), studies show that only a few of those students who registered for a MOOC followed it until the end: some scholars put forward numbers going from 5 to 10 per cent (Anderson, 2013; Dillenbourg, Fox, Kirchner, Mitchell and Wirsing, 2014; Gaebel, 2013), while others claimed that it

would be under 13 per cent of the learners (Onah *et al*, 2014:5825). These results are in line with the above-mentioned studies that question the commitment and the motivation of the learners and provide a point of reflection in relation to the high retention rate observed in our MOOC. Following the commonly used double approach (Fairhurst and Fairhurst, 1995), we will address this question by exploring (1) the teaching team and the course structure approach on the one side and (2) the learners' standard profile, their motivations and expectations before and after following the MOOC.

Our analysis is based on data collected throughout three editions of the MOOC Louv3x, in particular via surveys sent before and after the course to the registered learners. In total, over 15,000 students from all over the world were invited to fill in a pre- and post-survey. Among the registered students, some 2000 of them are on-campus students who followed the MOOC as a partial requirement of their on-site course of political science at the *Université catholique de Louvain* (Schiffino *et al*, 2015). Simultaneously, we archived the comments that were received by email or posted on the MOOC's forums, which enabled us to complete analysis at the qualitative level. This rich set of data sheds light on both teaching and learning political science with a MOOC. It is noteworthy that the proposed technical device – interface design, ergonomic, users' experience – is the same for every edX MOOC. Therefore, we did not consider it as a possible discriminatory factor that would explain differentiated retention rates of the courses created on this platform.

TEACHING WITH MOOC: DESIGNING A NEW LEARNING EXPERIENCE

This MOOC was created on the edX platform, an initiative of Harvard University

and the Massachusetts Institute of Technology (MIT). EdX is managed by a multidisciplinary team of approximately 150 staff based in the USA, whose ambition is to give the teaching staffs in the different partner countries and institutions a favourable environment to develop a MOOC. As stated by El-Hmoudova (2014:31): 'For universities, MOOCs offer the great potential for building and extending the university as a brand. Harvard and MIT use their edX format to showcase their world-class offerings, and the networked nature of the platform expands the reach of their courses to partners and students who might never otherwise have access'.

In a study where Hew (2014) sought to enhance the quality of MOOCs, the author proposed a classification that also focuses on enhancing the learner experience. He claims that good learning is characterised by several factors that include encouraging reflection, enabling dialogues and fostering collaboration. Consequently, based on analysis of the comments of MOOCs' learners and on guidelines from professional councils, Hew (2014) proposed a model of engaging students that is composed of 6 elements which we took into consideration in the construction of our MOOC. Taking these elements in turn, in the first instance 'course information' refers to giving clear information about the duration of the course, the estimated workload and the language in which the course is taught. Secondly, 'course resources' refers to the type of resources offered to the students such as online videos and extra reading material. Thirdly, the promotion of 'interactions' among the students as well as between students and the faculty. Fourthly, 'active learning' refers to the use of active learning strategies as mini projects or self-assessment activities. Fifthly, 'frequent monitoring learning' refers to the frequency of assessments and quizzes proposed to the students. Finally, 'making

meaningful connections' as for instance connection with real-life examples. In the next sections, we will focus on the way the MOOC Louv3x was constructed while keeping in mind these six elements. Firstly, we will draw attention to the pedagogical and technical dimensions that have to be taken into consideration in the construction of a MOOC. Secondly, we will briefly expose how the online MOOC was used to offer a flipped classroom course to our on-campus students while pointing out the different needs of online versus on-campus students. Thirdly, the reflexive structure of the course will be detailed. Finally, we explain how both participants and students have been evaluated throughout and at the end of the MOOC.

CONSTRUCTING THE MOOC: PEDAGOGICAL AND TECHNICAL DIMENSIONS

According to Adamopoulos (2013:11), students' satisfaction concerning the professor, the pedagogical team and, more generally, the course organisation are the most important explanatory factors for retention rate. Therefore, much attention has been given to the constitution of a cohesive pedagogical team. It goes without saying that the construction and the animation of a quality online course, giving enough support to the students without having a direct contact with them, is a more challenging task in comparison with traditional courses.

Following these observations, we want to draw attention to points that should be considered when constructing an online course. More precisely, we propose to distinguish the MOOC Louv3x's pedagogical dimension on the one hand and its technical dimension on the other. Regarding the pedagogical dimension, the presence of 'community TAs' (or 'teaching assistants') has an important role in a

MOOC as they provide support for a higher interactivity with the learning community which consequently increases learners' motivations and success rate (Khalil and Ebner, 2014). Hence, Louv3x relied on a teaching team that comprised university professors and political science teaching assistants, technicians specialised in audio-visual media and Internet, as well as pedagogical advisers working with the *Université catholique de Louvain*. Throughout the construction of the MOOC as well during its launching, our team drew much attention to keeping a good communication, structure and cohesion between its members. This allowed us to be constantly present and to always provide coherent information to the learning community. Additionally, pedagogical foundations, like the formulation of the course outcomes, the learning outcomes (that the learners must achieve) or the retroactive effects of the MOOC on the professors' practices, were discussed and determined in cooperation with the university's *Louvain Learning Lab* (LLL), which is an expertise centre in setting up pedagogical devices, including MOOCs.

It is noteworthy that it was of a high importance for our pedagogical team to bring continuous improvements to the MOOC. In this perspective, the learners' comments on the main forum are constantly taken into consideration in the improvements of the technical structure and the teaching dynamics of the course. Moreover, meetings are continuously organised in order to take into account the feedbacks of all MOOC stakeholders on campus. On a technical level, the construction of the MOOC required the constitution of a group of 'MOOC testers' with diverse profiles in terms of gender, age and profession (including on-campus political science students). These testers offered helpful feedbacks allowing us to provide the necessary adjustments to the course. As they shared their visions of

'... (pedagogical team) constantly present and to always provide coherent information to the learning community.'

politics and, more particularly, of the MOOC's content with the pedagogical team, the learners helped us to partly drive the way the course has been developed. Last but not least, a major technical constraint faculty members had to deal with was time. Although the first edition of the MOOC had to be built within a short period of eight months, the high exposure to the public audience it entails leaves no room for errors. The team had then to make several design decisions in a short time frame before implementing the production development. In this process, the collective dynamics of discussions and content peer-evaluation (each member of the team assessed and agreed on the contents developed by their colleagues) was an important path to ensure quality and academic excellence.

BLENDING THE MOOC COURSE ON CAMPUS: OFFERING NEW LEARNING EXPERIENCES FOR RESIDENTIAL STUDENTS

One of our aims in building a MOOC was to provide access to high-quality political science learning resources in the French-speaking world. Yet, our primary goal was to experiment different pedagogies and new learning tools while being part of a collective experience organised with several colleagues. More precisely, using a MOOC on campus in a blended learning way has been a priority for our team. During the three editions of the online MOOC Louv3x that have been launched until now, the team simultaneously ran the course with the university's residential students. Much attention was then

paid to the way the MOOC was going to impact upon the traditional course. More precisely, we used the MOOC to provide a type of flipped classroom. Concretely, in-classroom meetings were held once a week throughout the semester which differed from traditional teaching (i.e. without a MOOC). Indeed, the students were expected to follow the MOOC (i.e. watch the videos and do the exercises and the weekly exams) at home so the content learnt through the MOOC can be applied in class. In that way, we applied a variation of flipped teaching: learning the lessons at home and doing the homework in class. In that way, we adopted an 'active learning' instructional technique where the students are asked to participate in constructing their knowledge through discussions, role-play and other methods (Powner and Allendoerfer, 2008). Although evidence about the magnitude of the positive effects of active learning has been mixed, studies mostly showed that they do produce deeper learning represented by a greater amount of information retained, better comprehension and the use of higher order skills (Prince, 2004). For instance, in a course on 'Introduction to World politics', Powner and Allendoerfer (2008) showed that both the use of discussions or of role-play had a significantly positive influence on students' performance. It is, however, noteworthy that the global audience (i.e. online learners) needs are not similar to the ones of on-campus students. Table 1 identifies some design constraints that influence the MOOC development when taking into account both residential and global audience's needs.

THE REFLECTIVE STRUCTURE OF THE COURSE

The MOOC Louv3x covers a period of seven weeks (six weeks for the first and second editions). Every week mainly

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includes theoretical learning and application exercises for the learners (notably, in connection with the news), on the following themes and/or notions: 'What is political science?', 'State', 'Democracy', 'Ideologies', 'Political actors' and 'Power'. The last week is dedicated to the final test on the whole course. The MOOC also provides the learners with a general introduction as well as a course conclusion.

Regarding the learners' activities, a general forum is linked to each of them in order to allow participants to ask questions and to interact with each other and the teaching staff. A page listing bibliographic references supports the video content and helps the learners to go further into their learning. To reinforce the interactive dimension of the course, a 'week summary' is given to the learners through a weekly Google Hangout of one hour, during which professors answer the questions asked online or posted on the forums. The video can be watched live or deferred. The aim of this approach is to

Table 1: Comparing MOOC global audience's needs and UCL residential ones: how to conciliate two different audiences while designing a MOOC learning experience?

	MOOC global audiences	UCL residential students
In-class presence flexibility	Not applicable	Mix between in-class and on-campus presence
Accessibility to educational resources	Needed	Needed, plus extra-resources for the additional on-campus hours
Innovative learning experiences	Beside the fact that a MOOC is by itself innovative, need for extra design differentiation from other courses to match the audience who is window-shopping among dozens of other MOOCs	Yes, however, there is a need of moderating the innovation in order to deal with the students' reluctance to innovation as MOOCs may affect their learning culture
Learner-centric experience	MOOC student-centric perspective: distance learning as the whole learning experience, it must be complete	Residential student-centric design: need to design online resources on basis of the in-class learning experience. Faculty members need to develop the learning scenario with the presence session as a starting point. Online resources and on-campus classes are complementary to offer added value classes and to go beyond the short introduction designed for the global public
Short deadlines	No, some matching with a demand for time flexibility	Yes, needed as an incentive for progressive learning all along the semester and to be prepared for the extra on-campus sessions
Prerequisites	No, given the high demand for introductory courses	No, but the course needs to provide all the prerequisites students will need for the upcoming courses of their study programme
University traditional calendar	No, mini courses between 3 and 6 weeks long including during Summer time	Yes, in order to cover the entire semester learning material (13 weeks length)
Intellectual property	Need to get authorisation to use third parties' content	Education exception applies on use of third parties' content
Legal framework and administrative constraints	Credentials often requested but not yet recognised. No juridical framework for certification yet	Legal framework for certification, administrative constraints in terms of time, learning outcomes, grading policy. Credential issues in terms of recognition of hours spent by students on the course: faculty members must value intensive workload asked by the MOOC

strengthen the interaction with the learners and the anchoring of the course in continuous learning.

The combination of diverse operating methods in the transmission of knowledge can contribute to reinforce the learners' involvement hence their success rate. Yet, few MOOCs have to our knowledge reported to combine pedagogical activities that use diverse dynamic processes in the aim of acquiring knowledge and communicating about it (Toven-Lindsey *et al*, 2015:7). In their pattern analysis about teaching approaches, Arbaugh and Benbunan-Fich (2006) draw a distinction between four different teaching experiences. We tried to combine all four approaches in our MOOC in order to improve the participants' learning experience.

Firstly, the *objectivistic-individual* approach consists in delivering course material – in our case videos – according to the design and rhythm chosen by the pedagogical team. Secondly, the *objectivistic-collective* experience encourages the learners to set up collaborative strategies within the framework of a learner's community which we tried to do through

the use of online discussion forums. Thirdly, in the *constructivist-individual* approach, learners develop their knowledge through their personal interactions with the course material. We particularly stressed that point during the last week on 'power'. Concretely, the pedagogical team made and posted interviews of four actors confronted with power in their daily practice at the European level: a politician, a trade union representative, a journalist and a lobbyist (two women and two men). After watching the videos of theoretical courses and interviews, learners were invited to go into the field to meet actors confronted with power and to make an interview in order to hold a debate with the other learners. A methodological part on interview technique in a scientific approach and on video making was included in the MOOC. Finally, we also integrated the *constructivist-collective* approach where learners interact with each other to build knowledge together. In that aim, we associated learners with weekly live questions and answers sessions through the frame of Google Hangout, which was, however, not the most straightforward task.

Table 2: Louv3x diverse operating methods, according to the Arbaugh and Benbunan-Fich pattern (2006)

Social dimension		
	Individual	Collective
<i>Epistemological dimension</i>		
Objectivistic	Watching a video about paradigms and the evolution of frontiers	Uploading an electoral poster that illustrates an ideology and its connection with power, commenting thereon for the other learners and discussing the pictures posted by the others
Constructivist	Supplying a 'word-cloud' around the 'politics' notion. Contributing to a wiki page, depending on one's home country, to exchange ideas about the question: 'How is your State organised?'	Reading extracts (commented upon by professors) from The Prince by Machiavelli, then discussing, in a critical perspective, the question: 'Does the end justify the means?' Making a filmed interview (short video clip), posting it, and then reacting to comments

Table 2 illustrates examples of activities from Louv3x depending on the approach that is used. Some of them are 'mandatory'; others are optional and allow the learners to go deeper, for example, through additional readings. The learners' involvement is mainly affected by their motivation to see themselves making progress, and the aim is to somehow 'keep them clicking', as expressed by Cassidy *et al* (2014). By taking part to diverse activities and clicking to validate them, learners increased their rate towards certification to 75 per cent. We will detail this evaluation in the next section.

LEARNING ASSESSMENT

The evaluation of the Louv3x MOOC's learners is based on three main aspects. The first one is the 'active participation' (AP), which aims to encourage the students' commitment through the whole course, without resorting to a directly certified evaluation. Indeed, 50 per cent of the final grade is given on the basis of activities' completion, including watching videos. How is this AP measured? First of all, one point is linked to the viewing of each video, and another one is linked to answering correctly to 'learning quizzes'. Moreover, each participation in an activity brings additional points. In sum, an active follow-up gives the student half of the necessary points to pass the MOOC. The AP can be checked during the whole course; this means that a learner who did not have the time to work during a certain week can still go back to it later and enhance her/his participation. In this regard, the Louv3x operated on two constraints mentioned in the literature regarding the learners: the decrease in motivation and the lack of time (Bonk and Khoo, 2014:25; Khalil and Ebner:1239; Onah *et al*, 2014:5828; Zheng *et al*, 2015:8).

The second evaluation aspect is linked to weekly examinations. After each week (except for the last one), a multiple-choice questionnaire including five questions relating to the week's content is submitted to the participants. The MOOC's aim being the discovery of a field through diverse operatory methods while paying attention to time management, the weekly tests only included a limited number of questions. These questions are in addition to those linked to every lesson (i.e. the 'learning quizzes' mentioned in the previous section). Moreover, the initiative is being designed in both perspectives: final certification and formative experience. Learners are given the opportunity to read the weekly examination's questions, and – if they feel the need to – to watch the video once again before giving their answer. Correct answers represent 25 per cent of the final grade for the whole MOOC.

The third and last aspect includes a final examination consisting of twenty multiple-choice questions addressing the whole course material in a random order. The massive nature of online courses involves computerised evaluation modalities (Vallières, 2013:1), but it may also allow the learners to communicate with each other to answer the tests. Concerning the automatic corrections, the examination – like every other quiz and test – adds an explanation for the answer to the computerised correction (which directly indicates whether the answer is correct or not) in order to reinforce the pedagogical dimension. Regarding the transmission of answers between learners, the teaching team decided to place this initiative in a formative perspective. Besides, the edX platform addresses more the ID verification modalities for the certificates than the individual assessment completion. Today, MOOCs bring out a dilemma for the pedagogical staff, which has to choose between control and collective construction of knowledge.

In a general way, Louv3x evaluation method aims at rewarding every learner's participation. Some studies showed that learners rarely participate in interaction activities, except if these are designed to improve their final grade, which is the case here (Karsenti, 2013). Hence, in the aim of motivating the students to participate more, every activity on the platform contributes to the final grade for the acquisition of the MOOC's certificate. However, it can lead to perverse effects. When the learners are, for example, obliged to take part in some discussions on forums, initiated by questions (e.g. 'Are you for or against the obligation to vote?'), they may be tempted to answer the question briefly, without taking the other answers already posted into account. This can also be further triggered by the difficulty to follow the discussion thread in which hundreds of learners are already taking part. On a technical level, few solutions are already available to branch the interventions of thousands of learners. Still, this may lead to a situation where everyone speaks, but where only a few people listen to each other. We can finally find that most of the students do what they are asked to do, no more, no less. This observation is similar to the study led by Karsenti *et al* (2002).

On-campus students have to get the certificate from the MOOC as any other worldwide students, with the same requirements in order to achieve a 75 per cent pass rate. On top of this, the certificate allows them to automatically receive 3 points out of 20 on their final exam. The remaining 17 points are at stake in a proctored exam on campus at the end of the semester. This exam is a multiple-choice questionnaire made of 30 questions. These questions are related to the content of the MOOC but also to the content of the in-classroom meetings held once a week throughout the semester.

PASSIVE RETENTION AND ACTIVE RETENTION

Starting from these observations, we address an issue often raised in the literature about MOOCs, which is namely the choice of indicators to measure the success or failure of a MOOC and in particular of the learners registered for a MOOC. Universities often use the number of enrolled participants to evaluate the success of their training opportunities. Nevertheless, registering for a MOOC is a relatively easy process for someone who can access the Internet and does not consider it as a full learning process. It is like the creators say, '[we] can relate the act of enrolling in a free course to checking out a book from the public library: it would be absurd to measure the book's success strictly by the proportion of individuals who read its contents cover-to-cover.' (Koller *et al*, 2013). To go beyond this observation, the MOOC Louv3x seized the opportunity to collect data by submitting a questionnaire to people who enrolled for the MOOC, in order to evaluate the participants' profiles, their representation of the course, their degree of involvement, their expectations and the means they used to follow the course.

In the first edition, 6470 invitations to answer the questionnaire were sent, and 1593 learners have answered it in the beginning of the course (response rate 24.6 per cent). At the end of the course, 1426 of the 7667 learners answered the survey (response rate 18.6 per cent). We may observe some attrition in the sample because some of the respondents answered the survey in the beginning and at the end of the course, while others only answered the questionnaire in the beginning of the MOOC (the so-called pre-survey). Finally, some learners only answered the questionnaire at the end of the course (the so-called post-survey). Response rates are 29 per cent for edition

2 and 21 per cent for edition 3 with similar proportions between pre- and post-surveys.

In addition to the survey data, information linked to the registration and the certification are also available and displayed in Table 3. It shows that we can hardly assert that the success of a MOOC and the quality of its learning process is reflected by the number of registered participants, which can go up to several thousand registered students. We can indeed see that not all registered students do want to actively take part in the course, let alone achieve certification. The completion of the course (i.e. the retention rate) appears to be a much more relevant measure of its success (Xu and Jaggar, 2011:361).

Another way of measuring a MOOC success is through the number of its 'active learners', defined by edX as those who completed at least one activity during the second week. This echoes studies that show the most important attrition occurs between the first and the second week of learning, followed by a stabilisation of involvement rate during the rest of the course (Cassidy *et al*, 2014:8). Two different indicator factors can be used: 1) the number of *registered* learners divided by the number of certificates obtained, or 2) the number of *active* learners divided by the number of certificates obtained.

Notwithstanding the scientific debates around the notion of retention and its calculation (Cheung, 2014:19–22), we apply the two following definitions. The first indicator corresponds to the overall success rate, which we call the 'passive retention rate'. The second one corresponds to the success rate among the active learners, which we call 'active retention rate'. On the basis of these criteria, Louv3x has a passive retention of 17 per cent on average (that is to say around three times higher than the edX average), and an active retention of 86 per cent for the first iteration, 42 per cent for the second iteration and 63 per cent of third iteration.

Beside the technical and pedagogical choices presented above, the retention can be analysed from the learners' profiles and motivations perspective as they are linked to the dropout rate (Bonk and Khoo, 2014:25; Cassidy *et al*, 2014:13). The learners' involvement is featured as their satisfaction, motivations and their attendance to the course (Toven-Lindsey *et al*, 2015:2). It is therefore important to connect the retention rate with objective (learners' typical profile) and subjective (learners' motivations) factors, which explains the higher retention rate of a MOOC like Louv3x.

Furthermore, while difficulty or failure explains most amount of dropout in

Table 3: Active retention rate and passive retention rate for the Louv3x MOOC, in comparison with edX average

	UCL 1st edition	UCL 2nd edition	UCL 3rd edition	edX average
Registered learners	7667	5661	4490	
Active learners (/number of registered people)	1578 (21 per cent)	2211 (39 per cent)	1222 (27 per cent)	10 per cent
Certificates (/number of registered learners)	1363 (18 per cent)	939 (16.5 per cent)	771 (17.2 per cent)	5,8 per cent
Certificates (/number of active learners)	86 per cent	42 per cent	63 per cent	57 per cent

Source: UCL Learning Lab and authors, 2014 and 2015.

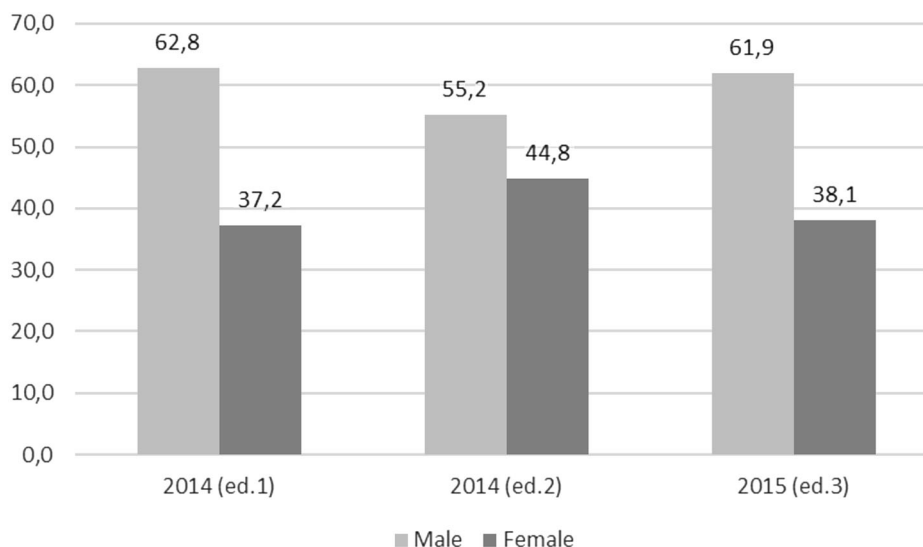


Figure 1 Distribution of individuals (per cent) by gender.

Source edX and authors 2014 and 2015, from a sample of 7568 (edition 1), 5661 (edition 2) and 4490 (edition 3) individuals.

traditional education, studies showed that around 90 per cent of the students who follow a MOOC would drop out for reasons such as lack of incentive, insufficient prior knowledge and failure to understand. (Belanger and Thomson, 2013; Nawrot and Dourcet, 2014). Additionally, Fini (2009) pointed out that many participants register to a MOOC for personal interest; hence, they might leave.

THE SOCIO-DEMOGRAPHIC CHARACTERISTICS

In this part, we will take a look at the learners' distribution in terms of gender, age, geographical situation and the highest degree obtained (Figures 1, 2, 3, 4). The figures below show that most of the learners are men (60 per cent on average), with a higher education diploma (more than 65 per cent obtained a bachelor's or master's degree). Although results show that our learners were relatively young (born in the 1980s and 1990s), the average age approximately corresponds to the

average reported by edX, which is around 30 (edX, 2015). It is worth noting that the high rate of students with a secondary degree is also much influenced by the presence of our first-year university students who have not obtained a bachelor's degree yet. Above all, the MOOC definitely attracts a worldwide public, with students located in over 160 different countries. The top 3 countries are Belgium (where most on-campus students live), France and the USA. As these demographic distributions are very similar to what is observed in the other MOOCs on EdX, we cannot infer from it anything about the reasons behind the high retention rate we observe in our MOOC. This lack of link between demography and dropout corresponds to the results of other studies on retention (Adamopoulos, 2013:16).

MOTIVATIONS TO LEARN

Next, we will consider participants' goals and motivations to enrol in a MOOC as the understanding of these factors is crucial

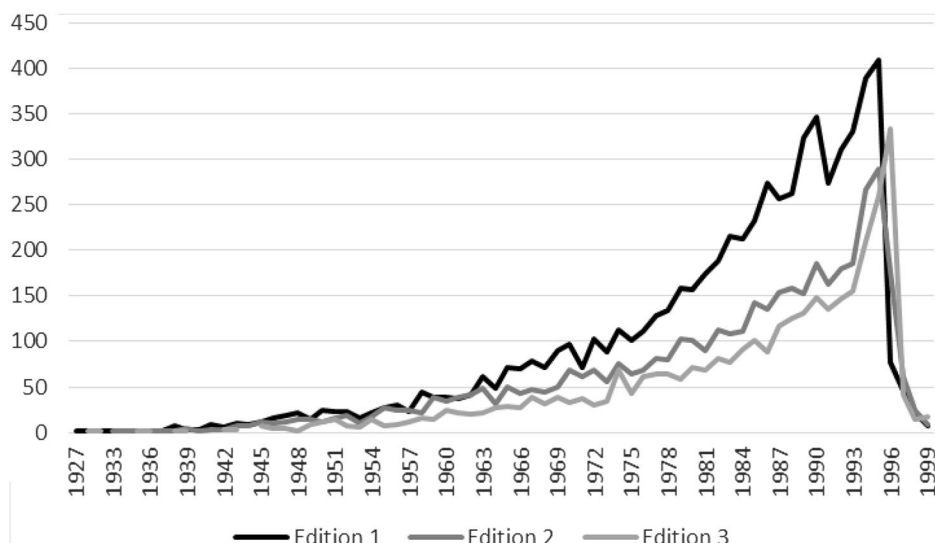


Figure 2 Distribution of individuals (absolute numbers) by year of birth.

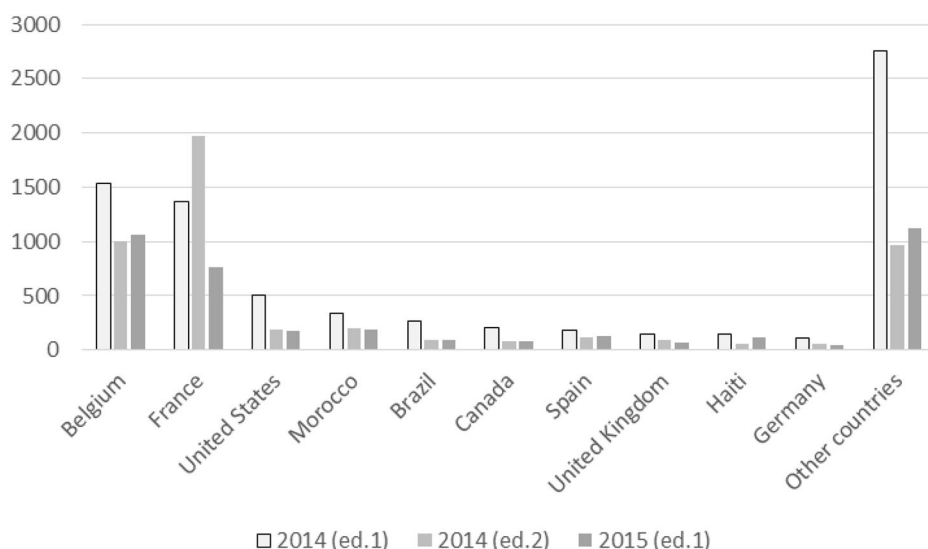


Figure 3 Distribution of individuals (absolute numbers) by country of residence.

Source edX and authors 2014 and 2015, from a sample of 7568 (edition 1), 5661 (edition 2) and 4490 (edition 3) individuals.

in order to have a better understanding of retention in MOOCs (Zheng *et al*, 2015:1892). When participants are asked about what drives them to obtain the certificate, a series of reasons are mentioned (see Figure 5). However, we do notice that the most frequent motives to obtain a certificate are 'the development

of knowledge' and the 'interest in the theme'. These observations are nevertheless not surprising for a population mostly composed of students or people already having a degree.

Beside the motivations displayed in Figure 5, a certain number of additional reasons were reported by the learners in an

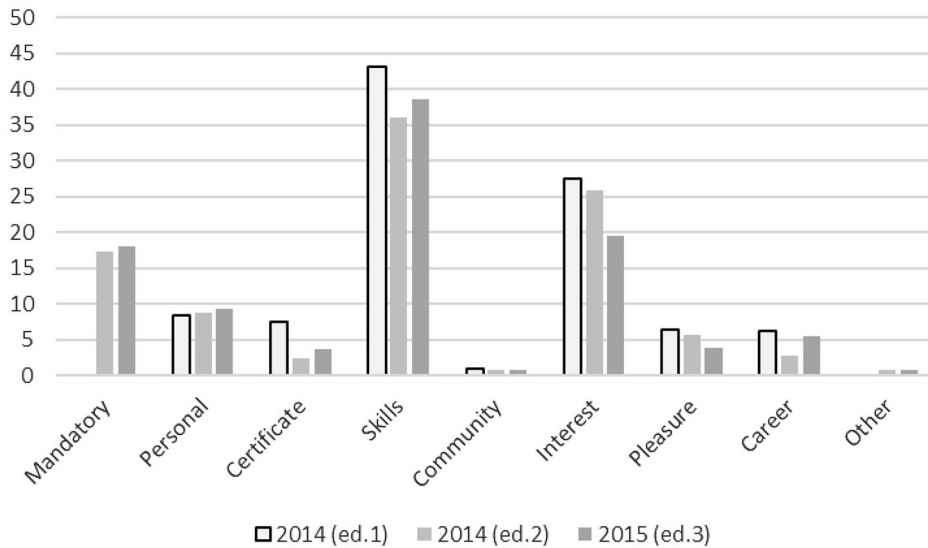


Figure 4 Distribution of individuals (absolute numbers) by highest degree obtained.
Source edX and authors 2014 and 2015, from a sample of 7568 (edition 1), 5661 (edition 2) and 4490 (edition 3) individuals.

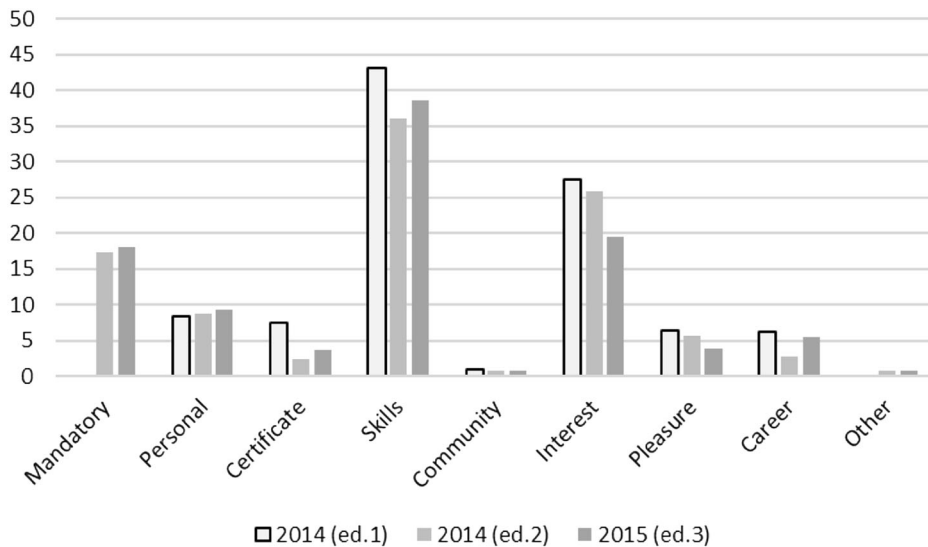


Figure 5 Distribution of individuals (per cent) by reason to take the course. *Note:* Mandatory: mandatory course; Personal: Personal challenge; Certificate: to obtain a university certificate; Skills: to develop my knowledge and skills; Community: to belong to a learning community; Interest: interest in the theme of the course; Pleasure: for pleasure offered by course; Career: to improve employment and career.
Source Authors, 2014 and 2015 – Data expressed as a percentage, from a sample of 1428 individuals (pre-questionnaire) for the 1st edition; from a sample of 1583 individuals (pre-questionnaire) for the 2nd edition and from a sample of 946 individuals (pre-questionnaire) for the third edition; the total is not always equal to 100 because of rounded percentages.

Table 4: Percentage of learners' aims of enrolling before and after the MOOC

	Edition 1						Edition 2						Edition 3					
	Pre-MOOC			Post-MOOC			Pre-MOOC			Post-MOOC			Pre-MOOC			Post-MOOC		
	Not UCL (per cent)	UCL (per cent)		Not UCL (per cent)	UCL (per cent)		Not UCL (per cent)	UCL (per cent)		Not UCL (per cent)	UCL (per cent)		Not UCL (per cent)	UCL (per cent)		Not UCL (per cent)	UCL (per cent)	
Just having a look	1.09	0.65		4.78	1.03		1.87	0.4		2.36	0.00		1.87	0.4		2.36	0.00	
I am only going to do what I am interested in, probably not the whole course	4.75	4.55		3.69	3.01		2.88	1.2		1.57	0.00		2.88	1.2		1.57	0.00	
I consider taking the whole course passively, without taking part in activities	10.66	3.25		14.93	5.94		11.51	8.76		7.09	1.49		11.51	8.76		7.09	1.49	
I consider taking part in every activity, but I do not feel under pressure	40.54	27.92		33.47	38.61		42.3	32.67		44.09	44.78		42.3	32.67		44.09	44.78	
I firmly intend to take part in every activity and to obtain the certificate	42.96	63.64		43.12	55.45		41.44	56.97		44.88	53.73		41.44	56.97		44.88	53.73	
Total	100	100		100	100		100	100		100	100		100	100		100	100	

Source: Authors, 2014 and 2015 – Data expressed as a percentage, from a sample of 1439 individuals (pre-questionnaire) and 1293 individuals (post-questionnaire) for the 1st edition, from a sample of 1583 individuals (pre-questionnaire) and 204 individuals (post-questionnaire) for the 2nd edition and from a sample of 946 individuals (pre-questionnaire) and 194 individuals (post-questionnaire) for the 3rd edition; the total is not always equal to 100 because of rounded percentages.

Table 5: Distribution of learners' opinion about the aims they had before and after the MOOC

	Before		After	
	Mean	Std. Err.	Mean	Std. Err.
<i>Understanding, defining and explaining concepts</i>				
Not UCL students				
Edition 1	4.790	0.076	7.243	0.059
Edition 2	4.574	0.167	7.403	0.115
Edition 3	4.244	0.079	8.819	0.119
UCL students				
Edition 1	4.626	0.234	7.475	0.132
Edition 2	4.893	0.365	7.571	0.238
Edition 3	4.075	0.111	8.418	0.183
<i>Connecting concepts</i>				
Not UCL students				
Edition 1	4.493	0.076	6.969	0.062
Edition 2	4.295	0.171	7.153	0.122
Edition 3	4.055	0.085	8.441	0.138
UCL students				
Edition 1	4.303	0.245	7.162	0.146
Edition 2	3.821	0.375	6.786	0.279
Edition 3	3.925	0.107	7.851	0.192
<i>Initiating Objective analyses</i>				
Not UCL students				
Edition 1	4.756	0.077	7.066	0.062
Edition 2	4.722	0.175	7.335	0.117
Edition 3	4.055	0.092	8.472	0.142
UCL students				
Edition 1	4.586	0.234	5.106	0.165
Edition 2	4.286	0.333	7.765	0.272
Edition 3	3.896	0.121	3.095	0.210

Source Authors, 2014 and 2015 – Data expressed as a percentage, from a sample of 1439 individuals (pre-questionnaire) and 1293 individuals (post-questionnaire) for the 1st edition, from a sample of 1583 individuals (pre-questionnaire) and 204 individuals (post-questionnaire) for the 2nd edition and from a sample of 946 individuals (pre-questionnaire) and 194 individuals (post-questionnaire) for the 3rd edition; the total is not always equal to 100 because of rounded percentages.

open question about their motivations to enrol in the MOOC. Reasons like language learning, the specific advantages of the MOOC (online, flexible and interactive), as well as the possibility to work autonomously and at one's own pace were often mentioned. Furthermore, we find that between the beginning and the end of the course, the aim to register to the course remains largely the same (see Table 4).

In sum, we observe that, whether they aim at obtaining a certificate or not, the highest percentage of participants aim at completing the MOOC and following all

the activities. In total, we find then that more than 80 per cent of the respondents (in the pre-survey) have the intention to complete the MOOC. At the end of the MOOC, before the final exam, around 80 per cent of the respondents (of the post-survey) declared having 'the firm intention to accomplish every activity without putting themselves under pressure or with the intention to obtain the certificate'. Finally, and as expected, the rates for on-campus students are somewhat higher than for worldwide MOOC students.

EXPECTATIONS REGARDING THE LEARNING ACHIEVEMENTS AND THEIR EVOLUTION

In order to refine the learners' learning expectations, we asked them at the beginning of the course to which extent they expected to be able at the end of the MOOC to: (1) understand, define and explain political science concepts; (2) connect concepts with their authors and, more generally, the concrete phenomena they represent, and finally (3) initiate objective analyses of political phenomena on the basis of their newly acquired knowledge. Learners could choose, on a 5-point Likert scale, between modalities going from 'Strongly disagree' to 'Strongly agree'. Before the MOOC, learning expectations were high: around 90 per cent of the learners who answered the pre-questionnaire felt they would be able to fill all three objectives by the end of the course.

The same questions were asked at the end of the MOOC in the post-survey, but this time the learners were presented with a 10-point Likert scale in order to provide more precise results. Additionally, participants were asked how they perceived their skills before the course regarding the three above-mentioned objectives. Next, learners were asked to evaluate their skill on the same dimensions after they have achieved the course. Table 5 illustrates the distribution of learners' positioning evolution before and after the course. The table clearly shows a positive evolution of the students' skills' perception before and after the MOOC.

CONCLUSION

The studies on MOOCs that have been conducted until today all agree on the extremely high rate of dropout these courses are witnessing (studies report dropout rates going from 80 to 95 per cent). In order to identify the reason why

the MOOC Louv3x enjoys a much lower dropout rate, we first illustrated how the course was constructed. One of the most important points was the constitution of a cohesive pedagogical team that does not only work on the construction of the MOOC but is also present during its launching. Furthermore, we stressed the importance of constituting a 'pilot team' of participants who provided us with feedback about the necessary changes that had still to be made.

Next, we distinguished between the active retention rate and the passive retention rate. Doing so, we wanted to go further than the simple criterion given by the number of registered learners, and to focus on the learners' profiles and motivations, as well as on the course construction.

The reward-based evaluation certainly encouraged the learners to participate more and to take the course until the end. The strong interactivity during the course and the feeling to belong to a learning community also correspond to the statements from the literature (Khalil and Ebner, 2014; Zheng *et al*, 2015). Our data confirm well-established trends, like the fact that a prior preparation to the involvement in an online course can improve one's success rate (Xu and Jaggars, 2011: 362). Additionally, as in previous studies, we saw that the profile of participants who follow MOOCs is quite homogeneous and does not contribute to explain the retention rate. This article contributes to a better understanding of the relationship between involvement, retention (of which it proposed a new conceptualisation in terms of active vs. passive retention, as well as its operationalisation) and motivations of the learners and teaching team which would be, according to Adamopoulos (2013), the most influencing factor for retention. The analysis of motivations and expectations about the learning outcomes indicates the existence of a link between the objectives set by the learners, their expectations and their representation of the skills they think

they possess, and what they think they acquired. These motivations and expectations also influence the retention. Indeed, the higher the aim set by the learner himself was before the course (namely the willingness to obtain the certificate), the greater the chances are that they take part in every activity and therefore obtain the certificate. But it is not merely a question of will, because this relationship has to be understood in the multidimensionality offered by a MOOC environment. The MOOC structure, by providing different learning experiences (Arbaugh and Benbunan-Fich, 2006), offers a multiple learning environment, which can help the learners to meet the objectives in terms of content and method, while keeping a strong motivation. In this way, the MOOC 'Discovering political science' (Louv3x), by proposing the following learning experiences: 'objectivistic-individualist', 'objectivistic-collective', 'constructivist-individual' and, to a lesser extent, 'constructivist-collective', could contribute to diverse dynamics aiming to acquire knowledge that reinforced the learners' motivation, which helps to partly explain its higher passive and active retention rate than the MOOCs average.

Last but not least, throughout the article, we showed how the six instructional design elements highlighted by Hew (2014) are taken into consideration in the creation and launching of this MOOC. For the first element, 'course information', we made sure that learners were constantly well informed about the material they can access to, the course schedule and the different deadlines. Secondly, concerning 'course resources', we made sure that all participants had access to all the video and written material needed to understand the course and/or be successful. Thirdly, 'interactions' between students and with the pedagogical team was promoted by a team that was constantly present. Fourthly, 'active learning' was assured by the mean of the activities

that the learners were asked to do. Next, 'frequent monitoring learning' was done through frequent assessments and quizzes. Finally, we tried through the course to 'make meaningful connections' by giving real-life examples and links with actuality and through a wide range of diverse activities. All these six elements are very likely to have contributed to the success of our MOOC. One limitation of this study is the lack of tool that allows us to measure the link between these elements and the success of the MOOC. Future study should include surveys to explore how these elements contributed in maintaining the participants' motivation to follow the MOOC.

Besides providing innovative and active pedagogy to the classical student, special attention has to be drawn to the increasing place; lifelong learning is taking due to the fast socio-technological changes (Blanden *et al*, 2012). Consequently, education has to be made reachable for workers who need to update their skills throughout their working lives. MOOCs appear then to be the perfect tool to provide education for each person no matter their schedule nor their localisation. In this sense, MOOC offers real opportunities for political science because it offers the tools of the discipline to a larger audience than students only and allows people to understand the world in which they are living and contribute to the understanding and the analysis of the political phenomena all over the world. MOOC proves how political science is rich of tools, concepts, theories for this understanding. Due to the massive character, MOOC is also a challenge for the discipline as it implies for professionals of the discipline to review and research constantly the construction of concepts, theories and applications due to the richness of the world. In other words, heterogeneous learners help the discipline to question and to improve concepts and methods of the discipline.

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