

From OCW to MOOC: Deployment of OERs in a Massive Open Online Course. The Experience of Universidad Carlos III de Madrid (UC3M)

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Abstract

The emergence of Massive Open Online Courses (MOOCs) is focusing all its attention on open education. There is growing interest in creating MOOCs, which can be done by transferring OCW courses to MOOC format. However, a series of doubts arise regarding the pros and cons implied in this transformation. In this paper we discuss the conclusions derived from our experience at Universidad Carlos III de Madrid with a widely disseminated OCW course that was satisfactorily converted into a MOOC. This experience has allowed us to compare two different models of open education initially based on the same content. We also analyze the difficulties incurred in the transformation process and present strategies to successfully carry out this change.

Keywords: Massive Open Online Courses (MOOC); MOOC Design; OpenCourseWare (OCW); Open Education; Open Educational Resources (OERs)

Introduction

Higher education is being transformed all around the world due to open online access (Cooperman, 2014). However, this change process is not uniform, rather it depends on the context in which it takes place.

In the case of Europe the advent of open educational resources is determined by two factors. First, the application of information technologies to educational processes stands out among the various forces driving this trend. Second, the change in the teaching and learning methodology in the development of the European Higher Education Area (the so called Bologna Process) that implies a more practical approach to education (Adelman, 2009). The combination of these two factors has given rise to a proliferation of digital teaching materials (texts, cases, slides, videos, podcasts and so on) created by the teachers themselves for their own pupils who traditionally only had access to on-campus classes and references to textbooks in paper format as study elements.

This multiplication of teaching materials in digital format has coincided with the emergence of open education, and has thus encouraged a large number of teachers to disseminate their work that was originally intended to be used by their pupils in a closed environment. These teaching materials can be disseminated by simply publishing the documents in digital format (open archive), or organizing them in course format to foster self learning (OpenCourseWare). These prior experiences have led to the creation of specific courses to be developed online with audiovisual and interactive elements that guide the students in the learning process (MOOC).

The various modalities described above correspond to a certain extent with the different stages in the evolution of open education initiatives (Falconer *et al.*, 2013). They all stem from university courses but at the same time they differ, to a slighter or larger degree, depending on how they adapt to the real format of a university course and the implications implied therein for the teacher

and the educational institution. On the one hand, from the social aspect this is a way of allowing access to a university education for those who cannot afford it (Marshall, 2013) and, at the same time, gives both the institution and the quality of the teacher's work greater visibility (Matkin, 2013). On the other hand, this implies an additional workload for the teacher and the institution, which may not always have a positive impact on the learning process for both current and potential future students (Mackness; Mak & Williams, 2010).

Thus, the choice of teaching mode and the specific platform for developing open education activities is extremely important for both the teacher participating in such activities and the institution that sponsors them. In this sense, it is paramount to be aware of the real implications of each mode of open education and consider possible strategies that can be developed when joining an Open Access movement that is unstoppable in the higher education sector.

The aim of this work is to offer professors and university institutions information and reflections derived from the experience obtained by a group of professors at Universidad Carlos III de Madrid (UC3M) in using different modes of open education. This experience is particularly interesting since it addresses one of the first courses in Spain adapted to the Bologna Process offered on the OCW site (<http://ocw.uc3m.es>) that was later converted into one of the first Spanish MOOCs. It provides a comparative analysis of the two main forms of open education and likewise studies the transformation process showing the difficulties incurred in the development process and the benefits derived from this change. The results of this experience can help other teachers and institutions when deciding on which open education model to develop and also help those responsible for designing open access policies and platforms to improve their own projects.

The content of this article covers, first of all, the context in which the experience was developed, analyzed from the standpoint of open educational policies and resources at UC3M. It then refers to the initial situation, i.e. the courses developed in the framework of the OCW Project at UC3M, and then goes on to analyze the transformation from OCW to MOOC, and finally analyzes the results of the UC3M MOOC.

The Context: Open Educational Resources and Policies at the Institution (UC3M's OER policy)

When considering any serious analysis of open education it is important to take into account the context in which it takes place. Creating OERs is not an isolated action undertaken by a professor rather it stems from the strategy of the academic institution that is going to define its characteristics and scope (Kennedy *et al.*, 2009).

For this reason it is important to consider the open education policies and resources available at the institution that is contemplating this open education initiative. As regards open education policies, they determine that professors can project their teaching activities in an open and online format, whether they are on-campus courses or new courses designed specifically for that purpose. A suitable political strategy that encourages open education initiatives (by reducing teaching hours, recognizing merits, etc.) will foster the advent of a greater variety of courses and of better quality. Regarding the human and material resources that are available at the institution to support faculty, they will define the format of the courses, as well as the variety, sophistication and quality of the educational resources they incorporate.

In the case of UC3M the fundamental guidelines of open education are part of its philosophy: sharing, reducing barriers and increasing access to education. The development of open education activities at UC3M has been determined by two circumstances that have fostered the creation of open courses. Firstly, the broad experience of its teachers for more than a decade in the use of

information technologies thanks to the university's Virtual Learning Environment (Aula Global) that has encouraged faculty to digitize their teaching materials and put them online for their students. Secondly, the change in the teaching and learning methodology brought about by the new programs designed according to the criteria of the Bologna Process to adapt them to the European Higher Education Area. UC3M was one of the first universities to adhere to the Bologna Process, so since 2008 a more practical approach to teaching based on continuous formative assessment has become widespread, which has led teachers to create their own teaching materials.

This favorable context has allowed UC3M to successfully develop its open education policies. OpenCourseWare was the first open educational resources initiative to be set up at the University. The University joined the OCW movement in 2006, when it reached Spain under the auspices of Universia. This project has helped to foster open publishing culture among professors and has been a catalyst for other OER initiatives. UC3M currently offers 209 courses in the fields of Engineering, Humanities and Law and Social Sciences and has won several awards of excellence, for the quality of its OCW courses, from Universia and the OpenCourseWare Consortium.

In 2007 UC3M launched another initiative that indirectly favors open education, that is E-Archivo (<http://e-archivo.uc3m.es/>), the university's Open Archive. Its aims are to collect, store and preserve the intellectual production resulting from the academic and research activities of the university community, in digital format, and offer open access to these works. The collection includes doctoral theses, periodicals edited by UC3M, working papers, preprints, articles, conference proceedings, reports, etc.

In 2012 UC3M set up two important working groups to establish a stable and coordinated basis for furthering the creation, use, dissemination and preservation of OERs and supporting instructors in the process (Malo de Molina, 2013).

- **MaREA.** This is a multidisciplinary working group composed of professors who are specialists in Intellectual Property Rights, Open Access and OERs and interactive technologies; as well as members of the Library and Communications and Computing Services. Its aim is to define policies and strategies for creating, managing and disseminating quality educational resources.
- **UTEID** (Unit for Educational Technology and Innovative Teaching). This is a unit that is integrated in the Library Service with support from the Communications and Computing Service and the Undergraduate Management and Academic Support Service, to a) support faculty in creating educational resources, using new educational technology, and protecting, preserving and disseminating these resources; b) evaluate platforms and tools for course design, content creation and student evaluation. It supports teachers participating in projects such as Khan Academy Zero Courses, MOOC-UC3M and MOOC-Universia. The UTEID website can be found at: <http://portal.uc3m.es/portal/page/portal/biblioteca/UTEID>

In 2013 the first UC3M MOOCs were launched on the MiriadaX platform (<https://www.miriadax.net>) promoted by Telefónica Learning Services and the Universia Foundation, that encompasses the majority of Spanish and Latin American universities. Finally, in 2014 UC3M joined the MIT-Harvard's edX platform and plans to initially launch four MOOCs. Currently, all the university's open education initiatives (OpenCourseWare, MiriadaX, Khan Academy Zero Courses, YouTube Edu, iTunes U) are gathered on the "UC3M Digital" web site (digital.uc3m.es).

As can be seen, UC3M is really committed with open education which it fosters by way of specific measures that encourage professors to offer their courses in an open format. Faculty participation in these kinds of initiatives is recognized as teaching merit that has academic and economic repercussions. Also the teachers have the support of the UTEID to advise them regarding the course design and delivery with the latest generation audiovisual and computer technologies.

This context explains why UC3M has been a pioneer in the development of OERs in Spain and is a conditioning factor for the evolution to new formats of open education, encouraging the transformation of OCW courses to MOOCs.

The Starting Point: Launching OpenCourseWare (UC3M-OCW Project)

The traditional starting point in open education so far has been OpenCourseWare. OCW courses have the advantage of allowing teachers to develop open educational experiences without too much effort as long as they have a course for which they have developed their own teaching materials.

OCW courses are in effect repositories of teaching materials that teachers use in their on-campus courses and have undergone certain adaptations. This means that the teaching and learning is based on the student's self learning process. The student has all the instructions and teaching materials at his/her disposal to follow the course, but s/he has to do so by him/herself since no guided learning is entailed. Furthermore, in OCW courses students have no contact with the teacher which means that they have to access knowledge on their own without being able to ask questions or request further explanations. Although the courses have practice materials and other learning activities they are not interactive so it is the responsibility of the student to do them properly. Overall, the students undergo a self assessment process that provides no means of recognition or accreditation of the knowledge they have acquired.

These characteristics explain why OCW courses have a limited teaching capacity and, in general, have been used as complementary tools in open education. From our experience we have found that students do not tend to follow a full OCW course on their own but rather use the materials as if they were textbooks to broaden and deepen their knowledge of certain aspects, either because they are enrolled on a similar course or because they are interested in the topic.

Regarding the course design and preparation, the majority of OCW courses are not prepared from scratch for that purpose, instead they are a digital version of an on-campus course that has been slightly adapted. This has the advantage of offering access, although partially, by way of these materials to the real and unadulterated teaching that is carried out at the most prestigious universities in the world.

OCW content is in fact very diverse and can be classified in study materials (texts and audio-visuals), practice materials and assessments. Most OCW courses include limited text materials that in general cannot be accessed directly, instead they offer limited readings or bibliographical references that the students have to acquire of their own accord. Sometimes they include articles and other documents as elements for analysis, but the textbook in digital format on which the classes are based is not normally included. As for audiovisual materials, these are usually slides that constitute the basis of the study texts.

With regard to the practice materials these tend to be more abundant and include approaches to problems and case studies (with or without solutions), as well as guides for developing laboratory tests and exercises. The assessment materials tend to be more limited as they usually include previous years' final exam questions and, on occasions, tests and partial exams prepared for each lesson. Finally, there is no monitoring or follow-up of OCW courses on behalf of the professor who limits him/herself to publishing and providing open access to his/her materials online.

Regarding the UC3M experience, in 2007 a group of professors of the Public Law Department initiated a series of OCW courses with very specific characteristics, due to their orientation, design and subject area (Administrative Law), which should be taken into account during the analysis stage. These are four courses on Administrative Law that are reviewed and updated on a yearly basis and new content is added.

Firstly, since these courses focus on a subject that applies to a local domain, as is the case of Administrative Law, their international scope is limited. Furthermore, it is a subject based on specific language, which makes it difficult to translate into other languages. Thus, the potential students for these courses are Spaniards or Latin Americans from countries that share the same legal tradition as well as the language.

Secondly, due to the nature of a subject such as Law, which is a conceptual-intellectual creation, it is taught by studying and reflecting on texts (regulations, decisions and doctrine). This limits the teaching resources that can be used as in the case of visual presentations or videos that do not consist in a presentation by the teacher, and it is not possible to teach through laboratory experiments.

In spite of these difficulties, four courses that correspond to the core subjects of the Bachelor's Degree in Law were developed and are currently available at <http://ocw.uc3m.es/derecho-administrativo>:

- a) Basics of Administrative Law
- b) Administrative Organization and Process
- c) Public Procurement, Public Personnel Administration and Public Property Law
- d) Administrative Action on Main Economic Areas.

The materials of these courses are composed of readings (20–40 pages), case problems, multiple-choice tests for each lesson (there are 45 lessons in total), as well as overall evaluation activities (final exams). The result of the teachers' work is an astonishing amount of materials: about 1,500 pages of original text, which equate to four open online textbooks (one for each course).¹ In fact publishers have approached the teachers, but they have preferred to stay in the OCW movement keeping their content open and free for all.

The courses receive an average of 2,000 visits each per month, of which 90% are from Spain and the rest from Latin American countries (Argentina, Chile, Peru and Colombia). Although it is difficult to know the profile of these visitors and how they use the course materials, we can reach some conclusions from the pattern of the visits and the keywords they use to find the courses. The materials are mostly used by UC3M students as a textbook for the corresponding on-campus subject, although they may be taught by different teachers. It is possible that they are also used as supplementary materials by students from other universities. Other frequent users are people preparing for competitive exams to join the Civil Service, who mostly use the tests and practical case studies. Regards the rest, the text readings are usually used for consultation purposes by other professors and lawyers in general, as they tend to appear among the top results of search engines when doing a technical search in legal matters.

These UC3M-OCW courses make a difference with regard to the rest of OCW courses, mostly for their extensive online content. To a certain extent, in their approach and design they have tried to overcome the limitations of the majority of OCW courses. On the one hand, they are “fully open” compared to the rest that only provide supplementary teaching materials (slides, assignments, exams) and refer the user to bibliography that does not have open access. These courses, on the contrary, offer online and open access to all the teaching materials necessary to study the subject, which is the only way for open education to be effective.

On the other hand, these courses offer a “real and up-to-date education” since the volume of content of the original text, that contains in-depth and updated analysis of legal affairs allows student to receive a complete legal education, and converts them into reference works not only for students but also for law practitioners. In fact, the courses go beyond education into research and it is possible to find references to these materials in hard-copy published textbooks and also reports and studies of various kinds.

The screenshot shows the OpenCourseWare website interface. At the top, there is a green header with the 'OpenCourseWare' logo and a search bar. Below the header is a dark navigation bar with links for 'Inicio', 'cursos', 'titulaciones', 'sobre ocw', 'ayuda', 'contacto', and 'informes'. The main content area is divided into a sidebar on the left and a main section on the right. The sidebar lists 'Contenidos de Curso' with sub-items like 'Presentación del Curso', 'Programa', 'Resúmenes de Contenidos', etc. The main section displays the course title '(Quadra-Salcedo, T., Vida, J., Peñaranda, J. L.) Instituciones Básicas del Derecho Administrativo (2009)', authors, and a book cover for 'Leviathan' by Thomas Hobbes. A 'PRESENTACIÓN DEL CURSO' video player is visible at the bottom left of the main section.

Figure 1: OCW course: Instituciones Básicas del Derecho Administrativo

The Transit: From OCW to MOOC

Both OCW courses and MOOCs have common elements which we can consider in order to set up a comparison, as can be seen in Table 1: OCW-MOOC Comparison.

Converting an OCW course into a MOOC constitutes a natural evolution in open education. The design, planning and delivery of a MOOC is undoubtedly easier when it is based on an OCW course, not only for the experience acquired but also, above all, for the materials that have been developed.

However, the transition is not simple and before tackling it certain factors concerning the significance and the relationship of OCW courses and MOOCs in open education have to be taken into account.

Firstly, MOOCs are not improved versions of OCW courses that have come to take their place. They both constitute different tools that have their own advantages and limitations. In general they can coexist and be offered simultaneously as their target audiences are seeking a different kind of education in both cases.

Secondly, MOOCs can benefit from all the teaching materials prepared for OCW courses, but these are not enough. In particular the transit to a MOOC demands preparation of additional audiovisual materials (video lectures) as well as interactive components (online tests, practice materials for peer review).

Thirdly, MOOCs are dynamic since they are delivered in a specific time period and are interactive to the extent that they require a certain degree of intervention on behalf of the teacher. This is the element that really distinguishes them from other open education models, among others (North, Richardson & North, 2014, p. 70). This requires designing a program and a schedule for the course delivery that has to be adhered to as well as encouraging student participation in the forum and blogs.

Table 1: OCW—MOOC Comparison

CHARACTERISTICS AND CONTENT	OCWs	xMOOCs
Differentiating elements	Self discipline: Self guided learning, no contact with teacher, no interaction, no assessment nor certification.	Hetero-discipline: Guided learning, contact with teacher, interaction, assessment and certification.
Preparation and design	Minimal. Adaptation of class teaching materials.	Demanding. Specific course design is required.
Text materials	Necessary. Bibliographical references at least.	Necessary. Although audiovisual materials acquire greater importance.
Audiovisual materials	Recommendable. Usually in the form of slides.	Necessary. Video lectures, as well as slides.
Activities	Necessary. Although no correction system is required.	Necessary. They should be programmed and allow for feedback.
Assessment	Necessary. Although no correction system is required.	Necessary. On concluding the course and should guarantee quality and originality control.
Student monitoring	Inexistent	Necessary. Supervision of each stage to allow for adjustments.
Interaction	Inexistent	Necessary. Assessments (test, peer review) as well as tutoring by way of forum and blogs.

All these factors should be carefully considered by the professor since the transit from an OCW course to a MOOC can affect his/her academic work considerably. In particular s/he should take into account the time available for preparing and developing the MOOC, the impact it will have on his/her OCW course and, above all, on his/her on-campus courses, since the students may have less incentives for attending classes.

As far as the UC3M experience is concerned, it should be remembered that, according to the European MOOC Scoreboard (http://openeducationeuropa.eu/en/european_scoreboard_moocs), Spain is the country with the most Massive Open Online Courses (MOOCs) largely due to the MiriadaX initiative launched towards the end of 2012 by Universia and Telefónica Learning Services. 2012 was indeed the “Year of the MOOC,” as coined by the *New York Times* (Pappano, 2012).

During the 2012–13 academic year the group of professors mentioned earlier decided to take their work a step further converting one of their OCW courses to MOOC format. The course ran on the MiriadaX Platform (Figure 2) supported by Telefónica Learning Services and Universia. As in most cases, when a specific platform is used the course materials and interactions were centralized there following the xMOOC model (Daniel, 2013). It was therefore important in the MOOC design stage to take into account the affordances provided by the platform as these determine the format of the learning contents and the types of assessment that can be supported.

The course was comprised of 9 modules, one per week, plus a brief introductory module in week one. The total estimated study time amounted to 27 hours. Each module contained 4 videos of 15 minutes each one, plus reading texts and Prezi presentations. The forum, Q&A, and blog provided



The screenshot shows the MiriadaX MOOC platform interface. At the top left is the 'miriada' logo. To its right are navigation links: 'Mi Página | Cursos | Universidades | Conócenos | Soporte'. Below the logo is the text 'Universidad Carlos III de Madrid'. On the left side, there is the university's official logo and name 'Universidad Carlos III de Madrid' with the website 'www.uc3m.es'. Below that, it lists 'Ciudad Madrid' and 'País España'. In the center, there is a search bar labeled 'Listado de cursos'. Below the search bar, a course card is displayed for 'Contratación y Medios de las Administraciones Públicas', which is marked as 'Curso cerrado'. The course card includes a thumbnail image of a bridge under construction, a description: 'El curso analiza la contratación y los medios de las Administraciones públicas que son esenciales para su actuación ya que, al igual que cualquier otra organización, necesita de medios personales (empleados públicos) y materiales (bienes públicos) y asimismo contratar bienes y servicios que sean necesarios.', and a duration: 'Duración: 9 semanas (27 horas de estudio estimadas)'. At the bottom of the course card, it identifies the 'Universidad Carlos III de Madrid' and the thematic area 'Ciencias jurídicas y Derecho'.

Figure 2: Contratación y Medios de las Administraciones Públicas on MiriadaX MOOC Platform

by the platform were used for communication with the students, and assessments were carried out using the interactive test and peer review of the case problems.

The fact that most of the materials (digital textbooks, tests, case problems, and final exams), originally prepared in the form of OERs for the OCW course, already existed was a considerable advantage. These materials can be transferred to the MOOCs with a few adaptations (just adjust them to the new platform format).

The additional materials prepared specifically for the MOOC were, first of all, the Prezi presentations in two versions, a short one to be projected during the videos and a longer version to be downloaded and used as a study plan; and secondly, the audiovisual materials, 36 videos with a total duration of 540 minutes.

It was also necessary to prepare links to topics of current interest for the blog and answer students' comments, reply to questions from the Q&A and take part in the conversations in the forum.

The two features that characterize a MOOC, the audiovisual materials and course interaction, are precisely the ones that present greater complexity and a larger workload for the professors.

Regarding the audiovisual materials it is not just a question of recording the sessions but also doing intense preparation in advance. So that the videos will be effective a script has to be written and the materials that are going to be projected have to be adapted to the length of the video, at the same time making sure they cover all the necessary content. This time limit and the lack of contact with the students require the teachers to adopt a more direct and concise approach than in normal classroom teaching.

As for the dynamic feature of MOOCs, this requires the teachers to maintain a different attitude than with OCW courses, as it is necessary to monitor the course schedule closely making sure that the materials are published in the right sequence. The teachers also have to take part in the Q&A, blog, forum, and wikis, which multiplies the workload, since this requires feeding all these resources

with content as well as answering students' questions, comments and remarks since lack of feedback creates negative reactions that quickly spread and affect the course development.

In summary, based on our experience we can say that to successfully convert an OCW course to a MOOC a professor has to fulfill the following requirements:

- a) To prepare the course in a specific format. A MOOC project cannot be approached in the same way and with the same content as an on-campus course. The amount of time students have available and their working pace is different and so MOOCs require specific design and planning.
- b) To be able to count on a documentary and audiovisual support team. The professor should be able to rely on at least a technician to help him with editing the text materials. Likewise another technician (or a team in this case) in charge of recording and editing the videos.
- c) To prepare the videos in advance. It is not enough just to record a normal class, instead it is convenient to plan the content of each video, prepare a script and rehearse it.
- d) To monitor the course through all its stages. Even though the professor does not intervene directly s/he should supervise each stage in order to identify the students' reactions and, if necessary, carry out the necessary adaptations or corrections.
- e) To intervene in the course. The students need to know that there is a teacher behind the course, so it is important to interact as far as possible leaving some messages in the forum, on the blogs or any other social media.

In short, a MOOC implies greater effort on behalf of the professor and the institution that is difficult to quantify. In any case, we can state that a well designed and delivered MOOC is the equivalent in working hours to a teacher preparing a new subject from scratch. In the case of having already prepared an OCW course with course materials that are ready to be published then we can say that the workload is reduced by half.

The Result: The Massive Open Online Course (UC3M-MiriadaX MOOC)

With regard to open education experiences MOOCs are currently attracting all the attention and are creating great expectations that have derived in a "global virtual university" (Marshall, 2013).

The reasons for this phenomenon are the unique characteristics of MOOCs that bring them closer to an on-campus education experience (see Table 1: OCW-MOOC Comparison). In particular MOOCs focus on the knowledge to be learned or xMOOCs (Haggard, 2013) that are courses entailing guided learning in a previously established time period that has to be adhered to by the students. In MOOCs students have contact with the teacher who provides them with access to knowledge by way of videos and with whom they can interact in the forum, blogs, wikis, etc. Likewise the students learn by interacting with the various activities (online tests, peer reviews, etc.). Furthermore, they have to take the final assessment to verify the degree of knowledge acquired that will allow them some form of accreditation.

In this way the students are subject to a hetero-discipline that is more in align with on-campus courses and will also allow them some form of certification. These are powerful incentives for students to finish their learning process with greater success.

As far as preparation and design are concerned, MOOCs require a specific effort since it is not enough to adapt on-campus class materials. MOOCs require course planning depending on their format and creating specific materials as well as adapting those that already exist.

MOOCs tend to focus on audiovisual materials since they are distinguished by containing a series of videos in which the teacher explains the course content. This does not mean that text materials

are not necessary, quite the contrary and in the case of MOOCs that have been transformed from an OCW course these materials already exist.

The practice materials in a MOOC take on new significance thanks to the feedback mechanisms since, in general, the tests, practice cases etc., can be submitted and corrected either automatically (tests) or by peer review. This means that the practice materials have to be adapted to the course format and to the MOOC platform in question.

Assessment is another distinctive feature of MOOCs which means that a final assignment has to be prepared in order to grade the degree of learning obtained that will give the student the corresponding accreditation or certificate.

Finally, MOOCs require monitoring in real-time which means that the teachers have to supervise each stage of the course carrying out the necessary adjustments. They also usually interact with the students in different ways, in the forum, chats, blogs, wikis, etc.

Going back to the UC3M experience, the OCW course on “*Public Procurement, Public Personnel Administration and Public Property Law*” turned into a MOOC, ran on the MiriadaX Platform from January 31 to April 15, 2013 (Figure 3).

The students had a program of 9 weeks of work according to the following plan: watching the videos (4 videos of 15 minutes in length), studying the reading text with the help of the Prezi presentation plan, answer a 10 question test, with 4 options per answer, and submit a practical assignment for peer evaluation. Each assignment had to be completed in order to be able to go on to the next one.

As for communication tools (among the students, with the professors and with the platform administrators) the students had a Q&A, a blog, a forum and a wiki. Some of these tools were redundant and the students only used the forum and the blog. In the forum they asked questions concerning

The screenshot displays the MiriadaX platform interface. At the top left is the 'miriada' logo. To the right is a navigation bar with links: 'Mi Página | Cursos | Universidades | Conócenos | Soporte'. Below this is a breadcrumb trail: 'Contratación y Medios de las Administraciones Públicas'. A secondary navigation bar contains links: 'Inicio | PyR | Foro | Blog | Wiki | Alumnos | Edición de Módulos | Seguimiento | Gestión'. A dark grey bar below indicates the current module: 'Módulo 0: Presentación.'. On the left side, there is a list of modules with a play button icon next to the selected one: 'Módulo 0: Presentación.', 'Módulo 1: Los contratos del sector público: concepto, régimen aplicable y clases.', 'Módulo 2: Los sujetos de la contratación y las actuaciones preparatorias.', 'Módulo 3: Las fases de la contratación: selección y adjudicación, formalización, ejecución y extinción de los contratos.', 'Módulo 4: Modelo constitucional de empleo público.', and 'Módulo 5: Acceso, desarrollo y extinción de...'. The main content area features a video player. The video title is '0. Presentación' and the slide content is 'Orientación del curso' with the following points: '- Curso de carácter jurídico', '- Formación teórica con finalidad práctica', and '- Curso real'. The video player shows a play button and a progress bar at 00:00 / 12:15.

Figure 3: Contratación y Medios de las Administraciones Públicas: course program

The image shows a screenshot of a course blog post. At the top left is the 'miriada' logo. The page title is 'Contratación y Medios de las Administraciones Públicas'. Below the title are navigation links for 'Inicio' and 'Blog'. A sub-header reads 'Información sobre los bienes públicos' with a '«Volver' link. The post is attributed to 'Por José Vida Fernández' and dated '23/03/13 16:01'. The main text discusses the fragmented nature of information on public administration assets and points to the 'dominio público marítimo-terrestre' on the website of the Ministry of Agriculture, Food and Environment. A screenshot of the ministry's website is included, showing the 'Costas y Medio Marino' section with a list of topics and a scenic image of a coastline.

Figure 4: Contratación y Medios de las Administraciones Públicas: course blog

the content and the development of the course to which the professors had to respond. The blog was also used for drawing the students' attention to further sources of information such as institutional web pages, press news or TV programs (Figure 4).

More than 2,000 students enrolled on the course, the majority from Spain and Latin American countries. The latter was rather surprising since, as noted before, Law Studies tend to have a local focus depending on each country. Most of the students were not taking degrees in Law at the time but were graduates that were hoping to refresh or increase their degree of knowledge on the subject, many of them being civil servants or preparing for competitive exams to join the Civil Service. About 200 students successfully completed the MOOC, and those that did so felt it had been hard work but a very rewarding experience.

Just like the OCW course, which is the origin of this MOOC, this course has certain very specific features. First, beyond the audiovisual materials, it relied on an important amount of reading texts, originally from the OCW course, which contributed a more in-depth and solid approach to the subject matter. In this respect we should consider whether videos and activities are enough to teach higher education content (Young, 2013); without doubt audiovisual material is a good supplement but we should not try to replace traditional study materials if we are going to seriously engage in open education.

Furthermore, this MOOC contained an important workload for the student following an intense program with complex assignments and evaluation tasks. As a result, a large number of students dropped out during the first week, but those who continued and reached the end of the course obtained a solid education similar to students enrolled in a Bachelor's Law degree. At this point we

should reflect on whether MOOCs are merely showcases for teachers and universities (Haggard, 2013) trying to overcome the crisis in higher education (Vardi, 2012; Watters, 2013) or whether we really want to offer an open education on the same level as on-campus education for which students pay tuition fees.

Conclusions

The transformation of OCW into MOOCs is a step forward in open education, which is worthwhile not only for teachers but also for educational institutions (Delgado Domínguez, 2014).

The work contained in an OCW course constitutes a solid base from which to create a MOOC. The fact that one has already developed an OCW course is always a conditioning factor, which distinguishes the MOOCs with an OCW origin from others, due to the additional materials available for the students to help them further their understanding of the concepts presented in the videos.

However, the work and experience accumulated in OCW are not enough. Before starting a MOOC one has to consider the important workload involved in preparing adequate audiovisual material that goes beyond recording the sessions. Likewise, one should take into account the fact that a MOOC implies greater involvement on behalf of the teachers that cannot neglect the course and have to attend to its development and contribute with a certain degree of interaction.

In fact, when both instructors and support staff face designing and preparing a MOOC for the first time, we tend to underestimate the workload as well as the pedagogical, logistical, technological and financial issues involved. We think that a tool, such as *MOOC Canvas* (<http://mooccanvas.com>), that offers a conceptual framework for the description and design of MOOCs could be extremely useful for future courses.

For this reason a high level of support is required for recording, editing and subtitling all the audiovisual material and easing the workload entailed in preparing and running a MOOC. It is also necessary to support the course when it is online as often incidences occur that have to be solved by technical staff.

The move to MOOCs means an important step forward in open education that should be seen as a supplementary model to OCW and not a substitute (Peter & Farrell, 2013). OCW courses and MOOCs are intended for different target audiences that are looking for different learning dynamics (Zhenhong, Wen & Zhi, 2013). In the case of OCW the content is usually used as reference material on a one-off basis for consultation or similar purposes. Whereas, in the case of MOOCs a more guided learning process is preferred that culminates in some form of certification.

The transformation of OCW into MOOCs provides the opportunity to develop a more serious, committed and rigorous model of open education. Having already published a series of teaching materials as OCW will guarantee that the MOOC will not only be a collection of videos and exercises but instead will contain a solid teaching project.

MOOCs can be the best showcase of the universities and offer an insight into the quality of on-campus courses, which could attract future students; but, at the same time, they should provide a solid and useful learning experience for those who cannot afford it.

Acknowledgment

This paper was presented at the 2014 OpenCourseWare Consortium Global Conference, held in Ljubljana (Slovenia) in April 23th–25th 2014 (<http://conference.ocwconsortium.org/2014>), with whom *Open Praxis* established a partnership. After a pre-selection by the Conference Programme Committee, the paper underwent the usual peer-review process in *Open Praxis*.

Note

- ¹ The effort made by this group of professors has been recognized by the OpenCourseWare Consortium. In 2011 the course “Instituciones Básicas del Derecho Administrativo” (Basics of Administrative Law) won the Award for OpenCourseWare Excellence (ACE) in the text and illustration courseware category (see Figure 1) (Source: OpenCourseWare Consortium Awards for Excellence, retrieved February 2014 from <http://www.ocwconsortium.org/projects/awards-for-ocw-excellence/2011-winners-of-ace-awards/2011-winners-courseware-categories>). In 2012 professor José Vida Fernández on behalf of the rest of the group won the Educators Award for his work in support of the OCW movement (Source: OpenCourseWare Consortium Awards for Excellence, retrieved February 2014 from <http://www.ocwconsortium.org/projects/awards-for-ocw-excellence/2012-winners-of-ace-awards/2012-ace-winners-individual-categories>).

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