

Harnessing the potential of online learning in Italian Universities: form blended classes to MOOCs

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Abstract

In this paper some integrated teaching experiences conducted at the University of Padua and particularly one of the courses in the Archaeology area are presented here, in order to show numerous benefits that this kind of learning method can offer: flexibility, time and cost efficiency, more convenience for working students or those with other commitments, the ability to review content several times, greater accessibility for students with disabilities, and specially high degree of student engagement and interactivity . The characteristics of some teaching materials created or used exclusively online, for open and free teaching are described, including the impact they might have on lifelong learning, in the dissemination of our subject, and in the promotion of the territory at an international level.

Keywords: *Blended learning; MOOC; innovative learning.*

1. Introduction

The COVID-19 emergency, which began during the winter semester of 2020, has caused an unexpected epochal leap in the generalized use of online teaching tools. The crisis, and in particular the forced lockdown, made it possible to spread and experiment with remote teaching technologies that, although already in existence and widely tested at least since the 1990s, are now part of everyday life and academia. At the same time, however, the emergency has highlighted some significant issues in the teaching methods used in the university environment specifically in Italy but possibly also in other countries. In fact, the extraordinary technological development has rarely been accompanied by a methodological adaptation and teaching staff has generally been limited to re-proposing traditional face-to-face teaching through video conferencing. And as soon as the lockdown ended, in Italian Universities there has been an immediate return to face-to-face teaching based on frontal lessons in dual (face to face and synchronous streaming lessons) mode urged and made compulsory by most Italian Universities (<https://unipd.link/teachingguidelines>).

The online teaching problems reported by faculty and students during the first months of the lockdown were mainly the lack of a humanized learning environment, the lack of a sense of community and student motivation and accessibility problems caused by the lack of equipment and a deficient internet network (for a specific survey relating to teachers of medieval archaeology: Usai 2021). But once the technical problems and the initial shock were resolved, students recognized numerous benefits which include: flexibility, time and cost efficiency, more convenience for working students or those with other commitments, the ability to review content several times, greater accessibility for students with disabilities, and more engaging and mostly very interactive learning activities. These same benefits were felt by teachers who were open to experimenting with online teaching. In addition, shifting to an online mode of teaching encourages educators to rethink their content and teaching methods, in order to more closely engage the new generation and to incorporate new data in the field, which in the case of archaeology have been considerable.

Although the risk posed by the COVID-19 virus is slowly waning, schools and universities cannot be complacent and must transform their teaching and learning processes in order to be capable of withstanding another crisis in the future. In this context, we present some integrated teaching experiences conducted at the University of Padua, which proved to be not only as much or more interactive than face-to-face lessons, but also much more effective in encouraging student learning and more flexible and therefore fostering inclusion. These do not exclude opportunities for in-person activities (especially laboratory work, archaeological excavations, and other participatory initiatives that connect students and teaching staff with the physical locality), but allow better integration of both online and in-person modes of teaching. This is especially beneficial for a field such as archaeology, which requires significant economic and time resources. In addition, the characteristics of some teaching

materials created or used exclusively online for open and free teaching are described, including the impact they might have on lifelong learning, on the dissemination of our subject, and on the promotion of the local region at an international level.

2. From theory to practice

Following an initial post-lockdown period when teachers could choose their preferred teaching mode, many universities have now imposed a total return to in-person teaching, made more complex – even at times confusing – by a dual mode of instruction, with students both in the classroom and online. This was in theory introduced to accommodate those physically unable to come to class for various reasons, but in practice attendance can be based on personal moods, making it impossible for the instructor to know how many students will attend in the classroom or at home and therefore complicating the organization of teaching activities. In reality, this is a regression from the Italian university strategic agenda for didactic innovation (Berlinger et al. 2019) and the Digital Competence Framework for Educators (DigCompEdu), which promoted innovative methods in the planning and design of digital content and the incorporation of technologies into daily teaching, especially through blended methods. In 2021, this blended method was tested for the medieval archaeology course of the degree in archaeology at the Cultural Heritage Department of the University of Padua.

The course is typically held in the third year of the three-year course in archaeology (63 hours / 9 CTS) with an average of 90 students, and is mainly based on the handbook *Post-Classical Archaeologies* (Brogiolo, Chavarria Arnau 2020). The course deals with the period between the fifth and the fifteenth centuries and subjects relating to climate change, environmental transformations, diet and health, pandemics, migrations, fortifications, production and commercial exchanges, and changes in urban and rural settlements, religion and burial practices. All these subjects characterized the period between the end of the Roman Empire and the beginning of the Renaissance and have compelling parallels in the present, enabling numerous reflections and comparisons between past, present and future.

In the academic year 2019/2020, the sudden transition from a traditional face-to-face course in the classroom with a final written exam to an online course gave us the opportunity to totally transform our instruction, guided by three main objectives:

- To allow each student to adapt their learning path by following gradual stages, as their basic knowledge is very different and not very homogeneous—especially since students come to the course from different degree courses (mainly archaeology, cultural heritage, history, and tourism);

- To encourage active teaching and student participation, not only during lessons but also with participatory exercises;
- To change the assessment method, eliminating the final exam, to foster progressive learning through exercises that allow the instructor (and the students themselves) to monitor the progress of their knowledge.

To achieve these objectives, it was decided to use the Moodle platform and some of the integrated tools made available by the University of Padua, such as Padlet (an environment that allows the creation of shared digital bulletin boards), Wooclap (a platform that allows students to be involved in the classroom or in video conferences with questions and surveys), and Annoto (a tool that allows those who are watching a video lesson to annotate, either in shared or individual format).

The Moodle home page has been organized into:

- A collaborative area with participatory exercises to be carried out gradually for the duration of the course;
- Nine thematic sections with a duration ranging from 1 to 2 weeks, each containing the specific resources and activities of the topic dealt with.

The course (lasting six hours per week organized over three days) was organized following a more or less fixed scheme consisting of:

- Pre-recorded video lessons (with teacher questions and student comments / answers using video annotation);
- Readings;
- A live Zoom lesson (for discussions on topics, questions and answers and discussion of exercises or feedback);
- Exercises (once every two weeks);
- Alternatively, a Zoom meeting with an international specialist guest.

To an extent, the combination of activities of different types within each thematic block (video lessons, readings, exercises, discussions) was inspired by the format of a MOOC (see below) that we were planning concurrently.

The most significant innovations in the course were the exercises that replaced (by student choice) the final exam. Out of about 50 students, 45 followed this assessment method while the others preferred to attend a final exam. These exercises were carried out once every 15 days (in total, eight assignments were delivered) and their main objectives were to:

- Stimulate the student to reflect on lesson topics;

- Connect concepts from different lessons;
- Review the content of lessons through maps or tables;
- Search online for further information on lesson content.

All exercises were mandatory and had a specific deadline (approximately ten days).

These exercises allowed the students not only to learn content progressively, but also to develop other essential skills (teamwork, digital skills, synthesis skills, peer-review etc.)

Some (optional) participatory activities were also offered as relevant study tools, in particular two Padlets: one with a content timeline and another with a chronologically organized annotated list of the main protagonists of the period covered.

These assessments offer more flexibility by allowing the review of student progress throughout the semester, encouraging a more hands-on approach, and giving teaching staff the opportunity to make timely changes to teaching and learning methods (Eyal 2012).

Furthermore, the Moodle platform and the integrated tools used (in particular the analytics of video management and video annotation platforms) made it possible to:

- Track all student activities, allowing us to monitor the progress of assignments at any point in time;
- Check the students' improvement by comparing the results of the exercises and the number of times the video lessons have been viewed (comments or responses to the teacher with video annotations);
- Verify students' learning in an individualized manner and give a differentiated assessment based on the initial starting point.

Despite this new assessment method being more demanding than studying for a final exam, students reported a generally very positive experience when asked during the course itself and even after. A questionnaire (with both closed- and open-ended questions) was sent six months after the course ended to evaluate students' level of learning achievement, interactivity, and relationship with the teacher. Questionnaire results (43 students replied) revealed that:

- Students' perception of the level of learning achieved was very satisfactory;
- The new assessment methods made it possible to acquire skills which were valuable for their future educational or professional development beyond the course;
- The interactive relationship with the teacher was improved;

How much do you agree with the following statements?	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I learned a lot during this course	0	0	2	23	18
The assessment methods were useful in acquiring new skills such as teamwork, digital skills, etc.	0	0	3	26	14
The teacher was able to establish rapport with the students	0	0	0	20	23

Figure 1. Questionnaire results

The students also noticed how this modality, supported by digital tools, allowed time flexibility for both the assimilation of the content (pre-recorded video lessons and readings) and the realization of the tasks. It also guaranteed entire weekly sessions dedicated to the discussion of the proposed topics, resolution of doubts and problems, debate among students and interaction with the instructor.

3. Youtube channel and MOOC experiences

Another benefit of the blended modality and the recording of lessons is the potential to use audio-visual content for a much wider diffusion, allowing even the those not enrolled in the course to follow the lessons, and therefore reinforcing the public nature of the University. Thus, from the beginning of the winter semester of 2020 and parallel to the upload on Moodle, the lessons were uploaded on the teacher's YouTube channel (<https://unipd.link/amp-padova>) and, in open format, on the Mediaspace channel of the University (<https://unipd.link/channel-amp>).

The relative success of this initiative then led to the production of a Massive Online Open Course (MOOC), thanks to a grant for innovative teaching from the University of Padua. This course is based on the handbook *Post-Classical Archaeologies* (Brogiolo, Chavarria Arnau 2020), as is the university course, but with a focus on issues that we considered of more global relevance: climate and environmental change, diet and health, migrations, and fortifications – all highlighting the innovative and multidisciplinary methods used by archaeologists today (from remote sensing to paleobotanical, stable isotope or DNA analysis, among many others).

Like a blended course, the MOOC "Enlightening the dark ages: early medieval archaeology in Italy" combines short readings with video lessons including high-quality images that echo traditional lessons with an instructor and slides (but in much more dynamic and condensed format); exercises (individual and participatory); videos of laboratories at the University of Padua; short lessons by specialists; and an end of course "trip" in the form of a video visit to one of the sites frequently cited in the course, under current excavation by University of

Padua archaeologists. Each “step” (which corresponds to a reading activity, video, or exercise) ends with an open forum in which students can leave comments or ask questions.

The course was uploaded to the international platform FutureLearn, which allows free registration, (<https://unipd.link/enlightening-the-dark-ages>) and the multimedia content was also uploaded to Mediaspace (<https://unipd.link/channel-enlightening-the-dark-ages>) in order to make all the video contents available also in creative commons CC-BY SA open content.

Launched on November 1, 2021 and with an "on-demand" format (allowing registration at any stage of the year), the course has currently been "attended" by about 1600 students. Students were aged from 18 to over 65, but with a clear majority of over 60s, demonstrating the potential of this educational format to boost lifelong learning or on-going training. Delivered in English, the course attracted students mainly from anglophone countries (United Kingdom, United States, Canada, Australia) but also in large numbers from Europe, Africa, and Asia. The global reach of the internet, and in particular the ability of students from different time zones to access material at an appropriate time of day (unlike webinars broadcast during European daytime or early evening and therefore after midnight in other time zones), allowed a significantly increased internationalisation of the teaching process. The course has received very positive feedback from attendees, who appreciated the innovative nature of the content, its multidisciplinary character, and the variety of exercises. However, the element that the students emphasized most strongly (and one important for an online course) was the strong component of interactivity between teacher-student and student-student, encouraged by the instructor through the “comments section” (answering student’s questions and fostering-acknowledging supplementary links to further material as students uploaded them in this section). Currently, more than 10,000 comments have been posted.

In response to the students’ enthusiasm, two informal live events were organized via the Zoom platform (Tea and Breakfast with Alexandra), to give students the opportunity to interact directly with the host, tutors, and technical staff who participated in the creation of the MOOC. Many students (although frequent online course attendees with a long-standing interest in history) revealed how the course was their first exposure to medieval archaeology and showed a strong interest in visiting the sites mentioned in person, highlighting the potential of MOOCs for the promotion of regional tourism.

4. Conclusions

The new teaching methods help teachers to re-formulate courses in novel yet effective formats that are more attractive to new generations. They also encourage teaching staff to experiment in the direction of more dynamic academic courses inspired by the MOOC structure (preparatory videos, readings, discussions and comments, exercises to assess the degree of understanding) and to develop more humanized MOOCs inspired by the dynamics of academic teaching (video lessons with slides in the background, video visits to laboratories and sites, question and answer sessions and options to comment on aspects of the content).

Online teaching is also an excellent tool for promoting lifelong learning by offering an opportunity for a large, interested group (often, but not always, over-60s) to increase their professional, cultural and even social resources by becoming part of an international community of learners. If done well, online teaching can be even more exciting and encouraging than traditional face-to-face lessons. In both cases, interactivity is not determined by the environment (real or virtual) in which the content is delivered but by the capacity and strategies employed by the teaching staff.

Undoubtedly, the same strategies used within this sort of online course or MOOC can be used in a return to face-to-face teaching by uploading “preparatory” material (readings and video lessons) and discussing them in class, in order to deepen central concepts and assess comprehension through different kinds of exercises. This option (experienced in the spring semester of 2022), however, enormously increases the number of hours that students and instructors have to devote to the course. We think that the best strategy would be to combine online and in-person activities (blended learning) as already suggested by Singh, Steele, Singh 2021 among others.

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